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# Unhappy us, unhappy me, unhappy life: The role of self-esteem in the relation between adult attachment styles and mental health

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## Abstract

With increasing recognition of and concern about mental health problems in Chinese young adults, the factors that contribute to mental health in Chinese young adults are receiving growing attention. Prior research has documented that adult attachment styles may be a risk factor for depression and anxiety in Western societies. However, little is known about the relation between adult attachment and mental health problems in China. In addition, research on the underlying mechanism between adult attachment and mental health problems is limited. The present study aimed to examine (1) the relation between adult attachment and young adults' mental health problems in China and (2) the mediating effect of self-esteem in the relation between adult attachment and young adults' mental health problems in China. The study was based on a sample of 305 urban Chinese students who completed a questionnaire about their attachment styles, self-esteem, and general mental health. Structural equation modeling was used to test our hypotheses. The results showed that (1) Both anxious and avoidant attachment linked to mental health problems in China through the partial mediating effect of self-esteem; (2) Anxious adult attachment also directly and positively associated with mental health problems, and (3) Avoidant adult attachment directly and negatively associated with mental health problems. The findings are interpreted on the basis of Chinese cultural features.

**Keywords** Adult attachment · self-esteem · Mental health problems · Chinese

In recent years, there has been increasing concern about and recognition of mental health problems in adulthood (Birren et al. 2013; Jones 2013; Sivertsen et al. 2015). Identifying the factors that lead to general mental health disorders could reduce the high prevalence of mental health problems in adulthood. In Western countries, considerable evidence supports a multifactorial explanation of general mental health disorders in adults, which recognizes biological, psychological, and social (family, school, community) factors (National Collaborating Centre for Mental Health,, and Royal College of Psychiatrists 2011). There is currently growing interest in research on the influence of psychological risk factors for mental health problems, especially for depression and anxiety (e.g., Hakulinen et al. 2015). Most of these studies have been conducted in Western societies. However, research on risk factors for mental health in Chinese culture has been surprisingly limited.

Consistent research evidence in Western societies has shown that adult attachment orientations can explain the individual differences in dealing with stress, psychological distress, anxiety, and maintaining resilience (Mikulincer et al. 2013). Originated from Bowlby's theory of attachment (Bowlby 1969), adult attachment refers to the emotional bonds between romantic partners and shares a similar attachment behavioral system with infant attachment (Hazan and Shaver 1987). People with secure attachment are able to be intimate with, and responsive to their romantic partners. They can still feel at ease even when their partners are unavailable and believe their partners will be there for them if necessary. In contrast, two types of insecure adult attachment have been identified: anxious attachment and avoidant attachment. Individuals with high anxious attachment are chronically worried about interpersonal rejection and abandonment, and easily feel frustrated when their attachment needs are not satisfied. Those with high avoidant attachment are distant in the close relationships and uncomfortable about intimacy and interpersonal closeness. These two insecure attachment styles reflect the experiences of rejection from their primary caregivers in their early years (Bowlby 1969; Hazan and Shaver 1987). Empirical studies in Western societies consistently

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revealed that insecure (avoidant or anxious) adult attachment is positively linked to mental distress, including depression (Cantazaro and Wei 2010; Hankin et al. 2005; Merlo and Lakey 2007; Monti and Rudolph 2014; Rholes et al. 2011; Shaver et al. 2005) and anxiety symptoms (Marganska et al. 2013; Nielsen et al. 2017). While the typology of adult attachment has been applied cross-culturally application in Chinese young adult population (Zhang et al. 2011), there is little research examining the relation between adult attachment and mental health in China. Consistent with Western findings, Mak et al. (2010) found the positive association between the two insecure adult attachment styles and depressive symptoms in the Chinese cultural context. Chinese living in collectivistic societies where relatedness and connectedness among social members are highly emphasized are culturally predisposed to maintaining closeness and harmony with others. The adult attachment orientations that contradict the expectations of relationships in collectivistic societies, therefore, may have psychological consequences for individuals (Mak et al. 2010).

In addition, little is known about potential mediators of the relation between adult attachment and mental health in the Chinese cultural context. Individuals with different attachment histories may vary in how they feel about themselves (Srivastava and Beer 2005). People's concepts of and feelings about themselves are generally termed self-evaluation or self-esteem (Mann et al. 2004). People's beliefs and evaluations of themselves determine who they are, what they can do, and what they can become (Burns 1982; Coopersmith 1959; Epstein 1973). Secure attachment is associated with higher self-esteem (Armsden and Greenberg 1987; Doinita 2015; Foster et al. 2007; Kenny et al. 1998; McCormick and Kennedy 1994; Noom et al. 1999; Paterson et al. 1995). By contrast, anxious adult attachment has been reported to be associated with lower global self-esteem (Bartholomew and Horowitz 1991; Doinita 2015; Li and Zheng 2014; Mickelson et al. 1997) and attribution of negative traits to oneself (Mikulincer 1995). However, the relation between avoidant attachment and self-esteem has not been consistent across different studies. For instance, some researchers claimed that avoidant attachment is related to inflated self-evaluation due to distrust of others and high reliance on oneself in Western societies (e.g., Hepper and Carnelley 2012; Mikulincer and Florian 1998; Mikulincer and Shaver 2007). However, a number of studies conducted in the Chinese cultural context revealed that high avoidant attachment is related to low self-esteem in mainland Chinese and Taiwanese samples since the nature of avoidance may imply individuals' lack of confidence to establish intimate relationships with others (e.g., Li and Zheng 2014; Wu 2009). Whether the relation between avoidant attachment and self-esteem varies in different cultural contexts calls for further investigation. In addition, self-esteem was found to link strongly to individuals' mental health. High self-esteem was consistently found to associate

with less physical and psychological problems, including substance abuse, depressive moods, dissatisfaction with life, and low well-being (Deković 1999; Orth and Robins 2014; Sowislo and Orth 2013; Sussman et al. 1995). Despite the empirical evidence on the direct links between adult attachment, self-esteem, and mental health, the mechanism by which adult attachment and self-esteem works together to contribute to individuals' mental health has not been clear in research.

According to adult attachment theory, individuals with different adult attachment styles will develop different internal working models which include beliefs about managing distress, trust in the goodwill of others, and a sense of self-efficacy to deal with threats (Shaver and Hazan 1993). In addition, working model of the self and others generate cognitive scripts and expectations about relationships, as well as one's perceived level of esteem (Wang and Mallinckrodt 2006). People with insecure (avoidant or anxious) adult attachment are more likely to develop negative mental representations about the self and others, so they tend to have more mental distress. Therefore, the present study utilized the internal working model as the theoretical framework to conceptualize the potential mediating role of self-esteem in the relation between adult attachment and mental health problems. Building on the foundation of previous studies, the present study had two purposes (see Fig. 1). The first was to explore the relationship between adult attachment and mental health in the Chinese context. The second was to examine the mediating effect of self-esteem on the relationship between adult attachment and mental health. The study tested three hypotheses:

> Hypothesis 1: Anxious and avoidant adult attachment are both positively correlated with mental health problem in the Chinese context.
> Hypothesis 2: Both anxious and avoidant attachment are negatively correlated with self-esteem.
> Hypothesis 3: Low self-esteem partially mediates the relationship between anxious adult attachment and poor mental health.
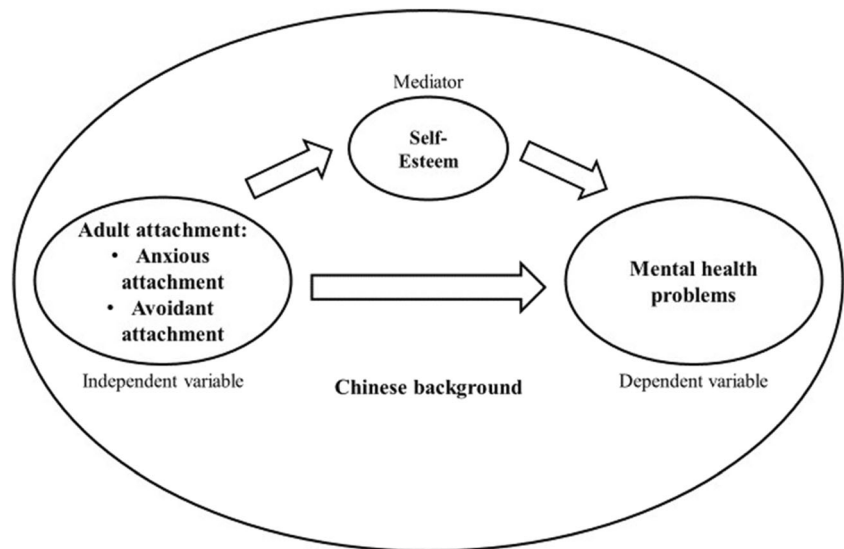> Hypothesis 4: Low self-esteem partially mediates the relationship between avoidant adult attachment and poor mental health.

## Method

### Participants and Procedure

Owing to the researchers' personal connection with a university in Hubei, China, the sample for the present study was

**Fig. 1** Model of the present study



recruited from that university. Four hundred questionnaires were distributed and 352 were returned, yielding a return rate of 88%. Questionnaires in which entire pages had been left empty were removed. In the end, a total of 305 valid questionnaires were left, giving a validity rate of 86.6%. Among the participants, 175 were males and 130 were females. The participants ranged in age from 17 to 28 years ($M = 20.83$, $SD = 1.92$). Of the respondents, 121 reported being in a romantic relationship (47 of whose relationships have been lasting for more than 24 months); the lengths of these relationships ranged from half a month to 81 months ($M = 20.97$, $SD = 18.71$). A total of 184 respondents reported being single.

The participants completed a battery of questionnaires distributed by several independent researchers during a regular class session. Participation was voluntary. Anonymity and confidentiality were guaranteed. They were then asked to complete a packet of self-report measures as honestly and completely as possible. The questionnaire packet took most participants less than 30 min to complete.

## Measures

### Experiences in Close Relationships Questionnaire–Revised in Chinese (ECR-C)

The ECR (Brennan et al. 1998) was developed through a factor analysis of all previous self-report adult attachment scales. After an item response theory analysis, the instrument was further refined and was found to have the best psychometric properties among self-report attachment scales. In China, Tonggui and Kazuo (2006) at Peking University translated the ECR scale into Mandarin, and data from 371

Chinese college students were used to test the construct validity of such measure. The scale was found to have adequate reliability (internal and temporal consistency) and validity (construct and criterion-related) (Tonggui and Kazuo 2006). Two subscales of eighteen items each were included to measure two dimensions of attachment, anxiety (e.g., "I worry a lot about being abandoned"; "I rarely worry about my partner leaving me" (reversed item)), and avoidance (e.g., "I prefer not to show a partner how I feel deep down"; "I am very comfortable being close to romantic partners" (reversed item)). The statements were rated on 7-point Likert-type scales, ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). An internal consistency of .90 to .96 was found in a community and college sample of women (McKinley and Randa 2005). Another study using a college freshman sample found six-month test-retest reliabilities of .68 to .71 (Lopez and Gormley 2002). In the present study, the Chinese version (Tonggui and Kazuo 2006) of ECR was used. The alpha coefficient was .75 for the avoidance subscale and .85 for the anxiety subscale.

### Rosenberg Self-Esteem Scale (RSES) in Chinese

The RSES was originally designed to measure global self-worth and self-acceptance in adolescents (Rosenberg 1965). The present study used the Chinese version of the Rosenberg Self-Esteem Scale. Ten items on 5-point Likert scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) were included to measure students' self-esteem. Sample items include "At times, I think I am no good at all" and "All in all, I am inclined to feel that I am a failure" (reversed). The Chinese version of this scale has shown good levels of reliability and validity (Kong and You 2011; Zhao et al. 2012). Cronbach's alpha for the present study was .78.

## General Health Questionnaire (GHQ)

The General Health Questionnaire (Goldberg 1978) is a brief self-report measure that has excellent psychometric properties as a screening instrument for psychiatric disorders in nonclinical settings. Various versions with 12, 28, 30, or 60 items have been translated into Chinese and are widely used in Hong Kong, mainland China, and Taiwan in research and screening for individuals who might benefit from further psychiatric consultation. In the present study, the 12-item version on 4-point Likert scales ranging from 1 (*much less than usual*) to 4 (*much more than usual*) were used to investigate students' general mental health. The higher the total score, the worse the general mental health. Sample items are "Been able to concentrate on what you are doing" and "Been feeling hopeful about your own future" (reversed). Cronbach's alpha for the present study was .90.

## Statistical Analysis

Structural Equation Modeling (SEM) with latent variables was utilized to examine the hypothetical model. Data analysis was carried out using the analysis of moment structure (AMOS) 23.0 software. In accordance with the two-step modeling procedure (Kline 2005), confirmatory factor analysis was first run for the measurement models to verify the relations among observed variables and their corresponding latent constructs before the hypothetical mediation model was tested. There were four latent variables in the analysis: (1) anxious attachment, (2) avoidant attachment, (3) self-esteem, and (4) mental health. In addition, the four variables were parceled out to three broader indicators each by following the item-to-construct balancing procedures (Little et al. 2002) to secure the stability of the measurement models.

Methods of assessing model fit in measurement model testing were selected based on established criteria (Bentler 1990; Browne and Cudeck 1993; Kelloway 1998; Kline 2005). Due to the high-sensitivity of chi-square ($\chi^2$) measure to examine the model fit of a relatively large sample size (Bentler and Bonett 1980), in the current study, goodness of fit of the model was assessed using alternative fit indices, such as the comparative fit index (CFI) and Tucker–Lewis index (TLI), in which values greater than .95 indicate excellent fit and values greater than .90 show adequate fit (Bentler 1990); and the root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR), in which a value of or less than .05 is considered to represent good fit and a value below .08 suggests adequate fit.

A number of methods have been suggested in the literature for testing mediating effect. In small samples, bootstrapping is more reliable than Baron and Kenny's method (Baron and Kenny 1986); a standard error is the expected variability of an estimate if the estimation were repeated a large number of times. A further advantage of this method is that it can be used when the sample data are not normally distributed (Hayes and Preacher 2010; Preacher and Hayes 2004). Therefore, we used the bootstrapping procedure 5000 times and determined the statistical significance of the mediating effects when the 95% confidence interval (i.e., the range between the 125th and 4875th results) excluded 0.

## Results

### Preliminary Analysis

Descriptive statistics (means, standard deviations, and correlations) of the main variables are presented in Table 1. Both anxious and avoidant adult attachment were negatively correlated with self-esteem (ANA: $r = -.22$, $p < .001$; AVA: $r = -.30$, $p < .001$). Anxious attachment had a significantly positive correlation with mental health problems ($r = .37$, $p < .001$). Self-Esteem was negatively related to mental health problems ($r = -.28$, $p < .001$).

An independent *t*-test showed that there was no significant difference between females and males concerning any main variables (anxious attachment: $t = -1.11$, $p = .27$; avoidant attachment: $t = -.52$, $p = .61$; self-esteem: $t = -1.62$, $p = .11$; mental health problems: $t = -.81$, $p = .42$). Age was not related to any of the main variables. Consequently, we did not separate the data into different gender and age in the subsequent analyses. Except for avoidant attachment [those who were single showed higher level of avoidant attachment than those who were currently dating ($t = -4.60$, $p < .001$)], no significant differences were found in all other main variables based on relationship status (i.e., currently dating vs. currently single) (anxious attachment: $t = -.37$, $p = .71$; self-esteem: $t = 1.00$, $p = .32$; mental health: $t = -1.28$, $p = .20$). Therefore, the present study did not separate the structural models based on individuals' relationship status.

The first model (see Fig. 2) was applied to estimate the relationships between the two dimensions of attachment and

**Table 1** Correlations, means, and standard deviations of the main variables

|  | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Anxious attachment | 1 |  |  |  |
| 2. Avoidant attachment | .04 | 1 |  | . |
| 3. Self-Esteem | −.22** | −.30** | 1 |  |
| 4. Mental health problems | .37** | .01 | −.28** | 1 |
| *M* | 3.50 | 3.40 | 3.46 | 2.00 |
| *SD* | .93 | .77 | .68 | .49 |

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

**Fig. 2** Structural model of the direct relationship between adult attachment and mental health. All coefficients are the standardized solution. *p < .05. **p < .01. ***p < .001.
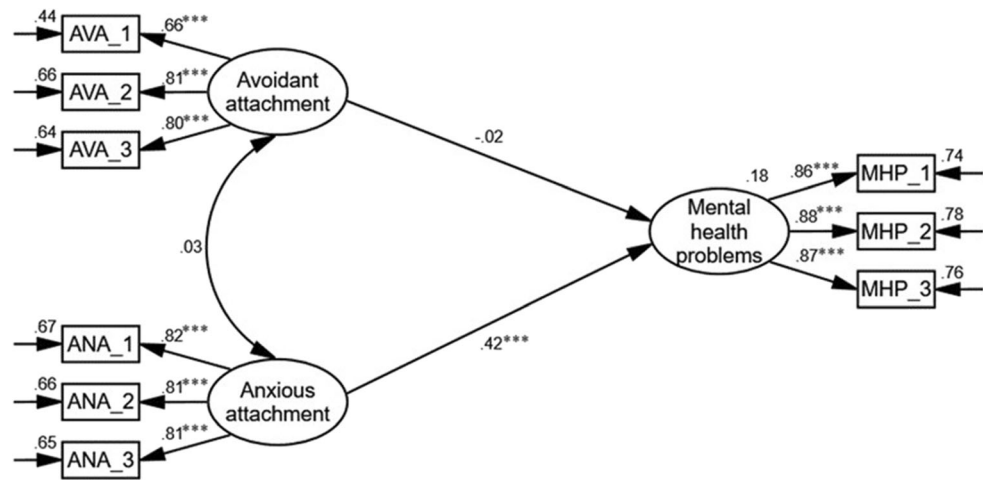


mental health problems among Chinese youths. The results demonstrated relatively acceptable model fit, $\chi^2(24) = 83.76$, CFI = .96, TFI = .94, RMSEA = .091, SRMR = .059, and that all loading estimators achieved significant level ($ps < .001$). Anxious and avoidant adult attachment explained 18% of the shared variance for mental health problems. Anxious attachment had a significantly positive correlation to mental health problems ($\gamma = .42$, $p < .001$). By contrast, the association between avoidant attachment and mental health problems was nonsignificant ($\gamma = -.02$, $p = .80$). These findings partially supported our first hypothesis, that is, anxious attachment was positively correlated with mental health problems in the Chinese context.

Then, we implemented the second model (shown in Fig. 3) to determine whether self-esteem would act as a mediator of the relations between the dimensions of adult attachment and poor mental health. According to the results, an acceptable fit of the model with data existed, $\chi^2(48) = 144.37$, CFI = .95, TFI = .93, RMSEA = .081, SRMR = .061, all factor loadings attained significance at the $p < .001$ level. The model explained 22% and 25% of the variance in self-esteem and mental health problems, respectively. Anxious attachment

($\gamma = .34$, $p < .001$), rather than avoidant attachment ($\gamma = -.12$, $p = .07$), was positively related to mental health problems. In line with hypothesis 2, both anxious attachment and avoidant attachment were negatively associated with self-esteem (ANA: $\gamma = -.29$, $p < .001$; AVA: $\gamma = -.36$, $p < .001$). Moreover, there was a significantly negative link of self-esteem with mental health problems ($\beta = -.30$, $p < .001$).

Concerning the mediating effect, Baron and Kenny (1986) asserted that a situation with both indirect and direct effects is called "partial mediation." The present study found a significant indirect effect of anxious adult attachment on mental health problems via self-esteem (estimate = .05, $SE$ = .01, $p < .001$, 95% CI [.02, .08]). The direct effect between anxious attachment and poor mental health attained significant (estimate = .18, $SE$ = .04, $p < .001$, 95% CI [.10, .26]), revealing that self-esteem partially mediated the link of anxious attachment and mental health problems (see Table 2). Additionally, an unexpected significant negative direct path from avoidant attachment to mental health problems was found when taking mediating effects of self-esteem into account (estimate = −.11, $SE$ = .06, $p < .05$, 95% CI [−.23, −.01]). This seemingly contradictory result would be further discussed in the Discussion

**Fig. 3** Structural model of the mediation effect of self-esteem on the relationship between adult attachment and mental health problems. All coefficients are the standardized solution. *p < .05. **p < .01. ***p < .001.
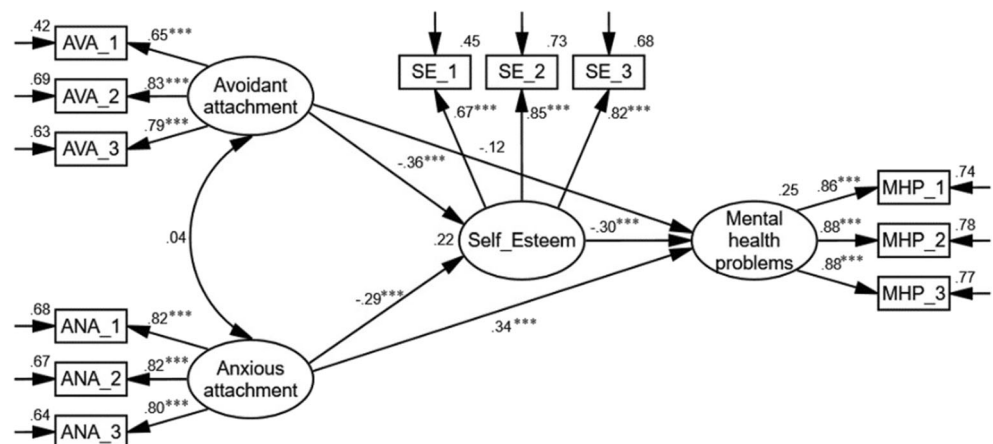
**Table 2**  The mediating effect of self-esteem

|  | Mental health problems | | | |
|---|---|---|---|---|
|  | Estimate | SE | 95% CI | |
|  |  |  | Lower | Upper |
| Avoidant attachment |  |  |  |  |
| Indirect effect | .09*** | .03 | .04 | .17 |
| Direct effect | −.11* | .06 | −.23 | .00 |
| Total effect | −.02 | .06 | −.13 | .09 |
| Anxious attachment |  |  |  |  |
| Indirect effect | .05*** | .01 | .02 | .08 |
| Direct effect | .18*** | .04 | .10 | .26 |
| Total effect | .22*** | .04 | .15 | .30 |

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

section. The indirect effect between avoidant adult attachment and poor mental health through self-esteem was significant (estimate = .09, SE = .03, p < .001, 95% CI [.04, .17]). There was a significant partial mediating effect of self-esteem on the link of avoidant adult attachment to mental health problems.

## Discussion

Researchers have sought to understand the relationship between adult attachment and positive or negative psychological outcomes. Most previous studies of adult attachment theory limited their investigation to the direct relationship between adult attachment and psychological outcomes in Western samples (Mikulincer et al. 2013; Rholes et al. 2011). Little is known about the relationship and the mechanisms that underlie it in the Chinese context. To fill this gap, the purpose of the present study was twofold: first, to explore the relationship between attachment and mental health problems in Chinese adults; and second, to evaluate self-esteem as a mediator between adult attachment and mental health problems.. Self-esteem partially mediated the relationship between anxious and avoidant adult attachment and mental health problems. In general our results supported our hypotheses. The present study advanced existing research by (1) examining the relation between adult attachment and mental health problems in the Chinese cultural context; (2) showing the mediation effect of in the process by which adult attachment links to mental health problems.

Our results showed that both anxious and avoidant adult attachment were associated with low self-esteem (Hypothesis 2). Furthermore, self-esteem worked as a mediator to explain the relation between both insecure adult attachment and mental health problems (Hypothsis 3 and 4). In other words, those who were high in anxious and avoidant adult attachment tended to have low self-esteem, and subsequently linked to

more mental health problems. Insecure adult attachment styles influenced the quality of mental health through negative views about the self that embody negative self-perceptions of one's value and worthiness.

The mediational role of self-esteem in the relation between anxious adult attachment and mental health problems. Previous research found that the potential mediating effect of self-esteem in the relation between anxious attachment and negative mental and physical outcomes such as test anxiety, feelings of shame, symptoms of anxiety, and depression with the mediating effect of self-esteem (Hankin et al. 2005; Merlo and Lakey 2007; Rholes et al. 2011; Shaver et al. 2005; Wei et al. 2004). According to the internal working model, a trusting and responsive relationship with one's partner is expected to facilitate the development of a positive cognitive script that allows one to view oneself as worthy and lovable (Mikulincer and Shaver 2010). In contrast, individuals with anxious attachment tend to worry about rejection and abandonment by their partners. They rely heavily on their partners and hold a negative view about themselves. This negative view about the self includes feelings of worthlessness and unlovability, which constitute low self-esteem. People with low self-esteem tend to feel helpless and worthless when facing a distress situation, and they are prone to failing to overcome their difficulties, resulting in poor mental health.

Chinese people rely on relationships to maintain self-esteem. It is a common belief that the self is inseparable from its relational context in China. True satisfaction and lasting happiness are believed to be attained mainly through achieving a harmonious balance in one's social context (Mak et al. 2010). The fear of rejection, and excessive and endless need to achieve security can make an individual with high anxious adult attachment feel the failure of fulfilling an expected role in the relational network, thus, inducing the individual to look down on him- or her-self. This sense of low self-esteem reduces the capacity to deal efficiently with distress situations, resulting in mental health problems.

The mediation analysis showed that self-esteem also partially mediated the relation between avoidant attachment and mental health. This finding was different from previous research in Western contexts (Dan et al. 2014; Lee and Hankin 2009). Self-esteem did not play a mediating role in these studies because of the core characteristics of avoidant attachment, namely, discomfort with closeness, suppression of vulnerability, and denial of distress feelings (Mikulincer and Shaver 2007, 2010; Wu 2009). Individuals with avoidant attachment pursue excessive self-reliance and hold positive beliefs about the self as capable of dealing with threats (Mikulincer and Shaver 2007, 2010). However, the situation may be different in the collectivistic culture in which relationships with others are greatly valued. The present study focused on participants in China where people are expected to derive their identities from their group affiliations and networks of relationships and

to value harmonious relationships with their significant others (Goodwin 2013). Those with fear of closeness and low desire to connect with others may have low self-regard to live in the societies where interdependence among social members is highly emphasized. This low self-esteem will, in turn, reduce self-efficacy and confidence to deal with distress which consequently leads to mental health problems. A study similar to ours was conducted in Taiwan by Wu (2009), which also found that self-esteem acted as a mediator between adult avoidant attachment and low self-concept clarity.

However, the relation between the two insecure adult attachment and mental health problems has been divergent in the present study. Hypothesis 1 was only partially supported. Anxious adult attachment was positively related to poor mental health, whereas avoidant adult attachment was negatively related to mental health problems. The finding about the positive relation between anxious adult attachment and mental health problems was consistent with the results of similar Western studies which used different adult attachment measurements (Mikulincer et al. 1999; Shorey et al. 2003). Highly anxious individuals tend to use hyperactivating strategies to deal with distress and often fail to deal with distress, resulting in poor mental health (e.g., Pascuzzo et al. 2013).

Unexpectedly, highly avoidant Chinese were found to have less mental health problems in this study. Avoidant attachment is accompanied by efforts to minimize the importance of threatening stimuli and to take quick self-protective action when facing threats (Ein-Dor et al. 2010). Therefore, they tend to buffer influences from the outside world in order to safeguard their own value systems so this may lessen the probability of reporting mental health problems. However, this finding may sound contradictory to the finding regarding the mediational role of self-esteem in the relation between avoidant adult attachment and mental health problems. The contradictory relations between latent variables has been referred as "inconsistent mediation" (Davis 1985) or competitive mediation (Zhao et al. 2012), which may imply other potential mediators between the independent variable and the dependent variable. Therefore, the relation between avoidant attachment and mental health issues may be far more complicated than expected in the Chinese cultural context. Future research may consider further exploring the complicated relations between Chinese avoidant adult attachment and mental health problems to uncover the pathway(s) underneath.

In conclusion, the current study highlighted the contributions of insecure adult attachment styles and low self-esteem to the mental health problems in the Chinese context. The present study yielded results that are not completely consistent with previous research in Western contexts. Therefore, this study confirmed the importance of taking cultural fit into account when studying the connection between adult attachment and mental health.

## Limitations

Several limitations of this study should be noted. First, the study tested the mediation model using only cross-sectional data. A longitudinal study could provide more conclusive evidence of causal relationships. Second, the scope of the present study was limited to resources from the self that impact on the relationship between adult attachment and mental health. The internal working model includes beliefs and expectations about the self as well as others, but the present study focused only on views of the self (i.e., self-esteem). Third, we used convenience sampling rather than random sampling. This meant that the gender distribution of the sample was skewed and the sample was limited to college adult students in China; our results are, thus, not representative of the overall adult population. Fourth, the current study was limited to self-report data. Self-report data are based on participants' own, subjective experiences, and their results may, thus, differ from those obtained through other methods of assessment such as observational data, reports from other individuals such as close friends or family members, and clinical interviews.

Finally, despite the information about relationship status had been collected in the study, we did not further differentiate participants who had never been in any romantic relationships from those who had been in romantic relationship(s) before but were single at the time of data collection. Those who had histories of romantic relationships may have different perceptions about attachment issues compared to those who have never been in romantic relationships. Future studies need to further examine and explore the role of relationship history in relevant studies.

In addition, Zeifman and Hazan (2008) indicated that individuals need approximately two years to establish attachment in romantic relationships. Unfortunately, there were only a small number of participants ($N = 47$) who were currently involved in romantic relationships more than two years. Our ANOVA analyses indicated that relationship duration did not show significant differences in most of our main variables except for avoidant adult attachment. Single individuals indicated the highest level of avoidant attachment, and individuals involved in a romantic relationship for more than two years revealed significantly lower level of avoidant attachment than those who were currently in a romantic relationship for less than two years. Future studies may consider the role of relationship length and examine its impact on the effects of attachment in romantic relationships on mental health problems. Moreover, despite the findings of the present study have been contextualized and explained through the cultural lens, the degree to which individuals adhered to interdependence and collectivism was not measured. College students in urban universities recruited for this study were not necessarily from local areas so some urban-rural differences may exist. Zhang

et al. (2010) found that psychological frustration due to the conflict of values between modern equalitarianism and traditional Confucian paternalism may account for a risk factor for rural Chinese suicides. It is recommended that future studies can further explore how students' background and personal adherence to interdependence may play a role in the relevant studies.

## Implications

The present study suggests that relationship factors, particularly insecure adult attachment styles, pose an important risk for the mental health of Chinese adults. Since Chinese people tend to emphasize the importance of relationships with others and to gain self-esteem from these relationships, individuals who are unable to maintain close and secure relationships with their romantic partners are more prone to mental health problems. Chinese mental health interventions might, therefore, benefit from a particular focus on individuals' styles of attachment to their significant others, with the aim of developing more secure attachments. In addition, building healthier emotional perceptions of relationships with partners could bolster self-esteem and increase positive motivation for the maintenance of good mental health.

Our results showed that self-esteem played an important role in mental health problems in individuals with insecure attachment styles, more specifically, mental health problems affected individuals with anxious attachment, and avoidant attachment accompanied by low self-esteem. For avoidantly-attached individuals without self-esteem problem, their mental health may not be negatively affected. Therefore, in order to improve insecurely-attached individuals' mental health, seeking out for security in relationships and enhancing self-esteem are of particular importance to anxiously-attached individuals and avoidantly-attached individuals with low self-esteem. Emerging adulthood is a time when establishing intimate relationships serves as one of the major life task, it is, thus, suggested that high school and/or college education should include workshops and/or curriculum on building and maintaining good intimate relationships as well as self-esteem enhancement so as to improve the mental health of Chinese young adults.

## Compliance with Ethical Standards

The authors declare that they have no conflict of interest.

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