

ADULT ATTACHMENT, PERCEIVED SUPPORT, AND DEPRESSIVE SYMPTOMS IN CHINESE AND AMERICAN CULTURES

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This study examines cross-culturally how perceived support from, and satisfaction with, a current romantic partner mediates the relation between adult attachment styles and manifestations of depressive symptoms. Three hundred and sixty-seven participants from two different cultural groups, Hong Kong and the U.S.A., were recruited. We hypothesized that perceived support from, and relationship satisfaction with, the current romantic partner would mediate the link between anxious and avoidant attachment styles and depressive symptoms in both Chinese and American samples. The strength of these associations, however, was predicted to be stronger for avoidance in the more collectivistic culture (Hong Kong). The results supported these hypotheses. Implications of the findings for future research are discussed.

According to Bowlby (1969, 1973, 1980), attachment working models shape the way in which people think, feel, and behave in relationships across their entire lives. At present, the vast majority of research on adult attachment orientations, working models, and their

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sequelae has been conducted in Western societies. Surprisingly little is known about whether or how basic attachment findings gleaned from people in Western cultures hold true within, or are qualified by, nonWestern cultural heritages. The present study fills this gap in our knowledge by investigating how adult attachment orientations (styles) are associated with relationship and affective outcomes in two different cultural systems—Hong Kong and the United States.

ATTACHMENT THEORY

According to Bowlby (1969, 1973, 1980), humans are inclined to seek proximity, comfort, and protection from their attachment figures, particularly when they are distressed. Individuals typically develop secure attachment orientations if their caregivers are reliably available and responsive to their needs (Ainsworth, Blehar, Waters, & Wall, 1978; van IJzendoorn, 1995). If, however, caregivers are undependable, unavailable, or rejecting, individuals often develop one of two insecure attachment orientations: anxiety (in response to caregivers who are undependable or unpredictable), or avoidance (in response to caregivers who are consistently unavailable or rejecting: Bowlby, 1973, 1980). Once formed, the working models that underlie these attachment orientations guide beliefs, motives, goals, and expectancies in subsequent relationships, including the perceived emotional availability of future partners and the degree to which they can be counted on to provide comfort and support (Collins & Allard, 2001).

Attachment orientations in adults are measured on two orthogonal dimensions labeled avoidance and anxiety (Brennan, Clark, & Shaver, 1998; Simpson, Rholes, & Phillips, 1996). Highly avoidant individuals view their partners as excessively demanding and too eager to forge long-term relationship commitments. In contrast, highly anxious individuals feel as if they are underappreciated and misunderstood by their partners, and believe that their partners are unable or unwilling to fully commit to them. Those who score low on both attachment dimensions are prototypically secure. Highly secure individuals usually report higher levels of trust, support, and self-disclosure in their relationships, and they are more likely to be involved in stable, warm, and satisfying relationships (Collins & Read, 1990; Simpson, 1990).

ATTACHMENT AND PERCEIVED SOCIAL SUPPORT

Perceived social support is defined as the cognitive evaluation and expectation that others will provide adequate care and assistance when it is needed (Procidano & Heller, 1983). The subjective experience of support is related to attachment dynamics. When individuals find themselves in stressful situations, for example, the availability and responsiveness of their primary caregivers should provide them with a secure base, corroborating their belief that the world is basically good and supportive, thereby reducing their anxiety (Sarason, Pierce, & Sarason, 1990). As a result of this process, individuals who are more securely attached tend to report greater availability of support from their families and friends than more insecurely attached people do (Kobak & Sceery, 1988). Perceptions of social support can also be affected by the expectations of support held by close others, such as the extent to which others expect that individuals will in turn be available and willing to provide support when it is needed. These expectations of others may then affect how an individual behaves, further shaping perceptions, appraisals, and working models (Sarason, Sarason, & Pierce, 1990).

The expectation and belief that romantic partners will be available and supportive should also affect people's tendency to seek support and, in turn, their perceptions of social support available from and offered by their partners. For this reason, highly secure individuals are more inclined to seek support from their partners and perceive that their partners give them greater support (Florian, Mikulincer, & Bucholtz, 1995). Highly insecure people, by comparison, often perceive less support from their partners, and they are less likely to seek support when they truly need it. Indeed, in stressful situations, highly avoidant people are less likely to seek support from or give support to their partners (Simpson, Rholes, & Nelligan, 1992).

ATTACHMENT AND RELATIONSHIP SATISFACTION

Adult attachment orientations are also related to relationship satisfaction. More securely attached individuals usually are more satisfied with their romantic partners/relationships, whereas more insecurely attached people tend to be involved in less content relationships characterized by more interpersonal difficulties (Carnelley, Pietromonaco, & Jaffe, 1994; Feeney, 1999). Although more avoidantly and more anxiously attached individuals both report

having poorer relationships, relationship satisfaction affects them differently. Highly anxious people ruminate and worry about being abandoned by their partners and, as a result, continually seek reassurance from and proximity to their partners. Given these tendencies, they tend to grow increasingly dissatisfied with their partners and relationships, especially if they believe that their irrepressible needs for care and closeness are not being met. Highly avoidant people, in contrast, tend to devalue the importance of closeness and intimacy in relationships and strive to be psychologically and emotionally independent from their partners (see Mikulincer & Shaver, 2007). As a consequence, they worry much less about the quality of their relationships, and should be less distressed when their partners fail to offer them care and support.

ATTACHMENT AND DEPRESSIVE SYMPTOMS

Attachment orientations reflect different strategies for regulating affect, especially in distressing situations (Bowlby, 1980; Simpson & Rholes, 1994). Thus, many clinical problems and negative emotions, including depression and depressive symptoms, are closely tied to insecure attachment orientations and histories (see Rholes & Simpson, 2004, for a review). Depressive symptoms are more prevalent in insecure than secure people (Carnelley et al., 1994; Simpson, Rholes, Campbell, Tran, & Wilson, 2003), partly because insecure people harbor working models that generate and sustain dysfunctional perceptions of themselves and others (Collins & Allard, 2001). Moreover, individuals who have insecure attachment histories express and experience more negative and less positive affect in their romantic relationships (Simpson, Collins, Tran, & Haydon, 2007), and they engage in dysfunctional interaction strategies that may weaken and destabilize their emotional bonds (Pistole, 1989; Simpson et al., 1996).

The processes and pathways through which avoidance and anxiety are related to experiencing depressive symptoms, however, should be different. Because highly avoidant individuals are concerned about maintaining autonomy, independence, and control in their relationships (Mikulincer & Florian, 1998), their depressive symptoms should stem primarily from nonrelational sources, such as problems at work, with their health, or with financial matters. Conversely, given their fears of abandonment and their insatiable need to achieve felt security (Mikulincer & Florian, 1998), relation-

ship problems should be the primary source of depressive symptoms for highly anxious individuals.

THE ROLE OF CULTURE

Culture plays a critical role in the development and functioning of relationships because it defines and transmits the “norms, roles, rules, customs, understandings and expectations” through which individuals relate to others (Berscheid, 1995, p. 531). Families in different cultures socialize their children in ways that shape their children’s sense of self and how they relate to close others, including their attachment orientations (Keller et al., 2007).

Within individualistic cultural contexts, people develop stronger independent self-construals (i.e., they view themselves as stable, autonomous, and distinct from others). Within collectivistic cultural contexts, however, people develop stronger interdependent self-construals (i.e., they emphasize their relatedness and connections to others and hold more socially embedded self-views; Markus & Kitayama, 1991). Americans, for example, place relatively greater emphasis on individual achievement and less weight on maintaining harmony in relationships (Oyserman, Coon, & Kimmelmeier, 2002; Triandis, 1995). The Chinese, in contrast, are more concerned with developing and maintaining relational closeness and harmony (Goodwin & Tang, 1996). Indeed, people who have stronger interdependent self-construals draw more happiness and satisfaction from relationship harmony than from self-extension, and from being part of closer and more supportive social networks (Bond & Sabourin, 2000; Triandis, McCusker, & Hui, 1990).

To the extent that maintaining closeness and relationship harmony are more important to people in collectivistic societies, attachment orientations that violate the expectations of collectivistic cultures should have a stronger impact on relationship satisfaction in those societies. The same should be true for negative affect (e.g., depressive symptoms), particularly given that relationship outcomes have been found to predict changes in depressive symptoms when individuals are distressed (Simpson et al., 2003). The distress experienced by highly avoidant individuals in collectivistic societies should come not only from problems stemming from the romantic relationship itself, but also from cultural expectations for relationship investment and harmony.

OVERVIEW AND HYPOTHESES

The current study was designed to provide a cross-cultural test of whether and how perceived support from and satisfaction with current romantic partners mediates relations between an individual's attachment orientation and his or her level of depressive affect (see Figure 1). We investigated two cultural groups known to differ considerably in individualism and collectivism: Euro-Americans from the United States, and Hong Kong Chinese. The following five hypotheses were tested:

HYPOTHESIS 1

Perceived social support from and relationship satisfaction with the current romantic partner should mediate the connection between greater insecurity (i.e., higher scores on the avoidance and anxiety dimensions) and more depressive symptoms in both Hong Kong and the United States.

HYPOTHESIS 2

Both perceived support and relationship satisfaction should mediate the link between anxious attachment and depressive symptoms for both Hong Kong Chinese and Americans. Specifically, relations between anxious attachment and both perceived support and relationship satisfaction should be negative, whereas those between anxious attachment and depressive symptoms should be positive. These associations should hold across the two cultural groups.

HYPOTHESIS 3

Though the Hypothesis 2 effects should hold in both cultures, certain cultural differences ought to exist. In particular, the strength of the relations between avoidant attachment and perceived partner support, relationship satisfaction, and depressive symptoms should all be stronger in Hong Kong than in the United States. This is because greater avoidance is incongruent with collectivistic norms in Hong Kong, where interdependence and close contacts are crucial to relationships (Wheeler, Reis, & Bond, 1989). Moreover, expecta-

tions to conform to these norms ought to be stronger, considering the greater responsiveness of people in collectivistic societies to social norms (Markus & Kitayama, 1991). Individualistic cultural systems, on the other hand, should be more tolerant of the autonomy and independence that characterize highly avoidant people. In addition, avoidant tendencies lie closer to the norms that define most individualistic cultures than is true of anxious tendencies. Accordingly, we predicted stronger negative associations between avoidant attachment and perceived partner support and relationship satisfaction in Hong Kong than in the United States. We also anticipated a stronger positive association between avoidant attachment and depressive symptoms in Hong Kong than in the United States.

HYPOTHESIS 4

In both Hong Kong and the United States, more avoidant individuals should perceive less available support from their partners than is true of more anxious individuals, given that highly avoidant individuals are less likely to seek and give social support (Simpson et al., 1992).

HYPOTHESIS 5

Highly anxious individuals should report more depressive symptoms than highly avoidant individuals in both Hong Kong and the United States, given that more avoidant individuals place greater importance on maintaining distance and independence from their partners, whereas more anxious individuals yearn for greater closeness and proximity.

METHOD

PARTICIPANTS

Three hundred and sixty-seven participants were recruited from universities in Hong Kong and the United States. Three hundred and fifty-nine participants were included in the main analyses because the responses of eight participants were incomplete. One hundred and fifty participants (69 males, 81 females) were students in Hong Kong, and 209 (97 males, 109 females, and three people

who did not specify their gender) were Caucasian students from a large university in the southwestern United States. Participants in both cultures took part as partial fulfillment of a psychology course requirement. To qualify for the study, all participants had to be currently involved in a romantic relationship that had lasted at least three months. This qualification was listed on the sign-up sheets for the experiment and was reconfirmed upon participants' arrival at the lab. The mean age of the participants in Hong Kong was 20.44 years ($SD = 1.90$), and the mean of relationship length was 23.47 months ($SD = 21.34$); in the U.S., the mean age of participants was 19.03 years ($SD = 1.23$), and the mean of relationship length was 17.12 months ($SD = 12.26$).

MATERIALS

Widely used and well validated self-report scales were used in the study. Scales originally written in English were translated first into Chinese and then back-translated into English to ensure linguistic equivalence. The original English versions were used in the United States; Chinese translations were used in Hong Kong.

A slightly revised version of the Experience in Close Relationships (Brennan et al., 1998) measure was used to assess participants' general attachment orientations toward romantic partners on two orthogonal dimensions—avoidance and anxiety. Each dimension was assessed by two 18-item subscales. Items were answered on 7-point Likert-type scales, anchored 1 (disagree strongly) and 7 (agree strongly).

Hendrick's (1988) 7-item Relationship Satisfaction Scale was used to assess participants' perceived relationship satisfaction with their current partner. Responses were made on 7-point Likert-type scales, anchored 1 (not at all/ poorly) and 7 (a great deal/ extremely good).

The Social Support Questionnaire (Sarason, Levine, Basham, & Sarason, 1983) was used to assess participants' perceived social support received from their current partner. This 7-item measure was answered on Likert-type scales, anchored 1 (not at all) and 7 (very much).

Depressive symptoms were assessed by the Center for Epidemiologic Studies Depression Scale (CESD; Radloff & Teri, 1986). Participants responded to the 20-item scale by indicating how often they had experienced different depressive symptoms during the preced-

ing week on 4-point Likert-type scales, anchored 1 (less than 1 day) and 4 (5-7 days).

RESULTS

Descriptive statistics, including means, standard deviations, Cronbach alphas, and correlation matrices for each culture, are depicted in Tables 1 and 2. Although gender, age, and length of relationship were not variables of interest in this study, their effects were tested before we conducted the main analyses.

GENDER DIFFERENCES

To determine whether gender differences existed in the hypothesized models, structural equation modeling (SEM) was used. All of the paths leading to depressive symptoms were fixed for men and women to be equivalent. The model containing these equivalence constraints fitted the data well (CFI = .97, RMSEA = .06), indicating that the paths in the hypothesized model were equivalent for men and women. As a result, data from both genders were combined in subsequent analyses.

EFFECTS OF AGE

Pearson correlations revealed that the age of participants in both the Hong Kong and U.S. samples was not significantly correlated with any of the other variables in this study. When avoidant attachment (Avo) and anxious attachment (Anx) were statistically controlled in the Hong Kong and U.S. samples using multiple regression techniques, age did not significantly predict the outcome variable, depressive symptoms (DS), $\beta = -.04$, *ns*, $\Delta R^2 = .002$, *ns*, for the Hong Kong sample; $\beta = -.12$, *ns*, $\Delta R^2 = .01$, *ns*, for the U.S. sample. Thus, age was not related to the other independent and mediating variables in either the Hong Kong or the U.S. samples.

EFFECTS OF LENGTH OF RELATIONSHIP

Among the Hong Kong participants, length of relationship was not significantly correlated with any of the other variables in the

TABLE 1. Descriptive Statistics and Cronbach Alphas of Variables

Scale	No. of Items	Hong Kong			U.S.		
		Mean	SD	α	Mean	SD	α
Avoidant attachment	18	2.65	.86	.90	2.38	.91	.92
Anxious attachment	18	3.80	.93	.88	3.39	1.14	.92
Perceived social support from partner	7	5.30	.92	.90	6.29	.65	.87
Relationship satisfaction with partner	7	.71	.17	.90	.84	.13	.83
Depressive symptoms	20	1.72	.50	.91	1.59	.44	.88

Note. $N = 359$ (150 from Hong Kong, 209 from the U.S.).

study. Moreover, when avoidant (Avo) and anxious (Anx) attachment were statistically controlled in the Hong Kong sample, length of relationship did not predict depressive symptoms (DS), $\beta = .04$, ns , $\Delta R^2 = .001$, ns . Among U.S. participants, length of relationship was significantly correlated with avoidant attachment (Avo; $r = -.16$, $p < .05$), but not with any other variables in the study. When avoidant (Avo) and anxious (Anx) attachment were statistically controlled in the U.S. sample, relationship length did not predict depressive symptoms (DS), $\beta = .01$, ns , $\Delta R^2 = .000$, ns .

MODEL ESTIMATION

EQS 6.1 was used to test the hypothesized path model (see Figure 1) for goodness of fit and cultural differences in the strength of pathways leading to depressive symptoms.

TESTING FOR MEDIATION EFFECTS AND OVERALL EFFECTS OF THE MODEL

The role of the intervening (mediating) variables was examined by testing for indirect effects in EQS. In both the Hong Kong and U.S. samples when the outcome variable was depressive symptoms (DS), relationship satisfaction with the current partner (RS) was tested as a possible mediating variable between perceived social support from the current partner (PSS), avoidant attachment (Avo), and anxious attachment (Anx). For relationship satisfaction with

the current partner (RS), perceived social support from the partner (PSS) was tested as the mediating variable between avoidant (Avo) and anxious (Anx) attachment.

Greater perceived social support from the current partner (PSS) predicted higher relationship satisfaction (RS) in both the Hong Kong and U.S. samples. RS, in turn, predicted fewer depressive symptoms (DS; nonstandardized indirect effect coefficient = $-.05$, $p < .05$, standardized indirect effect coefficient = $-.09$, $p < .05$ for the Hong Kong sample; nonstandardized indirect effect coefficient = $-.05$, $p < .05$, standardized indirect effect coefficient = $-.07$, $p < .05$ for the U.S. sample).

Greater avoidant attachment (Avo) predicted lower relationship satisfaction (RS) in the Hong Kong sample, (but not in the U.S. sample, where this path was not significant), which in turn predicted more depressive symptoms (DS; nonstandardized indirect effect coefficient = $.05$, $p < .05$, standardized indirect effect coefficient = $.10$, $p < .05$ for the Hong Kong sample; nonstandardized indirect effect coefficient = $.02$, $p < .05$, standardized indirect effect coefficient = $.03$, $p < .05$ for the U.S. sample).

Greater anxious attachment (Anx) predicted lower relationship satisfaction (RS) in both the Hong Kong and U.S. samples, which in turn predicted more depressive symptoms (DS; nonstandardized indirect effect coefficient = $.01$, $p < .05$, standardized indirect effect coefficient = $.02$, $p < .05$ for the Hong Kong sample; nonstandardized indirect effect coefficient = $.01$, $p < .05$, standardized indirect effect coefficient = $.03$, $p < .05$ for the U.S. sample).

For relationship satisfaction with the current partner (RS), perceived social support from the partner (PSS) served as the mediating variable between both avoidant (Avo) and anxious (Anx) attachment. Greater avoidant attachment (Avo) predicted less perceived social support from the current partner (PSS) in both the Hong Kong and the U.S. samples, which in turn predicted less relationship satisfaction with the current partner (RS; nonstandardized indirect effect coefficient = $-.08$, $p < .05$, standardized indirect effect coefficient = $-.39$, $p < .05$ for the Hong Kong sample; nonstandardized indirect effect coefficient = $-.02$, $p < .05$, standardized indirect effect coefficient = $-.16$, $p < .05$ for the U.S. sample). Greater anxious attachment (Anx) predicted less perceived social support from the current partner (PSS) in both the Hong Kong and the U.S. samples, and less PSS in turn predicted less relationship satisfaction (RS; nonstandardized indirect effect coefficient = $-.01$, $p < .05$, standardized indirect effect

TABLE 2. Correlations Between Measures for the Hong Kong and U.S. Samples
(Shown in Parentheses)

	1	2	3	4
Avoidant attachment				
Anxious attachment	.13 (.14)			
Perceived social support from partner	-.69*** (-.33)***	-.24** (-.15)*		
Relationship satisfaction with partner	-.61*** (-.29)***	-.34*** (-.20)**	.73*** (.60)***	
Depressive symptoms	.26*** (.22)**	.45*** (.40)***	-.27*** (-.17)*	-.34*** (-.23)***

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

coefficient = $-.05$, $p < .05$ for the Hong Kong sample; nonstandardized indirect effect coefficient = $-.01$, $p < .05$, standardized indirect effect coefficient = $-.09$, $p < .05$ for the U.S. sample; see Figure 1).

In sum, the prediction that perceived social support and relationship satisfaction would act as mediators between greater insecurity and more depressive symptoms in both Hong Kong and the United States (Hypothesis 1) was confirmed.

A higher level of depressive symptoms (DS) was predicted by greater attachment anxiety (Anx; nonstandardized coefficient = $.17$, $p < .05$, for the Hong Kong sample, and $=.17$, $p < .05$, for the U.S. sample), but by lower relationship satisfaction with the current partner (RS; nonstandardized coefficient = $-.45$, $p < .05$, for the Hong Kong sample, and $-.45$, $p < .05$, for the U.S. sample).

Relationship satisfaction with the current partner (RS) decreased with greater attachment anxiety (Anx; nonstandardized coefficient = $-.03$, $p < .05$, for the Hong Kong sample, and $-.03$, $p < .05$, for the U.S. sample). However, relationship satisfaction (RS) increased with more perceived social support from the current partner (PSS; nonstandardized coefficient = $.10$, $p < .05$, for the Hong Kong sample, and $=.10$, $p < .05$ for the U.S. sample).

Lower perceived social support from the current partner (PSS) was also associated with greater attachment anxiety (Anx; nonstandardized coefficient = $-.09$, $p < .05$ for the Hong Kong sample, and $-.09$, $p < .05$ for the U.S. sample; see Figure 1).

Viewed together, these results support Hypothesis 2, in that (a) perceived social support (PSS) and relationship satisfaction (RS) mediate the link between anxious attachment (Anx) and depressive symptoms (DS), (b) relations between anxious attachment (Anx) and both perceived social support (PSS) and relationship satisfaction (RS) are negative, and (c) relations between anxious attachment (Anx) and depressive symptoms (DS) are positive in both cultures.

TESTING FOR CULTURAL DIFFERENCES

When measurement equivalence was tested by constraining all the paths leading to depressive symptoms, the full factorial invariance model was rejected, indicating that the factor loadings were not identical between the two cultures, $\chi^2_{(12)} = 56.99$, $p < .05$, CFI = $.89$, RMSEA = $.10$. The Lagrange Multiplier Test identified significant difference in relations between: (1) avoidant attachment (Avo)

and perceived social support from the current partner (PSS), and (2) avoidant attachment (Avo) and relationship satisfaction with the current partner (RS), indicating that these two linkages differed in strength among the two cultural groups and were stronger in one culture. Accordingly, these two paths were allowed to be freely estimated by releasing the two constraints. This allowed us to test whether the two paths were significantly different in the two cultural groups while all other paths in the hypothesized model were equivalent in both groups. The model was significantly improved when these two constraints were released, $\Delta\chi^2_{(2)} = 43.04, p < .01, CFI = .99, RMSEA = .03$.

Avoidant attachment (Avo), anxious attachment (Anx), and relationship satisfaction (RS) combined to account for 15.8% of the variance in depressive symptoms (DS) for the Hong Kong sample and 22.1% of the variance for the U.S. sample. Over half (56.3%) of the variance in relationship satisfaction (RS) was accounted for by avoidant attachment (Avo), anxious attachment (Anx), and perceived social support from the current partner (PSS) in the Hong Kong sample, whereas in the U.S. sample these three variables accounted for 36.9% of the variance in relationship satisfaction (RS). For perceived social support from the current partner (PSS), 48.3% of the variance was accounted for by avoidant (Avo) and anxious (Anx) attachment in the Hong Kong sample, but only 12.1% in the U.S. sample.

The Lagrange Multiplier Test and the significant improvement in model fit once the two constraints were released indicates that there are reliable cultural differences in the way that avoidant attachment (Avo) relates to perceived social support from the current partner (PSS) and relationship satisfaction with the current partner (RS). Indeed, the significant chi square change from the model with all paths constrained to the model with the two path (identified as having significant differences in the two samples by the Lagrange Multiplier Test) constraints released for free estimation ($\Delta\chi^2_{(2)} = 43.04, p < .01, CFI = .99, RMSEA = .03$) indicated that the nonstandardized coefficient of $-.74$ (standardized coefficient = $-.69$) for the Hong Kong sample was significantly larger than the nonstandardized coefficient of $-.22$ (standardized coefficient = $-.31$) for the U.S. sample in the way avoidant attachment (Avo) predicted perceived social support from the current partner (PSS). In addition, the nonstandardized coefficient of $-.12$ (standardized coefficient = $-.22$) for the Hong Kong sample was significantly larger than the nonstandard-

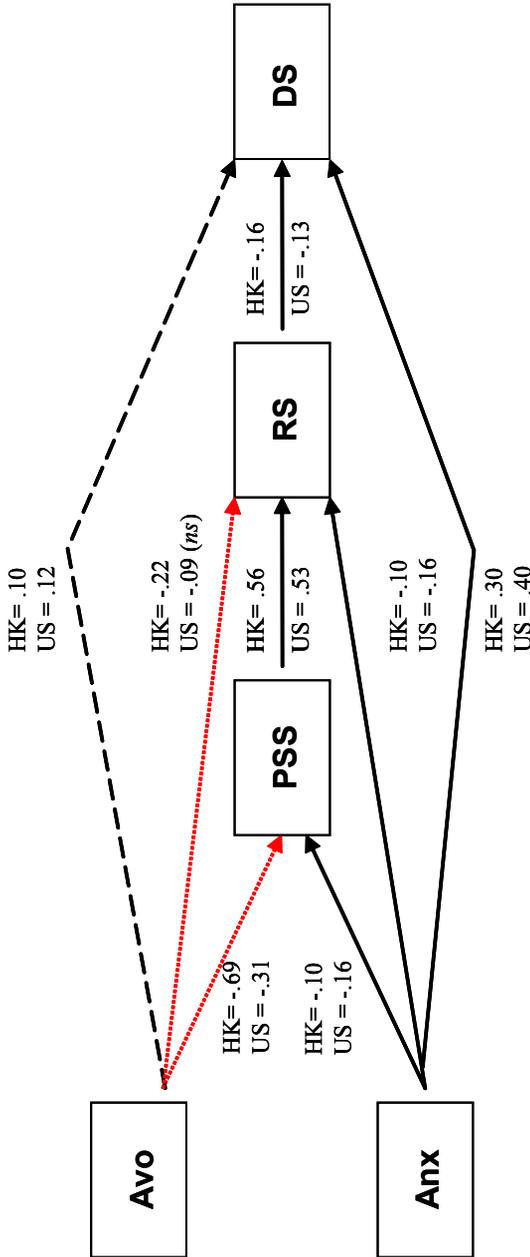


FIGURE 1. Path diagram of the hypothesized and final model with standardized parameter estimates for the effects of attachment orientations on depressive symptoms.

Avo = Avoidant attachment. Anx = Anxious attachment. PSS = Perceived social support from romantic partner. RS = Relationship satisfaction with romantic partner. DS = Depressive symptoms.

Broken and dotted lines indicate expectation of a cultural difference in the strength of linkage between the Hong Kong and U.S. samples; solid lines indicate expectation of a similar culture linkage in strength in both the Hong Kong and U.S. samples. Dotted lines indicate the existence of a cultural difference in linkage strength between the Hong Kong and U.S. samples; the solid and broken lines indicate culture-general linkage strength in both the Hong Kong and U.S. samples.

ized coefficient of $-.04$ (standardized coefficient = $-.09$) for the U.S. sample in the way avoidant attachment (Avo) predicted relationship satisfaction (RS; see Figure 1). The positive relation between avoidant attachment (Avo) and depressive symptoms (DS), however, held equally for both cultures. Hypothesis 3, therefore, received partial support.

TESTING FOR EFFECTS OF AVOIDANT AND ANXIOUS ATTACHMENT ON PERCEIVED SOCIAL SUPPORT AND DEPRESSIVE SYMPTOMS

By comparing the standardized coefficients involving avoidant attachment (Avo) and perceived social support (PSS; standardized coefficient = $-.69$ for the Hong Kong sample; standardized coefficient = $-.31$ for the U.S. sample) relative to the coefficients involving anxious attachment (Anx) and perceived social support (PSS; standardized coefficient = $-.10$ for the Hong Kong sample; standardized coefficient = $-.16$ for the U.S. sample), more avoidant individuals perceived less available support from their partners than did more anxious individuals in both cultural groups. However, highly anxious individuals reported more depressive symptoms (DS; standardized coefficient = $.30$ for the Hong Kong sample; standardized coefficient = $.40$ for the U.S. sample) than did more avoidant individuals (standardized coefficient = $.10$ for the Hong Kong sample; standardized coefficient = $.12$ for the U.S. sample) in both Hong Kong and the United States (see Figure 1). Thus, Hypothesis 4 and 5 were both supported.

DISCUSSION

The findings for the U.S. sample largely replicate effects found in prior research, confirming that individuals who have more insecure romantic attachment orientations tend to perceive less support from their romantic partners, report lower relationship satisfaction, and experience more depressive symptoms. However, the findings also extend past research by (a) documenting that these effects also hold in a collectivistic culture (Hong Kong), (b) revealing that certain effects are stronger in collectivistic cultures, and (c) identifying possible pathways through which insecure attachment may be linked to depressive symptoms. With respect to cultural differences, greater

avoidance is more strongly linked to less perceived partner support and less relationship satisfaction in Hong Kong than compared to the U.S. Moreover, the structural modeling results (see Figure 1) suggest some of the pathways through which being insecurely attached in both cultures may lead to more depressive symptomology.

CULTURAL DIFFERENCES

As hypothesized, although greater avoidance and anxiety were both associated with less perceived partner support in Hong Kong and the U.S., the connection between avoidance and both perceived support and relationship satisfaction was significantly stronger in Hong Kong. What might account for these disparities? One likely possibility is that individuals who live in collectivistic cultures and are highly avoidant may be violating basic norms and expectations of how one is supposed to relate to close others in collectivist cultures. This may make it more difficult for highly avoidant people to adjust to their romantic partners and relationships. It is also possible that the perceptual biases that highly avoidant individuals have of their partners may be stronger in Hong Kong, especially if the experiences within families that generate avoidant models clash more strongly with the ideals and pressures of a communal society.

In addition, the partners of highly avoidant individuals in more collectivist cultures may be more distressed by the behavior of their avoidant lovers. Part of the reason why avoidance in Hong Kong is linked more strongly to perceptions of less support could be that the partners of more avoidant individuals in Hong Kong are more inclined to withdraw support than are partners of more avoidant individuals in the U.S. In other words, part of the difference between these cultures may be driven by the behaviors displayed by the partners of highly avoidant people, rather than merely the biased perceptions harbored by highly avoidant people. In addition to withdrawing support, the partners of more avoidant people may express their unhappiness in other ways, and their feelings of general dissatisfaction may fuel feelings of even greater dissatisfaction in their partners. Another possibility is that the partners of highly avoidant people in collectivist culture might be more critical or rebuking when their avoidant partners act in ways that are at odds with cultural values or views of relationships.

Moreover, individuals raised in collectivistic societies may have more rigid (less flexible) role relationships, meaning that they have, or perceive that they have, less freedom to choose their romantic partners or chart the course of their romantic relationships. How satisfied people in collectivistic societies are with their romantic relationships may also depend heavily upon how they relate to their partners and how much support they perceive their partners offer them, whereas relationship satisfaction for individuals in individualistic cultures may depend more on factors outside the relationship, such as the availability of good alternative partners. Some or all of these factors could account for the stronger connection between avoidance and both perceived partner support and relationship satisfaction for Hong Kong Chinese than for Americans.

One hypothesized effect that did not emerge was the anticipated cultural difference for the relation between avoidance and depressive symptoms. Although the results were in the hypothesized direction (i.e., more avoidant individuals reported more depressive symptoms than did less avoidant individuals), the link between avoidance and depressive symptoms was not different in Hong Kong versus the U.S. One possible reason for this may be that the depressive symptoms of highly avoidant individuals in Hong Kong manifest themselves mainly through the way these individuals relate to their partners and others, rather than directly through their avoidant attachment orientation.

One might also wonder why we found no cultural differences involving attachment anxiety. In individualistic societies such as the U.S., anxious attachment may be more incongruent with individualistic norms than avoidant attachment is, particularly when one considers that obsessive proximity and reassurance seeking from partners is deemed immature and inappropriate in individualistic cultures. Social networks in individualistic cultures, however, may be more accepting of autonomy, independence, and self-reliance, all of which are defining features of avoidance. In collectivistic societies such as Hong Kong, however, individuals view themselves as part of their wider social networks rather than as autonomous individuals (Yang, 1981). These values make interpersonal relatedness and interdependency essential attributes of relationships, suggesting that anxious attachment ought to be more congruent with many of the core norms of collectivistic cultures. Being more avoidant in collectivistic societies involves downplaying the importance of interpersonal interdependency, which is a clear violation of cultural

scripts and social expectations. Given that anxious attachment is likely to be inconsistent with individualistic norms but can be tolerated by such societies whereas it is more consistent with collectivistic norms, the strength of associations among anxious attachment, perceived support, relationship satisfaction, and depressive symptoms should not be significantly different between the two cultural groups. This is what we found.

GENDER DIFFERENCES

There were no gender differences in this study. This outcome is consistent with most prior adult attachment studies, which rarely find gender differences (see Mikulincer & Shaver, 2007, for a review). The lack of gender differences suggests that attachment orientations and the social experiences that shape them exert fairly similar effects on women and men in both of the cultures examined in this study. This is noteworthy because the norms, roles, and social expectations placed on men and women in the U.S. and Hong Kong are strong and somewhat different. This speaks to the importance of attachment experiences in overriding the social roles that tend to differentiate women and men in different cultures.

RESERVATIONS AND CONCLUSIONS

The current result should be interpreted in light of certain caveats. First, given the correlational nature of our data, causal inferences cannot be drawn. Second, given the moderate percentage of variance explained by our model, other variables are likely to play important intervening roles between insecure attachment and depressive symptoms. We do not claim to have an exhaustive or complete model. Finally, the current results cannot pinpoint the actual sources of the two striking cultural differences documented in this study.

These caveats notwithstanding, the current study adds to our knowledge in some crucial ways. For example, it extends past research by confirming that basic romantic attachment effects found in Western cultures also emerge in a collectivistic culture (Hong Kong). It documents that certain effects involving attachment avoidance are stronger in a collectivistic culture than in an individualistic one. And it identifies the probable relational pathways and

processes through which insecure attachment is linked to depressive symptoms.

REFERENCES

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Walls, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale, NJ: Erlbaum.
- Berscheid, E. (1995). Help wanted: A grand theorist of interpersonal relationships, sociologist or anthropologist preferred. *Journal of Social and Personal Relationships, 12*, 529-533.
- Bond, M. H., & Sabourin, M. (2000). Social psychology and culture: Pathways to life satisfaction. *International Journal of Psychology, 35*, 297-298.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books.
- Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss: Sadness and depression*. New York: Basic Books.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (Eds.). (1998). *Self-report measurement of adult attachment: An integrative overview*. New York: Guilford Press.
- Carnelley, K. B., Pietromonaco, P. R., & Jaffe, K. (1994). Depression, working models of others, and relationship functioning. *Journal of Personality and Social Psychology, 66*, 127-140.
- Collins, N. L., & Allard, L. M. (2001). Cognitive representations of attachment: The content and function of working models. In G. J. O. Fletcher & M. S. Clark (Eds.), *Blackwell handbook of social psychology: Vol. 2. Interpersonal processes* (pp. 60-85). Malden, MA: Blackwell.
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models and relationship quality in dating couples. *Journal of Personality and Social Psychology, 58*, 644-663.
- Feeney, J. A. (1999). Adult romantic attachment and couple relationships. In J. A. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 355-377). New York: Guilford Press.
- Florian, V., Mikulincer, M., & Bucholtz, I. (1995). Effects of adult attachment style on the perception and search for social support. *The Journal of Psychology, 129*, 665-676.
- Goodwin, R., & Tang, C. S. K. (1996). Chinese personal relationships. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 294-308). Hong Kong: Oxford University Press.
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family, 50*, 93-98.
- Keller, H., Monika, A., Jorn, B., Bettina, L., Su, Y., Wang, Y., et al. (2007). Socialization environments of Chinese and Euro-American middle-class babies: Parenting behaviors, verbal discourses and ethnotheories. *International Journal of Behavioral Development, 31*, 210-217.
- Kobak, R. R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development, 59*, 135-146.

- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*, 224-253.
- Mikulincer, M., & Florian, V. (1998). The relationship between adult attachment styles and cognitive reaction to stressful events. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 143-165). New York: Guilford Press.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- Oyserman, D., Coon, H. M., & Kimmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, *128*, 3-72.
- Pistole, M. C. (1989). Attachment in adult romantic relationships: Style of conflict resolution and relationship satisfaction. *Journal of Social and Personal Relationships*, *6*, 505-512.
- Procidano, M. E., & Heller, K. (1983). Measures of perceived social support from friends and family: Three validation studies. *American Journal of Community Psychology*, *11*, 1-23.
- Radloff, L. S., & Teri, L. (1986). Use of the center for epidemiological studies-depression scale with older adults. *Clinical Gerontologist*, *5*, 119-136.
- Rholes, W. S., & Simpson, J. A. (2004). Ambivalent attachment and depressive symptoms: The role of romantic and parent-child relationships. *Journal of Cognitive Psychotherapy*, *18*, 67-78.
- Sarason, B. R., Pierce, G. R., & Sarason, I. G. (1990). Social support: The sense of acceptance and the role of relationships. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view* (pp. 1-49). New York: Wiley.
- Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. R. (1983). Assessing social support: The social support questionnaire. *Journal of Personality and Social Psychology*, *44*, 127-139.
- Sarason, I. G., Sarason, B. R., & Pierce, G. R. (1990). Social support: The search for theory. *Journal of Social and Clinical Psychology*, *9*, 133-147.
- Simpson, J. A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology*, *59*, 971-980.
- Simpson, J. A., Collins, W. A., Tran, S., & Haydon, K. C. (2007). Attachment and the experience and expression of emotions in romantic relationships: A developmental perspective. *Journal of Personality and Social Psychology*, *92*, 355-367.
- Simpson, J. A., & Rholes, W. S. (1994). Stress and secure base relationships in adulthood. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships* (Vol. 5): *Attachment processes in adulthood* (pp. 181-204). London: Kingsley.
- Simpson, J. A., Rholes, W. S., Campbell, L., Tran, S., & Wilson, C. L. (2003). Adult attachment, the transition to parenthood, and depressive symptoms. *Journal of Personality and Social Psychology*, *84*, 1172-1187.
- Simpson, J. A., Rholes, W. S., & Nelligan, J. S. (1992). Support seeking and support giving within couples in an anxiety-provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology*, *62*, 434-446.
- Simpson, J. A., Rholes, W. S., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology*, *71*, 899-914.
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.

- Triandis, H. C., McCusker, C., & Hui, C. H. (1990). Multimethod probes of individualism and collectivism. *Journal of Personality and Social Psychology, 59*, 1006-1020.
- van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin, 117*, 387-403.
- Wheeler, L., Reis, H. T., & Bond, M. H. (1989). Collectivism-individualism in everyday social life: The middle kingdom and the melting pot. *Journal of Personality and Social Psychology, 57*, 79-86.
- Yang, K. S. (1981). Social orientation and individual modernity among Chinese students in Taiwan. *Journal of Social Psychology, 113*, 159-170.