# Attachment dimensions and sexual motives

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#### Abstract

Little research has examined the relation between the attachment behavioral system and the sexual behavioral system, although these two systems, along with the caregiving system, are theorized to constitute romantic love (Fraley & Shaver, 2000; Hazan & Shaver, 1987). College students (N=400) completed measures of two dimensions of attachment style, anxiety and avoidance, and motives for having sex. Anxiety was predicted to be associated with having sex to reduce insecurity and foster intense intimacy. Avoidance was predicted to correlate inversely with having sex to foster intimacy and positively with nonromantic goals, such as increasing one's status and prestige among peers. The results supported both sets of predictions. People high on the attachment anxiety dimension reported having sex to reduce insecurity and establish intense closeness; people high on the attachment avoidance dimension reported having sex to impress their peer group, especially if they were having casual, uncommitted sex. Theoretical and practical implications of the findings are discussed.

Ordinary people often wonder what love and sex have to do with each other. In a well-known popular song, Tina Turner asked, "What's love got to with it?" In the course of several verses, she tried to convince herself that love was a "secondhand emotion," riding on the coattails of sexual arousal. In the epilogue to the influential book, The Psychology of Love, Berscheid (1988) said that if someone held a gun to her head and asked her what romantic love was, she would have to say, "It's about 90% sexual desire as yet not sated" (p. 373). In the same book, Shaver, Hazan, and Bradshaw (1988) argued that romantic love can be conceptualized as an amalgamation or integration of three innate behavioral systems discussed by Bowlby (1969) in his account of attachment theory: attachment, caregiving, and sex. The study described in the present article was designed to

explore connections between individual differences in attachment style and motivation associated with the sexual behavior system.

Of the three behavioral systems discussed by Shaver et al. (1988), the attachment system has received the overwhelming bulk of researchers' attention (see reviews by Fraley & Shaver, 2000, and Mikulincer & Shaver, 2003), although a few studies have also related attachment style to forms of caregiving (e.g., supportive, intrusive, controlling; Kunce & Shaver, 1994) and to types of sexual behavior (e.g., Brennan & Shaver, 1995; Feeney, Noller, & Patty, 1993; for a review, see Feeney & Noller, in press). The existing research is compatible with the theoretical notion that individual differences in attachment history affect the way a person cares for others and uses sexuality to meet a variety of needs. The purpose of the present paper is to pursue this latter hypothesis further and learn more about the sex-related motives of people who differ in attachment style.

Although both the conceptualization and measurement of attachment style have

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varied across researchers and disciplines (for reviews, see Crowell, Fraley, & Shaver, 1999, and Shaver & Mikulincer, 2002), most investigators who use self-report and interview measures of attachment style in the context of romantic and marital relationships agree that two primary dimensions are involved. These dimensions have been called self model and other model by Bartholomew and Horowitz (1991) and attachment-related anxiety and avoidance by Brennan, Clark, and Shaver (1998). The first dimension (self model, or anxiety) is concerned with fear of rejection and abandonment by romantic partners; the second (other model, or avoidance) is concerned with the degree to which a person feels uncomfortable depending on and being close to (i.e., psychologically intimate with) others.

Bartholomew and Horowitz (1991) distinguished among four categories defined by the two dimensions: secure (low on both the anxiety and avoidance dimensions), preoccupied (high on anxiety but low on avoidance), dismissing (high on avoidance but low on anxiety), and fearful (high on both anxiety and avoidance). Brennan et al. (1998) and Fraley and Waller (1998) found no psychometric justification for conceptualizing attachment patterns in terms of actual categories; instead, attachment style is better conceptualized in terms of a person's location in the two-dimensional space defined by anxiety and avoidance. Although there are no clearly defined categories, Bartholomew and Horowitz's (1991) names for the four quadrants of the two-dimensional space are still sometimes useful in describing and interpreting individual-difference findings.

## Attachment and sexual relationships

Individual differences on the dimensions of attachment-related anxiety and avoidance have consistently been found to predict differences in the ways people experience romantic and sexual relationships. People who are securely attached (low on anxiety and avoidance) tend to have long, stable, and satisfying relationships characterized by high investment, trust, and friendship (Collins & Read, 1990; Simpson, 1990). They describe their style of love as selfless and devoid of game playing. In the realm of sexuality, they are open to sexual exploration and enjoy a variety of sexual activities, including mutual initiation of sexual activity and enjoyment of physical contact, usually in the context of a long-term relationship (Hazan, Zeifman, & Middleton, 1994). Secure adolescents engage in frequent dating and participation in romantic relationships, are more likely than insecure adolescents to be involved in long-term relationships, and report greater frequencies of sexual intercourse than avoidant adolescents (Tracy, Shaver, Albino, & Cooper, 2003). Additionally, secure adolescents seem to enjoy sex more than their anxious and avoidant peers. As summarized by Tracy et al., attachment security is conducive to intimacy; sharing, considerate communication; and openness to sexual exploration.

People who are insecurely attached behave differently in romantic/sexual relationships. Those high in anxiety and low in avoidance tend to become obsessed with their romantic partners (Hazan & Shaver, 1987) and experience low relationship satisfaction and a high break-up rate (Carnelley, Pietromonaco, & Jaffe, 1996; Collins, 1996; Collins & Read, 1990). They are more likely than secure or avoidant individuals to experience passionate love (Hatfield, Brinton, & Cornelius, 1989) and exhibit an obsessive, dependent style of love (Collins & Read, 1990; Feeney & Noller, 1990; Shaver & Hazan, 1988). People high in attachment anxiety show a greater preference for the affectionate and intimate aspects of sexuality than for the genital aspects (e.g., vaginal or anal intercourse; Hazan et al., 1994). Attachment anxiety is also related to anxiety about sexual attractiveness and acceptability—an extension of anxious individuals' general concern with rejection and abandonment (Hazan et al., 1994). Attachment anxiety includes deep, general concerns about rejection and abandonment, which are easily

imported into sexual situations (Tracy et al., 2003). A recent study of mate-poaching (i.e., stealing someone else's mate; Schmitt & Buss, 2001) showed attachment anxiety to be related to believing that one's partner could easily be poached by someone else (Schachner & Shaver, 2002, Study 1).

People who are relatively avoidant exhibit a different pattern of behavior in romantic/ sexual relationships. They are relatively less interested in romantic relationships, especially long-term committed ones (Shaver & Brennan, 1992). Like the relationships of people high in anxiety, theirs are characterized by low satisfaction and a high break-up rate (Hazan & Shaver, 1987; Kirkpatrick & Davis, 1994) but are also characterized by low intimacy (Levy & Davis, 1988). More avoidant people are less likely than their less avoidant counterparts to fall in love (Hatfield et al., 1989), and their love style is characterized by game playing (Shaver & Hazan, 1988). According to Tracy et al. (2003), "attachment avoidance interferes with intimate, relaxed sexuality because sex inherently calls for physical closeness and psychological intimacy, a major source of discomfort for avoidant individuals" (p. 141).

As adolescents, relatively avoidant individuals tend to avoid sexual relationships altogether. Tracy et al. (2003) found that avoidant adolescents were less likely than anxious or secure individuals to have had a date, or to have had sexual intercourse or any sort of sexual experience, and avoidant virgins scored high on measures of erotophobia. When avoidant adolescents do begin having sexual relations, they seem to do so "to lose their virginity" and seem to experience few positive emotions. They are also more likely than secure or anxious individuals to drink or use drugs prior to having sex (Tracy et al., 2003).

These findings suggest that adolescents who are high in avoidance are relatively afraid of sex and tend not to enjoy it. Yet paradoxically, avoidant adults score high on measures of sociosexuality (willingness to have sex outside a long-term, intimate relationship; Simpson & Gangestad, 1991)

and promiscuity (Schachner & Shaver, 2002). Avoidant adults express dislike for much of sexuality, especially its affectionate and intimate aspects (Hazan et al., 1994), yet they also adopt more accepting attitudes toward casual sex and tend to have more one-night stand sexual encounters than secure and anxious people (Brennan & Shaver, 1995; Feeney et al., 1993; Fraley, Davis, & Shaver, 1998). In the previously mentioned study of mate-poaching (Schachner & Shaver, 2002, Study 1), relatively avoidant individuals were particularly likely to attempt to acquire someone else's mate, but only for the purpose of short-term sex (e.g., a one-night stand). Interestingly, a second study found that avoidant adults' promiscuity could not be explained by a stronger sex drive (Schachner & Shaver, 2002, Study 2).

#### Attachment and sexual motives

The existing findings raise questions about relations between attachment-style dimensions and motives for having sex, especially for relatively avoidant individuals. Given the absence of high sexual desire (Schachner & Shaver, 2002, Study 2), what motivates individuals who are high in avoidance to engage in sex at all? If they are afraid of sex as adolescents and claim not to enjoy it much as adults, why do they tend to be promiscuous and inclined toward mate poaching? Tracy et al.'s (2003) discovery that relatively avoidant adolescents initially have sex to lose their virginity (which might equate to being able to brag to others that they have lost their virginity) implies that they may be concerned with selfenhancement and how they appear to others. This implication is compatible with other evidence concerning avoidant attachment and self-inflation. For example, Mikulincer (1998) found in a series of studies that avoidance is associated with suppression or denial of negative traits and exaggeration of positive traits following threatening experiences, which he interpreted as the result of a need to convince others of one's autonomous strength and capacity for self-reliance. In a related study, Rice and Mirzadeh (2000) found that attachment avoidance is related to the pursuit of perfectionism (i.e., maintaining a perfect and powerful self).

Clearly there is still a great deal to be learned about relations between attachment styles and sexual motivation, knowledge that would be important both for expanding the range of attachment theory and for improving romantic and sexual relationships.

## The current study

Previous studies of attachment style and sexuality have used mainly ad hoc measures of sexual motivation, even though there are two published sets of scales designed to measure sexual motives. In the present study we used both sets of scales, as well as a few separate, theoretically guided items, to further explore links between attachment style and sexual motivation. The two standard measures were the Affective and Motivational Orientation Related to Erotic Arousal Questionnaire (AMORE; Hill & Preston, 1996) and the Sex Motives Scale (SMS; Cooper, Shapiro, & Powers, 1998).

The AMORE questionnaire, intended in part to improve the prediction of sexual behavior, focuses on motives dealing with the sexual relationship itself (e.g., motives based on feeling valued by one's partner or experiencing pleasure). The more recently developed Sex Motives Scale, on the other hand, is based on general motivational dimensions thought to underlie human behavior (e.g., approach vs. avoidance, autonomy vs. relatedness). In addition to relationship-specific goals such as intimacy with one's partner, the SMS taps motives related to goals outside the sexual relationship, such as having sex to comply with peer influence. The AMORE questionnaire assesses only approach-related motives (e.g., enhancement of power, procreation), whereas the SMS taps motives related to avoiding particular outcomes (such as a partner leaving) in addition to approachrelated motives (pleasure, intimacy). Although the two measures contain some similar scales (e.g., *pleasure* in the AMORE, *hedonism* in the SMS), they were developed in different ways and have been used separately in many previous studies. We decided to retain them as intact measures rather than attempting to factor them into a simpler set of dimensions that would have been difficult to compare with the existing literature.

In addition to using the two standard measures, we devised five exploratory items to tap sexual motives suggested by the recent attachment literature, especially ones that might reveal avoidant individuals' susceptibility to status concerns and peer influence. These items are described in the Method section.

Based on attachment theory and the existing preliminary research concerning attachment and sexuality, we expected that the dimension of attachment-related anxiety would be related to having sex to increase one's own sense of closeness, intimacy, and security, whereas attachment-related avoidance would be related to having sex to bolster one's self-image and status in the eyes of peers. In other words, anxious people (and perhaps also relatively secure people) would be motivated to have sex for relationshipspecific reasons, whereas avoidant people, who are less interested in intimate relationships, would be motivated to have sex for status-related reasons not associated with a romantic relationship. This latter pattern was expected to be especially evident among people who had fairly frequent casual sex (outside the context of a committed relationship). In particular, the following two hypotheses were tested, using dimensional rather than categorical measures of attachment style.

H1: The sexual motives of more attachmentanxious people will be concerned primarily with intimacy and insecurity.

Because highly anxious individuals tend to become obsessed with their partners and are overly concerned about abandonment, they are likely to engage in sexual activities to feel valued by their partners and to "hold onto" them (which can be viewed as an analog of "proximity maintenance" in studies of infant-caregiver attachment; e.g., Ainsworth, Blehar, Waters, & Wall, 1978). For highly anxious individuals, sex should serve the dual purpose of confirming partners' affection and keeping partners close.

H2: More attachment-avoidant people will not have sex to create intimacy, but instead will be motivated to have sex for reasons related to autonomy (e.g., independence, lack of entanglement), self-inflation, and peer status.

Specifically, highly avoidant individuals should have sex for reasons such as "being able to brag about it" and "fitting in" with other people, but not to increase intimacy. These sexual motives were expected to be especially evident among people engaging in casual sex. These predictions are based in part on attachment theory and in part on recent evidence that avoidant adolescents have first intercourse primarily to lose their virginity rather than to express affection or experience intimacy with a partner, and on evidence that relatively avoidant individuals seek self-aggrandizement, especially following or in relation to threats. Consistent with the mate-poaching study mentioned earlier (Schachner & Shaver, 2002), we also expected avoidant people to endorse having sex within short-term, casual relationships (i.e., affairs) as a way of avoiding the emotional aspects of long-term relationships.

Gender. Although attachment does not propose different motivational dynamics for men and women, we examined the possible moderating role of gender in the analyses reported here because both evolutionary psychology (e.g., Buss, 2001) and previous research on sexuality (e.g., Cupach & Metts, 1991; Hyde & Oliver, 2000; Leigh, 1989) indicate that there are likely to be gender differences in sexual motives and behavior. More specifically, research suggests that women may be more interested in the emotional, nurturing, caring aspects of sex, and men may be more motivated by conquest and physical pleasure.

#### Method

**Participants** 

The participants were 232 members of an undergraduate psychology methods course at the University of California, Davis. They were selected from a larger sample of 400 from the same population, based on their having had sex during the previous six months. Each one completed a paper-andpencil questionnaire containing all of the measures as part of an extra-credit exercise. The sample contained 64 men, 167 women, and one participant who did not specify a gender, whose ages ranged from 18 to 30, with a median of 20. Participants varied in ethnicity, with 39.2% being Asian or Asian American, 35.8% Caucasian (European American), 7.8% Hispanic American, 3% African American, and 13.3% identifying themselves as other. These demographic characteristics are roughly representative of the student body at this university. The majority of the sample was heterosexual (93.5%) and unmarried (96.1%). Of the participants who were not married, 13.8% were not currently involved in a sexual relationship and 64.2% were involved in one exclusive relationship. All participants indicated that they had had sexual intercourse at least once in the past six months, some in the context of long-term relationships (participants were asked, "In the past six months, about how many times have you had sexual intercourse with a single longterm partner?"), some in the context of casual, short-term relationships (participants were asked, "In the past six months, about how many times have you had sexual intercourse with one or more casual

<sup>1.</sup> We chose not to focus on race or ethnicity as moderator variables in this article because, based on previous studies conducted at the same university, they did not seem likely to affect the relation between attachment and sexuality. The two largest race/ethnic groups in our sample, as in the university more generally, are Caucasian/Euro-Americans and Asian/Asian-Americans. We conducted exploratory analyses comparing these two groups using a binary ethnicity variable. None of the results reported in this article were substantially affected.

partners?"). Note that participants could have had sex in both long-term and casual contexts.

#### Procedure

Class members who opted to participate in the study received a questionnaire in an opaque envelope, which contained instructions to answer all questions regarding a participant's experiences with sexual relationships. The questionnaires were filled out independently and each was then sealed in its envelope and dropped through a slot in a box to assure anonymity.

#### Measures

Experiences in Close Relationships scale (Brennan et al., 1998). **Participants** responded to the 36 statements on the Experiences in Close Relationships scale (ECR). This instrument, which measures attachment-related anxiety and avoidance, contains statements concerning feelings and experiences in romantic relationships. Eighteen of these statements measure anxiety, and 18 measure avoidance. People who score relatively low on both dimensions are considered secure, although the continuous scales are used in analyses, not discrete attachment categories. Participants were asked to indicate their agreement with each statement based on their relationship experiences in general; agreement was assessed with a 7-point scale ranging from 1 = disagree strongly to 7 = agree strongly. In our sample, the reliability coefficients for the two scales were .91 and .93, which are similar to those obtained in previous studies.

Sex Motives Scale (Cooper et al., 1998). The 29-item Sex Motives Scale is based on a functionalist perspective, according to which there are a few key motivational dimensions underlying human behavior (e.g., approach vs. avoidance, autonomy vs. relatedness). Four broad domains (other focused, appetitive motivations; social-appetitive motivations; self-focused, aversive motivations; and social-aversive

motivations) were developed based on these dimensions, and data from both college student and community samples demonstrated the psychometric adequacy of the scales and their relation to distinctive patterns of sexual risk taking (Cooper et al., 1998).

Participants indicated how often they had sex for each particular reason (motive) 5-point scale ranging from using a 1 = never/almostnever to 5 = almostalways/always. Based on the factor analysis reported by Cooper et al. (1998), the motives were organized into six scales: Affirmation (five items, including: "How often do you have sex to prove to yourself that your partner thinks you're attractive?"), Intimacy (five items; "How often do you have sex to become more intimate with your partner?"), Hedonism (five items; "How often do you have sex because it feels good?"), Peer Influence (five items; "How often do you have sex because you worry that people will talk about you if you don't have sex?"), Insecurity (four items; "How often do you have sex out of fear that your partner won't love you anymore if you don't?"), and Coping (five items; "How often do you have sex to cope with upset feelings?"). The reliability coefficients for these scales in our sample were all adequate: .85, .96, .93, .83, .84, and .83, respectively.

AMORE (Affective and Motivational Orientation Related to Erotic Arousal Questionnaire; Hill & Preston, 1996). The AMORE questionnaire was created to integrate and expand on earlier theory and research concerning sexual motives. The authors constructed items based on eight different desires for particular outcomes from sex, and used factor analyses to revise the final measure and make it conform to the proposed eight-scale structure. All eight scales correlate highly with a measure of general sexual desire.

The AMORE contains 62 items. Participants indicate how well each statement describes them using a 5-point scale ranging from 1 = not at all true to 5 = completely true. The eight subscales are: Experiencing the Power of One's Partner (10 items,

including: "I often find it a real turn-on when my partner takes charge and becomes authoritative during sexual activity or fantasy"), Emotional Value for One's Partner (eight items; "Sharing affection and love during sexual intercourse is one of the most intense and rewarding ways of expressing my concern for my partner"), Relief from Stress (10 items; "Many times when I am feeling unhappy or depressed, thinking about sex or engaging in sexual activity will make me feel better"), Procreation (six items; "One of the main reasons I am interested in sex is for the purpose of having children"), Enhancement of Power (10 items; "I really enjoy having sex as a way of exerting dominance and control over my partner"), Emotionally Valued by One's Partner (six items; "Often when I need to feel loved, I have the desire to relate to my partner sexually because sexual intimacy really makes me feel warm and cared for"), Nurturance (six items; "Often the most pleasurable sex I have is when it helps my partner forget about his or her problems and enjoy life a little more"), and Pleasure (five items; "The sensations of physical pleasure and release are major reasons that sexual activity and fantasy are so important to me"). In our sample, reliability coefficients for all subscales were adequate: .93, .91, .87, .69, .82, .81, .82, and .70, respectively.

New theory-based items. The two sexual motive inventories just described were chosen because they were carefully designed and have known validity, and together they represent the domain of sexual motivation fairly completely. Because of our special interest in attachment theory, however, we also devised five exploratory items to assess motives that may apply particularly to anxious and avoidant individuals. These exploratory items were analyzed singly rather than being grouped into scales: (1) having sex just so you can say, or know, that you've done it; (2) having sex to fit in better with everyone else; (3) having sex to make your partner love you more; (4) having shortterm sex to avoid the emotional aspects of longer relationships; and (5) having sex to be

able to brag about it. Items (1), (2), and (5) were created because Tracy et al.'s (2003) finding that adolescents high in avoidance have their first sexual experience "to lose their virginity" suggests that they are interested in enhancing their status in their own and others' eyes. Item (4) was added as a possible explanation for the finding (Schachner & Shaver, 2002, Study 1) that highly avoidant individuals tend to engage in affairs and one-night-stands rather than long-term relationships. Finally, item (3) was created to test very specifically the notion that relatively anxious individuals have sex to manipulate a partner to become closer and more committed (Tracy et al., 2003). These items were rated on a scale ranging from 1 = not at all true to 5 =completely true.

#### Results

To test our hypotheses, we initially computed zero-order correlations among all of the variables (see Table 1). (Notice that this correlation table reveals the degree of similarity among the various sexual motives, and motives measured by the different inventories, and the significant relations between some of the scales and gender.) The correlations generally confirmed our hypotheses, and ones that were not explicitly predicted were not incompatible with the reasoning behind the hypotheses. As predicted in Hypothesis 1, the attachment anxiety dimension was significantly positively correlated with motives related to insecurity and wanting to feel valued by one's partner. It was also significantly positively correlated with the motives of affirmation (having sex to feel confident and desirable) and coping (having sex to cope with negative situations). However, contrary to predictions, anxiety was not significantly correlated with intimacy, possibly because many people scoring low on anxiety (i.e., the relatively secure individuals) also had sex to increase intimacy. (As described below, avoidance was negatively associated with having sex to increase intimacy, and

Table 1. Correlations among Sex Motives Scale, AMORE scales, exploratory items, attachment, and gender

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avoid emotions																
22. Brag .04 .24*** –	20**	.24***20** .53***06		.21**	.48*** .34*** .50*** .08	*** 20**		11	.28*** .14*		.33*** .23*** .14*		.18***.38***.35***.38***.44***	.35***	.38***	44**

\*p < .05 (two-tailed). \*\*p < .01 (two-tailed). \*\*\*p < .001 (two-tailed).

low scores on avoidance are associated with greater security.) Also, one other scale was significantly correlated with anxiety, *experiencing partner's power* (having sex in order to feel overpowered and possessed by one's partner). This last unpredicted finding may reflect the reward power for anxious individuals of simply getting the full attention of their partner (Kunce & Shaver, 1994). Regarding the exploratory items, anxiety was significantly positively correlated with having sex *to make one's partner love one more*, as expected.

As predicted by Hypothesis 2, avoidance was significantly negatively correlated with motives related to expressing emotional value for one's partner and intimacy. One of the only motive scales with which avoidance was significantly positively correlated was, as expected, complying with peer influence. Avoidance was also significantly positively correlated with *insecurity* and enhancement of power. Among the exploratory items, avoidance was significantly positively correlated with having sex to be able to say one has done it, to fit in better, and to be able to brag about it, and with having short-term sex in order to avoid the emotional aspects of a long-term relationship. The negative correlations indicate that relatively avoidant people avoid having sex for motives related to intimacy and emotional expression with a partner, and the positive correlations indicate that avoidant people do have sex for motives related to peer pressure and self-enhancement.

Because we expected the particular sexual motives of relatively avoidant individuals to be most evident in the context of casual sexual relations, we broke the sample into two groups: those who had not had casual sex in the past six months (n = 149) and those who had engaged in casual sex (n = 83). The correlations of the attachment anxiety and avoidance scales with all of the sexual motive scores are shown in Table 2. Anxious individuals' sexual motives were mostly similar in strength regardless of whether they had engaged in casual sex; avoidant individuals displayed different patterns depending on whether or not they

had engaged in casual sex. Most notably, only those avoidant individuals who had had casual sex reported significantly high motives of affirmation, coping, and peer influence, and the exploratory items related to peer influence and self-enhancement (having sex in order to say one has done it, to fit in better with one's peers, and to be able to brag about it). These results confirm our hypothesis that sexual motives related to peer influence and self-enhancement are particularly evident among highly avoidant individuals who are engaging in casual sex.

Because some of the sexual motives were correlated with both anxiety and avoidance, and some were correlated with gender in addition to attachment variables, we performed a series of hierarchical regression analyses to sort out the relations among motives, attachment style, and gender, and to test for interactions. Each analysis consisted of three steps; at step one, we entered gender, anxiety, and avoidance, to assess main effects of these variables. At step two, we entered the three interactions (Anxiety  $\times$  Avoidance, Gender  $\times$  Anxiety, Gender × Avoidance). At step three, we entered the three-way interaction between anxiety, avoidance, and gender.

We will first discuss the main effects in terms of our hypotheses, and then describe any significant interactions.

### Anxiety

We hypothesized that attachment anxiety would be related to sexual motives dealing with intimacy and insecurity. Therefore, we computed regressions predicting the following motives from anxiety: to feel emotionally valued by one's partner and as a consequence of insecurity. Due to the significant correlations between anxiety and the motives of affirmation, coping, and experiencing partner's power, we computed regressions for those motives as well.

The results are shown in Table 3 and are discussed here only for analyses that yielded a significant omnibus F test. As hypothesized, anxiety predicted feeling emotionally valued by one's partner ( $\beta$ =.29, p<.001)

Table 2.	Correlations	between se	x motives	and a	ittachment	scales	according	to engaging in
casual se.	X							

	Correlations w	vith anxiety	Correlations wi	th avoidance
Sex motives	No casual sex	Casual sex	No casual sex	Casual sex
Affirmation	.18*	.16	06	.35***
Intimacy	.08	.13	32***	37***
Hedonism	.02	07	11	.00
Peer influence	.03	.06	.05	.40***
Insecurity	.17*	.22*	.10	.37***
Coping	.16*	.19	15	.35***
Partner's power	.14	.31**	06	.01
Express value	.10	.10	27***	39***
Relief from stress	.16*	.01	01	.25*
Procreation	07	.01	.03	.14
Enhance power	.13	.09	.03	.23*
Feel valued	.28***	.24*	10	.00
Nurturance	.08	.06	06	06
Pleasure	.02	.07	09	00
To say you've done it	.04	10	.05	.32***
To fit in better	.04	.03	.07	.34***
To make partner love more	.19*	03	08	.19
Short-term to avoid emotions	.08	20	.17*	.32**
To brag about it	.08	02	.07	.34**

<sup>\*</sup>p < .05. \*\*p < .01. \*\*\*p < .001.

and insecurity ( $\beta$  = .19, p < .01). As suggested by the correlations, anxiety also predicted affirmation ( $\beta$  = .18, p < .01), coping ( $\beta$  = .18, p < .01), and experiencing one's partner's power ( $\beta$  = .21, p < .01).

Turning now to the new single-item motive measures that we added, we expected anxiety to predict the motive of having sex to make one's partner love one more. Regressions predicting this item from anxiety supported this hypothesis; the beta weight for having sex to make one's partner love one more was .13 (p < .01).

#### Avoidance

We hypothesized that attachment avoidance would be negatively related to motives dealing with intimacy and emotional expression, and positively associated with motives relating to peer influence and self-enhancement. We therefore computed regressions predicting the following motives from avoidance: expressing emotional value for one's partner, intimacy, and peer influence. We also included having sex due to insecurity and for enhancement of power because of the positive correlations between these motives and avoidance.

As before, results are discussed only for analyses that yielded a significant omnibus F test. As expected, avoidance was negatively related to expressing emotional value for one's partner ( $\beta = -.33$ , p < .001) and intimacy ( $\beta = -.35$ , p < .001). Also as hypothesized, avoidance was positively related to having sex to comply with peer influence ( $\beta = .22$ , p < .001). As suggested by the correlations, avoidance was positively related with having sex due to insecurity ( $\beta = .19$ , p < .01), but was not significantly related to having sex for enhancement of power  $(\beta = .11, ns)$ . Insecurity was also associated with anxiety, indicating that people who are fearfully avoidant (high on both anxiety and avoid-

**Table 3.** Results of multiple regression analyses predicting sexual motives from attachment scales and gender

	Step	o 1	Ste	Step 2	
Measure	β	$R^2$	β	$R^2$	$R^2$ change
Affirmation		.07***			
Gender	12*				
Anxiety	.18**				
Avoidance	.13				
Intimacy		.15***			
Gender	.04				
Anxiety	.12				
Avoidance	35***				
Peer influence		.12***			
Gender	24***	.12			
Anxiety	.05				
Avoidance	.22***				
Insecurity		.10***			
Gender	13*	.10			
Anxiety	.19**				
Avoidance	.19**				
	.17	05***		.09***	02*
Coping	0.7	.05***		.09***	.03*
Gender	07 .18**				
Anxiety Avoidance	.18***				
Anxiety × Avoidance	.11		14 <b>*</b>		
Anxiety × Avoidance Anxiety × Gender			.05		
Avoidance × Gender			15*		
		05***	.13		
Experiencing power of partner	0.4	.05***			
Gender	04 .21**				
Anxiety					
Avoidance	06				
Emotional value for partner		.12***			
Gender	.03				
Anxiety	.12				
Avoidance	33***				
Enhancement of power		.05*			
Gender	12				
Anxiety	.13*				
Avoidance	.11				
Emotionally valued by partner		.08***		.14***	.05**
Gender	03				
Anxiety	.29***				
Avoidance	07				
Anxiety × Avoidance			16*		
Anxiety × Gender			.11		
Avoidance × Gender			18**		

(Continued on next page)

Table 3. (continued)

	Step	o 1	Step	Step 2	
Measure	β	$R^2$	β	$R^2$	$R^2$ change
To say you've done it		.10***			
Gender	23***				
Anxiety	02				
Avoidance	.20***				
To fit in better		.09***			
Gender	19***				
Anxiety	.04				
Avoidance	.20**				
To make partner love you more		.09***		.15***	.06***
Gender	27***				
Anxiety	.13**				
Avoidance	.00				
Anxiety × Avoidance			15*		
Anxiety $\times$ Gender			.21***		
Avoidance × Gender			12		
Short-term to avoid emotions		.11***		.15***	.04*
Gender	15*				
Anxiety	04				
Avoidance	.28***				
Anxiety × Avoidance			18**		
Anxiety $\times$ Gender			.03		
Avoidance × Gender			12		
To brag about it		.09***			
Gender	18**				
Anxiety	.04				
Avoidance	.21***				

*Note.* All variables were entered in standardized form. Information for the second step is shown only when the  $R^2$  change between the first and second step was significant.

Men were coded as 0 and women as 1.

ance) tend to have sex for insecurity-related motives.

Among the new single-item motive measures that we added, avoidance was expected to be associated with the following: "having sex just so you can say, or know, that you've done it," "having sex to fit in better with everyone else," "having sex to be able to brag about it," and "having short-term sex to avoid the emotional aspects of longer-term relationships." Regressions predicting these motives from avoidance supported our expectations;

the beta weights were, respectively, .20 (p < .001), .20 (p < .001), .21 (p < .001), and .28 (p < .001).

Two-way interactions involving anxiety and avoidance

When anxiety and avoidance interact, it is easiest to describe the results meaningfully by using the attachment-category names proposed by Bartholomew and Horowitz (1991): secure, preoccupied, fearful, and dismissing. For feeling emotionally valued

<sup>\*</sup>p < .05. \*\*p < .01. \*\*\*p < .001.

by one's partner, preoccupied people (those high in anxiety and low on avoidance) were most likely to have sex for that reason, and dismissing people (those low in anxiety and high on avoidance) were least likely to have sex for that reason ( $\beta = -.16$ , p < .05). For both coping and to make one's partner love one more, preoccupied people were most likely to endorse the motive and secure people were least likely to do so  $(\beta = -.14,$ p < .05, and  $\beta = -.15$ , p < .05, respectively). For using short-term sex as a way to avoid long-term relationships, dismissing individuals were most likely to endorse the motive and secure individuals were least likely  $(\beta = -.18, p < .01).$ 

# Interactions involving gender

As expected, there were few significant interactions involving gender. Avoidant women were especially unlikely to have sex to feel emotionally valued by their partner  $(\beta = -.18, \ p < .01)$  or to cope  $(\beta = -.15, \ p < .05)$ . Highly anxious women were especially likely to have sex to cause their partner to love them more  $(\beta = .21, \ p < .001)$ . Relatively avoidant women may be particularly likely to avoid having sex for emotional reasons in order to feel independent and self-reliant, whereas relatively anxious women are particularly likely to use sex as a means of obtaining and ensuring their partners' affection.

## Discussion

Two general hypotheses were proposed linking attachment-style dimensions with motives for having sex. Both hypotheses were largely supported. People scoring high on the avoidance dimension, regardless of gender, have sex for reasons other than ones concerned with their relationship with their sexual partner. Relatively avoidant individuals, particularly those who engage in casual sex, are likely to have sex to fit in with their social group, as a result of peer pressure, to be able to brag about it, and for other similar reasons. They specifically do not have sex to promote intimacy or express

warm feelings for their partner. On the other hand, relatively anxious people, regardless of gender, have sex for reasons associated with insecurity and a need for intimacy—to feel valued by their partners, to feel overpowered by their partners, to induce their partners to love them more—and to help themselves feel better (affirmation, coping).

We also obtained a number of unpretheoretically dicted but interpretable interactions. Women high in avoidance specifically do not have sex to cope or feel valued; women high in anxiety have sex to induce their partners to love them more. Avoidant women may view sex as a venue calling for intimacy, and therefore choose to avoid it, preferring to remain independent and self-reliant and eschewing traditional gender/sex roles that incline women to focus on intimacy and support (Impett & Muelenhard, Peplau, 2003; Goggins, Jones, & Satterfield, 1991). On the other hand, anxious women seem to be particularly likely to view sex as a means of hanging on to their partners. Preoccupied individuals (those high in anxiety and low in avoidance) also have sex to cause their partners to love them more, probably because such individuals view sex as a means of cementing or affirming their relationship. High anxiety and low avoidance are also associated with having sex to cope and to feel emotionally valued by one's partner. Dismissing individuals (those low in anxiety and high in avoidance) have short-term sex to avoid the emotional consequences of long-term relationships, and, similarly, avoid having sex to feel emotionally valued, probably because dismissing individuals are not interested in the emotional involvement inherent in intimate relationships.

To summarize, highly anxious individuals, especially those who are low in avoidance (the preoccupied people, in <u>Bartholomew</u> and Horowitz's, 1991, typology), tend to use sexual interactions to attain proximity and receive caregiving. Highly avoidant individuals, especially people who are low in self-reported anxiety (the dismissing group), explicitly do not use sex as a means of

promoting psychological intimacy with relationship partners and may instead engage in sex for extraneous reasons, such as selfenhancement and impressing peers. Fearful individuals (those high in both anxiety and avoidance) have sex due to insecurity, as measured by items such as "fearing your partner will leave you if you don't have sex" and "worrying your partner won't want you if you don't have sex." This last finding suggests that fearful individuals in particular may be pressured into having sex out of a fear of abandonment. Overall, our results fit well with the proposition, suggested by Feeney and Noller (in press), that attachment-related differences in sexuality reflect the interaction goals of different attachment styles.

In general, our results have two kinds of implications, theoretical and practical (or clinical), which lead to suggestions for further research. Theoretically, the results are compatible with the notion that, of the three behavioral systems discussed by Shaver et al. (1988)—attachment, caregiving, and sex-the sexual system is affected and shaped by motives associated with the other two systems. This is what we would expect given that the attachment system appears first in development (in the first year of life), followed at a fairly early age by the caregiving system. (Empathy for an injured or needy person, for example, appears as early as age two or three and is related to attachment security.) These two systems are well developed and, in some cases, systematically distorted by insecurities by the time overt sexuality emerges. This temporal hypothesis remains untested by longitudinal data, however, so a priority for future research should be to see whether attachment style measured, say, before the beginning of adolescence predicts the later development of particular sexual motives. The finding that relatively avoidant individuals have sex for reasons other than intimacy and attachment fits both with Bowlby's (1982, 1969) idea that the two behavioral systems have separable functions and with Diamond's (2003) theory that the processes underlying sexual desire and affectional bonding are functionally distinct. Therefore, although attachment orientations influence the way sexuality is experienced and expressed, it would be a conceptual mistake simply to assimilate sexuality to attachment.

Turning to the practical, clinical implications of our findings, our study adds to the emerging evidence that anxious individuals use sex as a method of gaining greater proximity to relationship partners, attempting to extract greater commitment from them than the partners feel comfortable granting, and endeavoring to decrease feelings of anxiety and distress while also trying to buy commitment. These motives seem likely to lead to rejection, hurt feelings, and psychological or physical abuse—a possibility already documented to some extent by Davis, Ace, and Andra (2002), Fonagy (1999), and others. Anxious attachment, and the accompanying desire for acceptance and intimacy, may also lead to unsafe sexual behaviors. For example, Feeney, Peterson, Gallois, and Terry (2000) found that high anxiety relates to less frequent use of condoms and less frequent discussion of risky sexual behaviors with partners, results that they attribute in part to highly anxious individuals' reluctance to risk alienating partners by talking about AIDS-related issues (Feeney et al., 2000). Clinicians and counselors can expect these kinds of problems in clients who score high on anxiety and low on avoidance. It might therefore be useful to administer attachment measures in clinical settings (Meyer & Pilkonis, 2002). At present, attachment scales may not be sufficiently precise for clinical diagnoses, but they are good enough to provide useful hypotheses that could be explored in more detail clinically.

Attachment avoidance is practically important in part because avoidant individuals are likely to be hurtful to their partners, perhaps especially if the partners are anxious. Beyond being a danger to others' feelings, however, avoidant individuals may also endanger themselves by engaging in unsafe sex. Their inclination to have sex with relative strangers, avoid talking about their and their partners' sexual histories

(Schachner & Shaver, unpublished data), and use alcohol and drugs to reduce tension associated with sexual encounters (Tracy et al., 2003) could easily lead to the acquisition and spread of sexually transmitted diseases. The dynamics of sexual encounters between anxious and avoidant individuals seem especially troublesome, given that one partner may be inclined to seek approval and lasting affection while the other is inclined to have short-term sex without intimacy or commitment.

Several aspects of our study limit the generalizability of our findings. Our sample was restricted in age, meaning that our results reflect mainly the sexual motives of young adults, and sexual motives may change with age and experience. Second, this study is based on one-time correlational analyses, which do not allow for confident causal inferences. For example, it may be that people's attachment orientations are affected by sexual experiences and sexual relationships, although theory leads us to believe that the reverse is generally the case.

Although we found theoretically interesting and interpretable associations between attachment and five exploratory motive items, the items are obviously very brief and need to be incorporated into larger multi-item scales before firm conclusions can be drawn. More work should be done in the future to create longer scales to measure these attachment-relevant constructs because they point to important sex-related motives that are neglected in the two inventories used in the present study.

All self-report data are subject to response bias, particularly self-report data on sexual practices. The absolute anonymity of our questionnaires should have allowed participants to respond fairly truthfully, although it will be important to repli-

cate the findings with behavioral and other non-self-report data. For example, a follow-up study could collect partner reports, which would go beyond one person's selfreports. Another possibility for future research is to have participants choose from among sexual options, perhaps presented in movies or stories, to see what is most attractive to them. Related to this issue is the fact that the majority of the participants were currently involved in one relationship. Although participants were asked to respond to the sexual motive questions with respect to their relationship experiences in general (rather than the particular relationship they were currently involved in), their answers may have been affected by the present state of their current relationship. Despite these limitations, the study has both theoretical and clinical implications that should be examined further in studies of attachment and sexuality.

This study, combined with research on attachment and caregiving (e.g., Feeney & Collins, 2001; Kunce & Shaver, 1994), supports the theory advanced by Shaver et al. (1988; see also Fraley & Shaver, 2000) according to which love expressed in romantic relationships involves an integration of three behavioral systems: attachment, caregiving, and sex. When two adults come together in a sexual relationship, they are likely to be carrying with them motives and personal agendas related to attachment and caregiving. They are likely to be expressing their need for, or defensive avoidance of, attachment, and their inclination or disinclination to care for another person in part by meeting their sexual needs. Sexual interactions will be more fully understood once the interplay of the three behavioral systems is more fully researched.

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