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Abstract: Previous studies have shown that female infidelity, attachment insecurity, and male sexual coercion in intimate relationships are empirically related to each other. However, the mechanisms that are involved remain poorly understood. The study aimed to examine two mediating models of male sexual coercion concerning first sex in Chinese college students' dating relationships (perceived female infidelity or attachment insecurity as the mediator), with both male and female participants (not using dyadic data). A total of 927 validly completed questionnaires provided the data; the respondents were recruited by purposive snowball sampling of students attending colleges in five of China's largest cities who were currently in a romantic relationship. First, with both the male and female samples, perceived female infidelity was positively correlated with violence threat coercive tactics; and, with the male sample only, it was positively correlated with emotional manipulation coercive tactics. Second, with the male sample only, male partners' attachment insecurity (anxiety and avoidance) were positively correlated with perceived female infidelity. Third, male partners' attachment anxiety fully mediated the relationship between perceived female infidelity and emotional manipulation coercive tactics. These findings suggest how the proximate and ultimate causes of sexual coercion in intimate relationships interact. Implications for clinical practice are discussed.

**Perceived female infidelity and male sexual coercion concerning first sex in
Chinese college students' dating relationships: The mediating role of male
partners' attachment insecurity**

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Highlights

- Perceived female infidelity was positively correlated with male sexual coercion.
- Attachment insecurity was positively correlated with perceived female infidelity.
- Attachment insecurity was positively correlated with male sexual coercion.
- Anxiety mediated between perceived female infidelity and male sexual coercion.
- Proximate and ultimate causes of male partners' sexual coercion interact.

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ABSTRACT

Previous studies have shown that **female infidelity, attachment insecurity, and male sexual coercion in intimate relationships are empirically related to each other.**

However, the mechanisms that are involved remain poorly understood. **The study aimed to examine two mediating models of male sexual coercion concerning first sex in Chinese college students' dating relationships (perceived female infidelity or attachment insecurity as the mediator),** with both male and female participants (not using dyadic data). A total of 927 validly completed questionnaires provided the data; the respondents were recruited by purposive snowball sampling of students attending colleges in five of China's largest cities who were currently in a romantic relationship. First, with both the male and female samples, perceived female infidelity was positively correlated with violence threat coercive tactics; and, with the male sample only, it was positively correlated with emotional manipulation coercive tactics. Second, with the male sample only, male partners' attachment insecurity (anxiety and avoidance) were positively correlated with perceived female infidelity. Third, male partners' attachment anxiety fully mediated the relationship between perceived female infidelity and emotional manipulation coercive tactics. These findings suggest how the proximate and ultimate causes of sexual coercion in intimate relationships interact. Implications for clinical practice are discussed.

KEY WORDS: female infidelity; male sexual coercion; attachment insecurity; first sex

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1. Introduction

Sexual coercion in dating relationships is not a single behavior or simple problem, and it cannot be explained by a single theory (Johnson & Sigler, 1997). The academics tend to integrate different perspectives to explain and predict sexual coercion, especially within intimate relationships. Goetz, Shackelford, & Camilleri (2008) highlight the importance of integrating multiple levels of analysis when studying males' sexual coercion of their intimate partners. They argue that proximate (feminist) theory and ultimate (evolutionary) theory allow different levels of analysis and can complement each other. Goetz and Shackelford (2009) successfully tested this integrative hypothesis. They explored men's attempts to dominate and control their partners (proximate cause) and suspicions about their partners' infidelity as predictors of men's sexual coercion of their intimate partners; the results indicated that perceived female infidelity and male controlling behavior consistently predict male sexual coercion of their partners. Hazan and Shaver (1994) argued that "a theoretical integration of research findings on close relationships is neither premature nor impossible and that attachment theory can provide the core constructs of such an integrative framework" (p.18). In the present study, we wanted to explore how proximate (attachment) theory and ultimate (evolutionary) theory could together explain the complicated sexual coercive behavior found in intimate relationships. A

review of the literature on the relationship between female infidelity, male sexual coercion in intimate relationships, and attachment insecurity is as follows.

1.1. Female infidelity and male sexual coercion in intimate relationships

Sperm competition theory provides us with an evolutionary perspective to help us understand sexual coercion in long-term relationships. Like other socially monogamous species, male humans have psychological mechanisms designed to solve adaptive problems, such as female infidelity, uncertainty about paternity, and sperm competition (Shackelford & Goetz, 2007). Males compete not only with each other for mates but also with rivals at the level of sperm. Sperm competition theory proposes that if females mate concurrently with two or more males, there are several selection pressures on males as only one sperm can fertilize an egg. According to this theory, when men encounter risk of sperm competition— such as perceived or actual female infidelity or separation— they adopt mate retention tactics to maintain their relationships when faced with such problems as a partner’s sexual rejection. Goetz et al. (2008) suggested that “sexual rejection by a woman might signal to her partner strategic interference and could activate psychology and behavior associated with sexual coercion” (p. 9). Moreover, when males perceive a greater risk of sperm competition, they are distressed and may persist in their response to sexual rejection. Shackelford, Goetz, McKibbin & Starratt (2007) found that men who spend a greater amount of time away from their partners since last copulating with them report greater distress, greater sexual interest in their partner, and more persistence in

response to sexual rejection.

Many studies have provided evidence of the strong relationship between female infidelity and intimate partner violence (IPV), sexual coercion and even homicide (Shackelford, Buss, & Weekes-Shackelford, 2003). For example, some studies have shown that infidelity is particularly significant as a source of conflict associated with violence. Infidelity concerns, a specific form of jealousy, have been found to be the immediate trigger for episodes of extreme violence that result in injuries to intimate partners (Giordano, Copp, Longmore, & Manning, 2015; Nemeth, Bonomi, Lee, & Ludwin, 2012). Infidelity has been found to be associated with a high proportion of the relationships affected by IPV (Johnson, Manning, Giordano, & Longmore, 2015). It should be noted that in these studies “infidelity” usually means “males’ perceptions of their female partners’ sexual infidelity.” Kaighobadi et al. (2009) found that men who perceived themselves to be at greater risk of partner infidelity perpetrated more partner-directed violence. Hatcher et al. (2013) suggested that the triggers of IPV include the perceived sexual infidelity of partners.

The relation between perceived female infidelity and sexual coercion by males in intimate relationships has also been empirically tested. Goetz and Shackelford (2006) found that sexual coercion in the context of intimate relationships may function as a sperm competition tactic. Male sexual coercion in an intimate relationship is positively related to male partners’ perceived female infidelity. Starratt, Goetz, Shackelford, McKibbin & Stewart-Williams (2008) suggested that accusing a partner of sexual infidelity was most useful in predicting sexual coercion. Conroy (2014)

demonstrated that the perception of a partner's infidelity was significantly associated with both an individual's and their partner's risk for sexual coercion and physical abuse. These findings suggest that there is a strong relation between perceived female infidelity and male sexual coercion in intimate relationships. Researchers have also examined possible moderators and mediators of this relationship. For example, Starratt, Popp & Shackelford (2008) found that men's perceptions of their partner's infidelity are positively related to sexual coercion by men only in those relationships in which the man perceives himself to be as desirable as, or more desirable than, his partner.

1.2. Attachment insecurity and male sexual coercion in intimate relationships

By focusing on affect regulation in close relationships, attachment theory can help us understand the apparent contradiction between intimacy and violence, that is, to understand how violence can be related to love and intimacy (Mayseless, 1991). Attachment is a motivational model that can be activated under conditions in which a relationship itself seems to be under stress and threat (Feeney, 1998; Hazan & Shaver, 1994); and it has been empirically shown to be related to various types of violence in intimate relationships. For example, Bond and Bond (2004) found that male partners' anxious attachment style was a significant predictor of violent victimization of females. Rapoza & Baker (2008) found that physically violent men reported anxious attachment. Dutton & White (2012) suggested that attachment insecurity increases the likelihood of aggression in adolescents and IPV in adults. However, few researchers

have employed attachment theory to explain the phenomenon of sexual coercion in intimate relationships. The social psychology perspectives (such as attachment theory) mostly remain at the level of conceptual or theoretical hypotheses concerning sexual coercion in dating relationships (Baumeister, 2001; Byers & Wang, 2004; Davis, 2006). Recently, He & Tsang (2014) found that, with both male and female samples, male partners' anxious attachment style significantly and positively predicted emotional manipulation coercive tactics. With the female sample, two of the male partners' attachment styles (anxious and avoidant) positively predicted violence threat coercive tactics; and the male partners' avoidant attachment style positively predicted defection threat coercive tactics.

1.3. Infidelity and attachment insecurity

Both of the insecure attachment styles (anxious attachment and avoidant attachment) have been empirically shown to be linked with infidelity. Fish, Pavkov, Wetchler & Bercik (2012) found that attachment anxiety and avoidance were significantly related to infidelity at both bivariate and multivariate levels of analysis. Frias, Brassard & Shaver (2014) found that the association between childhood sexual abuse and perceived-partner extradyadic involvement was partially mediated by both attachment anxiety and avoidance. Shimberg, Josephs & Grace (2016) found that college students who are with secure attachment are more likely to oppose sexual behavior outside of their dating relationships.

A strong link between anxious attachment and infidelity (self and perceived

partners') has been found in most previous studies. As regards the link with self infidelity, Bogaert & Sadava (2002) found that respondents who scored higher on an anxious attachment index had more lifetime partners and more infidelity. Russell, Baker & McNulty (2013) found that spouses were more likely to commit adultery when either they or their partners had a higher level of attachment anxiety. Weiser & Weigel (2015) found that individuals with higher levels of attachment anxiety appear to be more likely to be unfaithful to their partners. As regards the link with the perceived infidelity of a partner, Kruger et al. (2013) found that higher levels of attachment anxiety were associated with higher ratings for 18 of 27 behaviors that their participants judged to be cheating on a long-term partner. Reed, Tolman & Safyer (2015) suggested that attachment style influences intrusive electronic dating behaviors (such as looking at a dating partner's private electronic information without permission), which reflected the possibility of infidelity.

Some studies have suggested that there is a link between avoidance attachment and infidelity. For example, Beaulieu-Pelletier, Philippe, Lecours & Couture (2011) found that attachment avoidance increases people's irritation relative to their partner's desire for engagement which, in turn, increases the likelihood of their engaging in extradyadic sex. DeWall et al. (2011) showed that people with high levels of dispositional avoidant attachment had more permissive attitudes toward infidelity than did those with low levels of dispositional avoidant attachment. Avoidant attachment is predictive of a broad spectrum of responses indicative of interest in alternatives and a propensity to be unfaithful. Schmitt & Jonason (2015) found that self-reports of

having an unfaithful sexual personality were linked to dismissing attachment in both men and women.

1.4. Cultural context and studies of sexual coercion in the intimate relationships of Chinese couples

When to first have sex can be a key issue for Chinese dating couples, for great importance is attached to a bride's virginity (as it long has been in China). The phenomenon is known as "virginal membrane adoration" or "the virginity complex" and is found among both males and females (Pan, 2004); thus, men want to marry a virgin and women wish to retain their virginity until marriage. Generally speaking, Chinese people first have sex somewhat later than most of their Western counterparts: the sexual debuts of Chinese people normally occur when they are between 19 and 24 years of age (Guo, Wu, Qiu, Chen & Zheng, 2012; He, Tsang, Zou & Wu, 2010). Sexual coercion related to first sex within Chinese couple's intimate relationships has been found to be not uncommon (Wang, 2006; Wang & Davidson, 2006). Wang (2006) found that many young Chinese women's first experience of sex contains some element of sexual coercion (mostly without the use of physical force), and that this is ignored by the general public and academia.

1.5. Hypotheses

The literature review shows that female infidelity, attachment insecurity, and male sexual coercion within intimate relationships are empirically related to each other.

From the evolutionary perspective, sperm competition theory posits distal causes that help to explain sexual coercion (Thornhill, 2000); and proximal causes are suggested by social psychology theories, such as attachment theory. The theoretical distance between female infidelity and sexual coercion is farther than that between attachment insecurity and sexual coercion. From the perspective of attachment theory, an individual's attachment style reflects the internal working model to perceive self and others in the world. Many studies have suggested that attachment insecurity is associated with various outcomes in close relationship studies. This study hypothesized that (1) perceived female infidelity is correlated with male partners' attachment insecurity and women's coerced first sexual intercourse (WCFSI) in intimate relationships; (2) attachment insecurity mediates the relationship between female infidelity and WCFSI (Model 1); and (3) female infidelity mediates the relationship between attachment insecurity and WCFSI (Model 2).

2. Methods

2.1. Participants

The participants were purposively sampled from students attending eight universities in five major Chinese cities (Beijing, Shanghai, Xi'an, Shenzhen, and Hong Kong). Only college students currently in a heterosexual dating relationship were eligible for inclusion in the study. In all, 927 questionnaires were validly completed (by 439 males and 488 females who were not partnered to one another) and collected. The participants were aged between 17 and 33 years ($M = 20.87$ years; SD

= 1.45). Regarding their current relationship status, a total of 192 participants (20.7%) reported that they were in the early dating stage, 177 (19.1%) were in the exploring stage, and 558 (60.2%) were in the established stage. To describe their intimate relationship status, the participants were given the same three options as were given to the participants in He et al.'s (2010) study; the different stages (the early, exploring, and established stages) reflected the different lengths of time the participants had been dating. The three categories were defined as follows: in (1) the early stage, a dating couple have been in a formal romantic relationship for at least 3 months but for less than a year; and in (2) the exploring stage, a dating couple have been in a formal romantic relationship for at least one year; and in (3) the established stage, a dating couple intend to get married.

2.2. Measures

The respondents included both men and women college students, but the focus of the study was on women as victims of sexual coercion. Gender-specific versions of an otherwise identical questionnaire were developed, tested, and used. The following measures adopt a male version as an example.

2.2.1. Perceived infidelity of the female partners

The "infidelity" variable was used to assess the male partners' perceptions of their female partners' past sexual and emotional infidelities and of the likelihood of their female partners committing acts of sexual and emotional infidelity in the future

(Goetz & Shackelford, 2006). The items in the male version included (1) “I thought my girlfriend had fallen in love with others”; (2) “I thought my girlfriend had had sex with others”; (3) “I thought my girlfriend would in the future fall in love with someone else, while still in a relationship with me”; (4) “I thought my girlfriend would in the future have sex with someone else, while still in a relationship with me.” The items were rated on a 7-point Likert scale (ranging from 1 = *strongly disagree* to 7 = *strongly agree*). The scores for these four items were summed to obtain a total score for perceived female infidelity. A higher score indicated a higher level of male partners’ perceived female infidelity. The alpha value of this construct was .69 in the present study.

2.2.2. Attachment styles (*self-reported and as reported by partners*)

A continuous measure of attachment styles was used. The Experiences in Close Relationship Scale (ECR)-Short Form developed by Wei, Russell, Mallinckrodt, and Vogel (2007) was used to measure attachment styles. In designing the Chinese version of the ECR-Short Form, we followed guidelines proposed in the literature on cross-cultural methodology (Brislin, 1986) by conducting independent blind back translation, educated translation, and small-scale pretests. The ECR-Short Form comprises 12 items; six of these assess attachment anxiety and the other six assess attachment avoidance. There were two versions of this scale in the final questionnaire: one evaluated the respondents’ own attachment styles (self-report version) and the other evaluated the same respondents’ perceptions of their partners’ attachment styles

(partner-report version); the substantive contents of the two were identical. The respondents rated how well each statement described their own and their partners' typical feelings about their romantic relationships. The respondents rated the items on a 7-point Likert scale (ranging from 1 =*strongly disagree* to 7 =*strongly agree*). The individual item scores were summed to obtain a total score for attachment style. A higher score on the attachment anxiety and avoidance attachment subscales indicated a higher level of attachment anxiety and attachment avoidance, respectively. Two samples of the items on this scale were "I need a lot of reassurance that I am loved by my partner" (anxiety attachment subscale) and "I want to get close to my partner, but I keep pulling back" (avoidance attachment subscale). Because the subsequent data analysis of these attachment style measures was to be conducted separately for each gender, the reliability and validity of the data was determined for the male and female samples. For the self-report version, the reliabilities (alpha values) of the two subscales (attachment anxiety and avoidance attachment) were $\alpha=.65$ and $\alpha=.66$, respectively, for the male sample; the corresponding values were $\alpha=.58$, $\alpha=.68$ for the female sample. For the partner-report version, the reliabilities (alpha values) of the two subscales (attachment anxiety and avoidance attachment) were $\alpha=.57$ and $\alpha=.73$, respectively, for the male sample; the corresponding values were $\alpha=.66$, $\alpha=.71$ for the female sample. Four confirmatory factor analyses were conducted to determine the construct validity of attachment styles (self-report version) and of attachment styles (partner-report versions); this was done separately for the male and female samples, using a two-factor model (attachment anxiety and avoidance attachment). For the

self-report version (male sample), the chi-squared value was 65 ($df = 19$) and the chi-square to df ratio was 3.41. The TLI, CFI, and RMSEA values were .99, .99, and .07, respectively. For the self-report version (female sample), the chi-squared value was 57 ($df = 19$) and the chi-square to df ratio was 2.98. The TLI, CFI, and RMSEA values were .99, .99, and .06, respectively. For the partner-report version (male sample), the chi-squared value was 88 ($df = 19$) and the chi-square to df ratio was 4.64. The TLI, CFI, and RMSEA values were .98, .99, and .09, respectively. For the partner-report version (female sample), the chi-squared value was 93 ($df = 19$) and the chi-square to df ratio was 4.87. The TLI, CFI, and RMSEA values were .98, .99, and .09, respectively.

2.2.3. The revised SCIRS- Chinese version

The Chinese version of the revised Sexual Coercion in Intimate Relationships Scale (SCIRS) (comprising six screening items and 33 items concerning coercive tactics) (He, Tsang, & Li, 2013) was used in this study to measure the coercive tactics used on WCFSI. The screening items were designed before answering the coercion questions, to demonstrate a core definition of sexual coercion, which is an interactive process.

2.2.3.1. Screening questions (six items)

Six items were placed as screening questions: 1) “I or my girlfriend has asked (directly or indirectly) for ‘our first sex’” (yes/no; if ‘no’ then skip the following items); 2) “After ___ in our relationship, I or my girlfriend asked for ‘our first sex’”

(0-4 weeks, 1-3 months, 3-6 months, 6 months to 1 year, 1 to 2 years, 2 years above); 3) “At that time, our relationship was at the ___ stage” (early, exploring, established); 4) “The one who initiated the first sex request was (me/my girlfriend)”; 5) “After addressing the sex request, the response was (no objection/my girlfriend rejected me/I rejected my girlfriend)”; 6) “After being rejected, the initiator continued to request sex (yes/no)”. Male participants who answered 1) “yes”, 4) “me”, 5) “my girlfriend rejected me” and 6) “yes” – or, likewise, female participants who answered 1) “yes”, 4) “my boyfriend”, 5) “I rejected my boyfriend” and 6) “yes” – can be counted as “the boy had intent to coerce his girlfriend into having their first sex” and were regarded as the valid targets of this study. These participants were instructed to continue answering the following items, which measured coercive tactics.

2.2.3.2. Coercive tactics (33 items)

The items on coercive tactics included three components: (1) emotional manipulation (19 items), defined as men who emotionally manipulate their partners by telling them that the relationship status obligates sexual access (such as “I told my partner that it was her obligation or duty to have sex with me”); (2) defection threats (7 items), defined as men who threaten to pursue casual affairs or long-term relationships with other women (such as “I hinted that other women were willing to have sex with me”); and (3) threats of violence (7 items), defined as men who threaten or use violence and physical force (such as “I threatened to physically force my partner to have sex with me”). The revised SCIRS asks how often a participant has performed 33 sexually coercive acts within a specific period – that is, leading up to

first-time sex with his/her partner. The responses are given on a 6-point Likert scale: 0 = *act has not occurred*, 1 = *act has occurred once*, 2 = *act has occurred twice*, 3 = *act has occurred three to five times*, 4 = *act has occurred six to 10 times*, and 5 = *act has occurred 11 or more times*. The respondents' scores for the items were summed to obtain their total scores (using "WCFSI" as the indicator in the following results session) and three separate component scores for the items on (1) to (3) described above. A high score indicated frequent sexually coercive acts. For the whole sample, the alpha values for the full scale and for the three components (emotional manipulation, defection threats, and violence threat) were $\alpha=.86$, $\alpha=.86$, $\alpha=.85$, and $\alpha=.78$, respectively. For the male sample (the men's self-reports), the alpha values for the full scale and for the three components were $\alpha=.88$, $\alpha=.88$, $\alpha=.73$, and $\alpha=.56$, respectively. For the female sample (partners' reports), the alpha values for the full scale and for the three components were $\alpha=.84$, $\alpha=.83$, $\alpha=.89$, and $\alpha=.85$, respectively. The scale has been shown to have good reliability and validity; further details of the validation can be found in He et al. (2013).

2.3. Procedures

The eligible participants were limited to college students who were currently in a dating relationship. Once a prospective participant agreed to participate in the survey, the researcher gave the participant a consent form, the questionnaire, and an envelope. The participant was instructed to first read and sign the consent form; to then answer the questionnaire; and finally to place the completed questionnaire in the envelope

and seal it. The participant was instructed not to place the signed consent form inside the envelope, in order to maintain his/her anonymity. The sealed envelope, with the completed questionnaire inside it, was placed by the participant into a paper bag. Subsequently, the researcher answered any questions the participants cared to ask about the survey and gave each participant a thank-you gift (e.g., a range of stationery items). Those participants who had given their email addresses at the end of the questionnaire were sent the final research report.

3. Results

3.1. Descriptive statistics and preliminary analyses

Of the whole sample (N = 927), 443 (47.8%) reported that they had been or were being asked to consent to first sex with their partner; the remaining 484 (52.2%) reported otherwise. Of those 443 participants, 170 (38.4%) reported that it was the boyfriend who made the sexual request, that the girlfriend rejected the request, and that the boyfriend still continued to request sex with his girlfriend. Thus, these 170 participants (72 males and 98 females) can be classified as “boyfriend’s coercion of girlfriend,” who were the real targets and subsample for data analysis of this study. These 170 participants would answer sexually coercive tactics items. The occurrence ratio of WCFSI within the dating couples was 170/443 (38.4%). Thirty (18.2%) of these 170 participants reported being at the early stage of the dating relationship; 106 (64.2%) reported being at the exploring stage; and 29 (17.6%) reported being at the established stage.

Descriptive statistics of and the intercorrelations among the measures are presented in Table 1 (for the male sample) and Table 2 (for the female sample). The results show that, with both the male and female samples, perceived female infidelity was positively correlated with violence threat coercive tactics; and, with the male sample only, it was positively correlated with emotional manipulation coercive tactics. The male and female partners' attachment anxiety was, with both the male and female samples, positively correlated with men's perceived female infidelity; and, with the male sample only, the male partners' avoidance attachment was positively correlated with their perceived female infidelity. With both gender samples, the male partners' attachment anxiety was positively correlated with emotional manipulation coercive tactics. We found that, with the male sample, perceived female infidelity, the male partners' attachment anxiety, and their emotional manipulation coercive tactics were significantly intercorrelated. The hypothesized mediation model was therefore further tested.

3.2. Mediation test

Mediation was tested using Baron and Kenny (1986)'s procedure. **Three multiple regressions were performed to test Model 1 (i.e., to test the mediating effect of anxious_{male}).** Table 3 and Figure 1 show the results of the path model for the male sample. There was no significant similar mediation model in the female sample.

(1) Emotional manipulation was regressed on infidelity_{female}.

(2) Anxious_{male} was regressed on infidelity_{female}.

(3) Emotional manipulation was regressed on both infidelity_{female} and anxious_{male}.

The results relating to the male sample showed that infidelity_{female} had a significant positive impact on emotional manipulation. When emotional manipulation was regressed on infidelity_{female} alone, the beta value was .26 ($p < .05$); but when anxious_{male} was included in the model, the resulting beta weight dropped to .21 (insignificant), which suggests that anxious_{male} completely mediated the relationship between infidelity_{female} and emotional manipulation. The male participants who had more perception of their female partner's infidelity tended to have a more anxious attachment style and more frequently adopted emotional manipulation coercive tactics. Model 1 explained 9% of the total variance of anxious_{male} and 10% of the total variance of emotional manipulation. The Z value of Sobel test was 1.97 ($p < .05$), which suggests that the mediating effect of anxious_{male} on the relation between infidelity_{female} and emotional manipulation was significant. The ratio of mediating effect to total effect was $.26 * .17 / .14 = 31.6\%$.

Three multiple regressions were performed to test Model 2 (i.e., to test the mediating effect of infidelity_{female}). Table 4 shows the results of the path model for the male sample. There was no significant similar mediation model in the female sample. The results showed that when infidelity_{female} and anxious_{male} were included in the model, the beta value of the mediator (infidelity_{female}) fell to .21 (insignificant). Thus, the hypothesis of Model 2 was not supported.

4. Discussion

In this study, three hypotheses suggested by evolutionary theory and attachment theory were tested, with the aim of filling the research gap. The final results show that Model 1 (anxious_{male} as the mediator of the relationship between infidelity_{female} and WCFSI) was supported. The ultimate and proximate approaches can be combined to explain the phenomenon of sexual coercion in intimate relationships. Kenrick, Groth, Trost & Sadalla (1993) argued that “by integrating the two perspectives, we gain a better articulated understanding of proximate processes and of their ultimate significance” (p.968). Thornhill (2000) suggested that the evolutionary approach can contribute to the identification of the proximate causes of rape and argues that a “lack of familiarity with ultimate causation leads many social scientists to mistake evolutionary explanations for proximate ones” (p.111).

It was found that most of the participants (64.2%) reported having experienced WCFSI at the exploring stage (that is, after having been in a romantic relationship for at least one year); in this stage of the relationship, the love (intimacy and passion) the couple share may increase rapidly although the commitment to each other may not be fully established. This dating stage is full of heightened passion, intense interactive exploration, and even conflict. Perceived female infidelity may not explain sexual coercion in the early stages of dating relationships, when intimacy and commitment are still being established and female infidelity is not strongly perceived by male partners. As the sample size was small (the subsample of interest comprised only the 72 males and 98 females who reported such coercive experience) and we conducted analyses of the data gathered from both the male and the female samples, we could

not test whether perceived female infidelity is a stronger predictor of WCFSI in the later dating stages (the exploring and established stages). For future studies, larger samples could be recruited to test this hypothesis.

The results of the present study show that, with both the male and female participants, perceived female infidelity was positively correlated with violence threat coercive tactics; however, only with the male participants, perceived female infidelity was found to be positively correlated with emotional manipulation coercive tactics. The finding that there is a strong link between perceived female infidelity and sexual coercion in intimate relationships echoes the findings of previous studies. In some extreme cases, infidelity may lead to severe violence or even homicide. For example, Shackelford et al. (2003) found that a woman's age, and hence reproductive status, is predictive of a woman's risk of being killed in the context of a lovers' triangle – a context, that is, of sexual infidelity. Camilleri and Quinsey (2009) found that most partner rapists had experienced cuckoldry risk prior to committing their offence and had experienced more types of cuckoldry risk events than non-sexual partner assaulters had. This link may be explained by regarding sexual coercion as an evolved mate retention tactic. McKibbin, Starratt, Shackelford & Goetz (2011) suggested that males have evolved such tactics as partner-directed sexual coercion to reduce the risk of cuckoldry; and the correlation between the amount of time spent apart since the last in-pair copulation and sexually coercive behaviors was found to be significant only for those men who perceive themselves to be at some risk of a partner's extrapair copulation.

We also found that, with both the male and female participants, men's perceptions of female infidelity were positively correlated with male and female partners' attachment anxiety; they were also, but only with the male participants, positively correlated with the male partners' avoidance attachment. These findings, which suggest that individuals with an insecure attachment style are more likely to commit or experience partner infidelity, also correspond well with the findings of previous studies. Some other studies may help us explain the mechanism underlying this correlation. Buunk (1997) found that individuals with an anxious-ambivalent attachment style were more jealous than those with an avoidant attachment style and that with those with a secure attachment style were the least jealous. Bogaert and Sadava (2002) suggested that people scoring higher on a secure attachment index perceived themselves to be more physically attractive, whereas people scoring higher on an anxious attachment index perceived themselves to be less physically attractive. Individuals who are jealous and perceive themselves to be less physically attractive may be more likely to perceive a partner's infidelity in intimate relationships. Different types of attachment insecurity may have different working mechanisms to commit infidelity or prevent partner infidelity. Beaulieu-Pelletier et al. (2011) suggested that individuals characterized by attachment avoidance might use extradyadic sex as a way to distance themselves from a partner. Reed et al. (2015) suggested that anxiously attached college students engaged in "electronic intrusion" to reduce their anxiety.

We examined the mediating role of attachment insecurity. The results show that,

with both the male and female participants, the male partners' attachment anxiety was positively correlated with emotional manipulation coercive tactics. The mediating effect of anxious_{male} on the relationship between infidelity_{female} and emotional manipulation was significant. The findings support the hypothesis of Model 1; and the initial theoretical integration is also consistent with Goetz et al.'s (2008) and Goetz and Shackelford's (2009) argument that both proximate and ultimate theories are necessary to explain sexual coercion in intimate relationships. It seems that male anxiety can be the psychological trigger of sexually coercive behavior, in which perceived female infidelity is important to pull this trigger. Perceived female infidelity and a male partner's attachment anxiety may mutually reinforce each other, and this may eventually lead to a male partners' sexually coercive behavior. Treger and Sprecher (2011) found that a preoccupied attachment style was found to increase the probability of a man being emotionally unfaithful. Dutton and White (2012) suggested that some of the proposed mechanisms increasing aggression in insecurely attached people include alterations in the appraisal of threat due to an inability to call on memories of parental support and diminished ability to implement affective controls and impulsivity. **The conclusion of Model 1 should be cautiously interpreted.**

Although Model 2 was not supported by the results, we cannot completely deny its possibility (owing to the limited sample size). Future research could further examine Model 2, with a larger sample.

Some limitations of the study need to be noted and recommendations made. One limitation is the cross-sectional research design: the association between the infidelity

variable, attachment theory variables and the sexual coercion variables should be interpreted with caution. **One limitation concerns the fact that the psychometric properties of the Chinese version of the ECR-Short Form are not entirely satisfactory, perhaps because of the four versions for self- and partner-reporting.** Another limitation is the representativeness of the sample, as we recruited college students with dating experience by using a purposive snowball sampling strategy. This was not a probability sample and was therefore unlikely to be representative of all Chinese college students. Future research could involve second- or third-tier cities in China and employ larger samples. Lastly, in the present study we examined only sexually coercive behavior occurring in the situation of a dating couple's first sex due to the Chinese cultural context. Future studies could further explore the mediating effect of attachment insecurity on the relationship between female infidelity and other types of sexual coercion in intimate relationships.

5. Conclusions

This study examined the mediating effect of male partners' attachment anxiety on the relation between perceived female infidelity and WCFSI in dating relationships; and it demonstrated the potential of the theoretical integration of attachment theory and evolutionary theory to explain the phenomenon of sexual coercion in intimate relationships. A review of the literature on sexual coercion suggested how the proximate and ultimate causes of sexual coercion in intimate relationships interact. As well as having implications for theoretical and empirical research, this study has some

practical implications. It could play a positive role in sex education, clinical counseling, and intervention programs. The content concerning the effect of perceptions of infidelity and attachment insecurity on sexual coercion in intimate relationships could be added to chapters on sexual coercion or IPV in textbooks. As regards clinical counseling, assessing a client's attachment style and the perceptions a client has of his/her partner's fidelity/infidelity could be an important step. Researchers could design intervention programs that focus on improving the participants' emotional regulation and establishing secure attachments with their partners in order to help prevent sexual coercion in intimate relationships.

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Table 1 Descriptive statistics and correlations among the variables (male sample)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1.Infidelity _{female} (<i>n</i> =212)	2.78	1.23							
2.Anxious _{self} (<i>n</i> =212)	3.54	1.06	.31***						
3.Avoidance _{self} (<i>n</i> =212)	3.29	1.26	.27***	.31***					
4.Anxious _{partner} (<i>n</i> =212)	3.97	.94	.15*	.27***	.24***				
5.Avoidance _{partner} (<i>n</i> =212)	3.70	1.29	.07	.43***	.45***	.26***			
6.Emotional manipulation (<i>n</i> =71)	.71	.69	.26*	.31**	.10	.20	.19		
7.Defection threat (<i>n</i> =71)	.22	.37	.17	.19	.19	.12	.21	.43***	
8.Threat of violence(<i>n</i> =71)	.09	.29	.27*	-.05	-.02	.23	.02	.45***	.35**

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

Table 2 Descriptive statistics and correlations among the variables (female sample)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1.Infidelity _{female} (<i>n</i> =230)	2.58	1.17							
2.Anxious _{self} (<i>n</i> =230)	3.57	.94	.18**						
3.Avoidance _{self} (<i>n</i> =230)	3.98	1.33	.05	.22***					
4.Anxious _{partner} (<i>n</i> =230)	3.78	1.02	.18**	.13**	.41***				
5.Avoidance _{partner} (<i>n</i> =230)	2.97	1.18	.001	.28***	.45***	.16***			
6.Emotional manipulation (<i>n</i> =98)	.58	.52	.17	.09	.14	.32**	.04		
7.Defection threat (<i>n</i> =98)	.26	.55	.03	.000	.13	.01	.21*	.20	
8.Threat of violence (<i>n</i> =98)	.10	.47	.24*	.32**	.05	.20*	.25*	.15	.12

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

Table 3 Testing the mediating effect of anxious_{male} in relation to infidelity_{female} and emotional manipulation by using multiple regressions (male sample)– **Model 1**

Testing of the mediation model	ΔR^2	F	$B(SE)$	β
<i>Step 1</i>				
Dependent variable: Emotional manipulation	.05	4.87*		
Predictor: Infidelity _{female}			.14(.06)	.26*
<i>Step 2</i>				
Dependent variable: Anxious _{male}	.09	21.64***		
Predictor: Infidelity _{female}			.26(.05)	.31***
<i>Step 3</i>				
Dependent variable: Emotional manipulation	.10	4.91*		
Mediator: Anxious _{male}			.17(.08)	.25*
Predictor: Infidelity _{female}			.11(.06)	.21

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

Table 4 Testing the mediating effect of infidelity_{female} in relation to anxious_{male} and emotional manipulation by using multiple regressions (male sample)– Model 2

Testing of the mediation model	ΔR^2	F	$B(SE)$	β
<i>Step 1</i>				
Dependent variable: Emotional manipulation	.08	7.19**		
Predictor: Anxious _{male}			.20(.08)	.31**
<i>Step 2</i>				
Dependent variable: Infidelity _{female}	.09	21.64***		
Predictor: Anxious _{male}			.36(.08)	.31***
<i>Step 3</i>				
Dependent variable: Emotional manipulation	.10	4.91*		
Mediator: Infidelity _{female}			.11(.06)	.21
Predictor: Anxious _{male}			.17(.08)	.25*

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

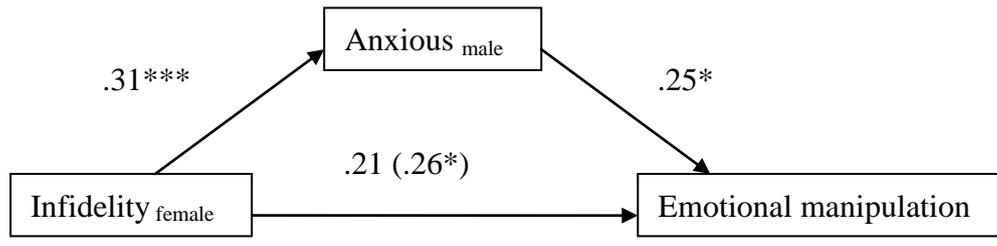


Fig. 1 Mediating effect of anxious_{male} in relation to infidelity_{female} and emotional manipulation (male sample)