

## Attachment Style, Assertive Communication, and Safer-Sex Behavior

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### Abstract

This research tested the proposition that the effect of attachment security on safer-sex practice may be mediated by communication patterns. One hundred eighty-five undergraduate students completed questionnaire measures of attachment, assertiveness, and attitudes to communication about AIDS. Eight weeks later, they reported on their practice of safer sex in the period since the first testing session. Hierarchical regressions showed that at Step 1, anxiety about relationships (a measure of insecure attachment) was associated with less safer-sex practice, for all outcome measures. Attitudes to communication about AIDS added to the prediction of general reports of safer-sex practice; in line with the mediational model, anxiety about relationships became unimportant as a predictor when communication variables were included. Communication variables failed to add to the prediction of safer sex on the most recent encounter, and both anxiety about relationships and attitudes to communication about AIDS predicted condom use. Some gender differences in patterns of prediction were noted. The results are discussed in terms of attachment style and its links with the negotiation of sexual practice and relationship issues.

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Although concerns about issues of adolescent sexuality are not new, they have been brought into sharper focus in recent years by the problems associated with HIV infection. Researchers in several countries have studied the level and nature of sexual activity among both younger and older adolescents (often using samples of college students), and these studies indicate that many adolescents engage in behaviors which place them at risk of HIV infection. First, there is evidence that adolescents are engaging in sexual behavior earlier than in the past (Boyer, 1990; Moore & Rosenthal, 1993; Rollins, 1989; Vogels, van der Vliet, Danz, Hopman-Rock, & Visser, 1993). Second, studies of sexually active adolescents have found that they typically have multiple sexual partners before settling into a monogamous relationship, and that they mostly engage in unprotected sex (Catania et al., 1989; Moore & Rosenthal, 1993; Rosenthal & Moore, 1991).

Given these results, it is not surprising that researchers have tried to identify the factors associated with safer-sex behavior. Perhaps the most robust finding to emerge from this body of research is that knowledge about HIV and its modes of transmission is a relatively poor predictor of safer-sex behavior (e.g., Fisher & Fisher, 1992; Rimberg & Lewis, 1994; Seal & Agostinelli, 1994). Research also suggests that most young people are reasonably knowledgeable about the transmission and prevention of the virus (Edgar, Freimuth, & Hammond, 1988; Rimberg & Lewis, 1994; Vogels et al., 1993). Together, these findings suggest that other factors play an important role in determining whether knowledge about AIDS-related issues is translated into safer-sex practice.

One factor that seems to be particularly important is communication with potential sexual partners. It has been pointed out that adoption of safer-sex practices requires that adolescents have the skills to resist peer pressure, and to negotiate the use of condoms in their sexual encounters (Boyer, 1990; Fisher & Fisher, 1992). It has been further argued that safer-sex practice involves a sequence of behaviors in which the learning of safer-sex information must be followed by engagement in presex discussion and negotiation with the partner (Fisher, 1990; Kashima, Gallois, & McCamish, 1992, 1993).

Similarly, research has pointed to the importance of attitudes to communication about safer sex in influencing actual communication with sexual partners. In a study of college students' attitudes to speaking about AIDS with relationship partners, Cline, Freeman, and Johnson (1990) found that students who had talked to their

partners specifically about safer sex, and those who wanted to do so, were more likely than others to endorse the need to talk openly about AIDS prevention. Further, those who had talked to their partners about AIDS (whether in general terms or with regard specifically to safer sex) were less fearful that they would be viewed with suspicion if they raised these issues in conversation.

Researchers have proposed that, in addition to communication variables, patterns of attachment are central to an understanding of safer-sex issues. Specifically, Feeney and Raphael (1992) suggested that differences in attachment style are likely to have far-reaching implications for the meaning that individuals place on their sexual relationships, and for the behaviors that are associated with the expression of sexuality.

This proposition is supported by recent theoretical and empirical work focusing on the concept that attachment principles (traditionally used to explain infant-caregiver bonds) can be meaningfully applied to adults' romantic relationships (Feeney & Noller, 1990, 1991; Hazan & Shaver, 1987; Shaver, Hazan, & Bradshaw, 1988; Weiss, 1982, 1986, 1991). According to this perspective, individual differences in adults' relationship styles reflect, in part, the nature of their early social experiences. Based on these experiences, individuals develop inner working models, or mental representations, of themselves and of relationship partners. These working models play an active role in guiding perceptions and behavior, and hence act as a source of continuity between the quality of early and later relationships.

Attachment theorists have argued that adults' romantic relationships involve three major components: attachment, caregiving, and sexuality (Hazan & Shaver, 1994; Shaver et al., 1988). Based on Bowlby's ethological theory of attachment (Bowlby, 1969, 1973, 1980), Shaver and colleagues suggest that each of these components represents a biological system of behavior (Hazan & Shaver, 1994; Shaver et al., 1988). The attachment system is seen as fundamental: It is the first system to appear in the course of the individual's development, and is associated with the development of working models of self and others. For these reasons, attachment style is likely to influence the expression of caregiving and sexual behaviors.

Consistent with this theory, there is growing evidence that the major attachment groups (secure, avoidant and anxious/ambivalent) differ in their patterns of sexual behavior. Brennan and Shaver (1995) reported that secure individuals were less likely than avoidant individuals to engage in "one-night stands" and to endorse the attitude that sex without love is pleasurable. Similarly, Feeney, Noller, and Patty (1993) found that avoidant individuals were more accepting of casual sex than were other attachment groups. In a comprehensive study of the link between attachment and the expression of sexuality, 100 adults completed measures of attachment style and the frequency and enjoyment of various sexual behaviors (Hazan, Zeifman, & Middleton, 1994). The results of this study suggest that three distinct sexual styles can be identified, consistent with the three major attachment styles. Secure individuals, for example, are less likely to have sex outside of the primary relationship and are more likely to enjoy physical contact. Avoidant individuals tend to report activities that are low in psychological intimacy (one-night stands, extra-relationship sex), as well as less enjoyment of physical contact. Anxious/ambivalent attachment is associated with enjoyment of holding and caressing, but not of behaviors that are more clearly sexual.

It is important to note that adult attachment style has also been linked with patterns of communication. Levy and Davis (1988) investigated the implications of attachment style for reports of conflict resolution in a student sample, using Rahim's (1983) Organizational Conflict Inventory. The strongest findings were for compromising and integrating strategies, which were related positively to ratings of secure attachment and negatively to ratings of avoidant and anxious/ambivalent attachment. In a similar study of students involved in love relationships, Pistole (1989) found that secure subjects were more likely than others to use an integrating strategy; secure subjects also compromised more than did anxious/ambivalents, and anxious/ambivalents were more likely to oblige the partner than were avoidants. Given that integrating strategies reflect concern both for self and for the relationship (Rahim, 1983), these findings support the tendency for secure individuals to use constructive strategies in dealing with conflict; they also suggest that anxious/ambivalent individuals may "give in" more easily to the wishes of relationship partners.

Studies of attachment and communication in marriage have linked attachment style with both communication and relationship quality (Kobak & Hazan, 1991; Senchak & Leonard, 1992). Given these results, it has been suggested that attachment group differences in relationship quality may be mediated, at least in part, by communication patterns; that is, the link between secure attachment and relationship quality may be explained by the fact that secure individuals engage in more constructive forms of communication. A longitudinal study of newlywed couples (Feeney, Noller, & Callan, 1994) provided evidence that security of attachment (high comfort with closeness; low anxiety over relationships) was associated with marital satisfaction and with constructive communication, but the proposed mediational model received little support. Rather, results suggested that in early marriage, attachment exerts a direct effect on satisfaction that is largely independent of communication patterns. A

cross-sectional study of couples sampled across the life cycle of marriage (Feeney, 1994) replicated the finding that security of attachment was related to marital satisfaction and communication. Moreover, in this study, the link between attachment and satisfaction was partially mediated by communication patterns.

Given these results, it is possible that a theoretical model in which the effects of attachment style are mediated by communication patterns may also be useful for explaining individual differences in safer-sex behavior. Securely attached individuals may be more likely than others to adopt safer-sex practices, but this tendency may be explained, in part, by their more direct approach to communication. Specifically, secure individuals may be more assertive both in terms of their general communication style and in terms of their interactions in negotiating safer sex. Such a mediational process may be especially important in predicting safer-sex behavior because safer-sex practice is unlikely to eventuate unless there is successful communication and negotiation between relationship partners.

## **The Present Study**

The present study was designed to test the proposed mediational model, in which the effect of attachment security on safer-sex behavior may be mediated by communication patterns. Three specific issues concerning the prediction of safer sex practices were addressed: (a) the importance of the two major dimensions underlying adult attachment style (comfort with closeness, anxiety over relationships) to the prediction of safer-sex practice; (b) the importance of general assertiveness and of specific attitudes to communication about AIDS-related issues to the prediction of safer-sex practice; and (c) the extent to which the link between attachment dimensions and safer-sex practice is mediated by open communication (both general assertiveness and willingness to talk specifically about AIDS).

In order to obtain a more complete understanding of the predictors of safer sex behavior, it was considered important to obtain subjects' reports both of the extent to which they adopted safer-sex practice in general, and of whether or not they had engaged in safer sex on their recent sexual encounters. Reports of general safer-sex practice may be influenced by more general dimensions of individual difference (e.g., attachment style, and "off-line" cognitions such as general AIDS-related attitudes and judgments), whereas reports of recent encounters may be influenced both by these individual difference variables and by transitory moods and "on-line" cognitions (those that are present when people are actively involved in sexual encounters, such as self-justifications for engaging in unsafe sex; Gold, 1993).

Based on the literature outlined, the following hypotheses were derived:

*Hypothesis 1:* Attachment dimensions will provide reliable prediction of safer-sex practice, with securely attached subjects (those high in comfort with closeness and low in anxiety over relationships) reporting greater adoption of safer sex.

*Hypothesis 2:* Communication variables will predict safer-sex practice. More specifically, safer-sex practice will be predicted more strongly by a communication measure focusing directly on communication about AIDS-related issues than by one that taps assertiveness in general.

*Hypothesis 3:* The link between attachment dimensions and safer sex practice will be mediated, at least in part, by communication patterns.

Given the lack of empirical data on the predictors of general versus recent reports of safer-sex practice, no differential predictions were made concerning the utility of attachment style and attitudes to the discussion of AIDS-related issues in predicting the various outcome variables. Further, no specific predictions were made concerning gender differences in patterns of prediction, although this research question will be addressed.

## **Method**

### *Participants and Procedure*

As part of a larger longitudinal study, undergraduates who were enrolled in first-year psychology subjects at the University of Queensland completed a series of questionnaires for course credit. For the present project, participants were required to have some sexual experience, and to have completed questionnaires on two separate occasions. To ensure retention of subjects across the two phases of the study, participants were informed at the beginning of the study that they were required to attend both testing sessions in order to receive course credit.

Application of these criteria resulted in a sample of 195 participants (136 females and 59 males), with a mean age of 18.49 years and a median age of 18 years. Participants who reported not being exclusively heterosexual were deleted from the analyses, leaving a sample of 185. Because of the large number of items in the overall questionnaire package, deletion of cases with any missing data produced somewhat smaller samples for the focal regression analyses (as detailed later). Of the full sample, 126 participants reported having been sexually active within the 8-week interval immediately prior to the Time 2 testing session; again, a small amount of missing data resulted in a slightly reduced sample for analyses that focused specifically on sexual activity during that time period.

Two separate questionnaires were administered 8 weeks apart. Each questionnaire was completed in group sessions lasting approximately 2 hr for Session 1 and 1 hr for Session 2. To ensure anonymity, each participant received a unique identifying code to enable the follow-up questionnaire to be matched with the first one. Measures of attachment, assertiveness, and communication about ATDS were included in the first questionnaire. The follow-up questionnaire focused on the outcome measures: safer-sex practices with partners in general, safer-sex practices on the most recent sexual encounter, and frequency of condom use in sexual encounters during the last 8 weeks.

## Measures

### *Attachment*

Current attachment was assessed by asking participants to complete the 30-item Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994). The RSQ is a measure of adult attachment style that draws together items previously used by a number of leading researchers in this area. The items of this measure employ a 5-point response format ranging from 1 (*not at all like me*) to 5 (*very much like me*). As detailed in the Results section, factor analysis of the RSQ yielded two major dimensions underlying attachment style: comfort with closeness and anxiety over relationships. These two dimensions have been reported independently by previous researchers and show high internal consistency, moderate test-retest reliability, and meaningful links with indexes of relationship functioning (Feeney et al., 1994; Simpson, 1990; Strahan, 1991).

### *Difficulty in assertion*

The measure of assertion was based on the Difficulty in Assertion Inventory (DAI; Bramston, Snyder, Leah, & Law, 1983; Leah, Law, & Snyder, 1979). The DAI is a comprehensive measure of assertion that was designed to systematically sample the domain of assertive behavior. Each of the 56 items of the inventory represents either a positive (e.g., openly show affection) or a negative (e.g., express displeasure) assertive response, with either a close (e.g., parent) or a distant (e.g., stranger) interaction partner. The items describe everyday situations which subjects are likely to experience. A sample item is "Openly show affection to a friend." Subjects are asked to indicate the degree of difficulty they would have in performing each action, using a 7-point Likert scale ranging from 1 (*none at all*) to 7 (*a great deal*).

For the present study, a shorter (30-item) version was developed by selecting those items which involved assertive responses or interaction partners considered most relevant to this research topic (e.g., items dealing with responses to authority figures were not included). Factor analysis of the short version is discussed in the Results section, together with reliability data.

### *Communication about AIDS*

The Speaking of AIDS Questionnaire is a 14-item scale used to assess respondents' attitudes to talking about AIDS with a sexual partner for the purpose of preventing HIV infection. This scale was based closely on the one developed by Cline et al. (1990), which was shown by these researchers to be related to the extent and nature of discussions about AIDS with sexual partners. The current version added extra items to ensure adequate coverage of the relevant domain of items. Items were answered using a 6-point Likert scale ranging from 1 (*agree strongly*) to 7 (*disagree strongly*). Factor analysis of this questionnaire is also discussed in the Results section. Factor analysis of this questionnaire is also discussed in the Results section.

### *Safer sex practices*

Three measures of safer-sex practices were obtained. The first two measures asked participants to report on their use of safer sex with their current or most recent sexual partner. Item 1 asked participants to report how often they generally engaged in safer sex with that partner, from 1(*never*) to 5(*always*). Item 2 was a dichotomous measure of whether participants reported engaging in safer sex on their most recent sexual encounter (0 = No, 1 = Yes). For both of these items, participants who reported engaging in safer sex were asked to detail the specific safer-sex practices used. The majority of respondents who reported engaging in safer sex ( $N = 138$  for the most recent encounter) stated that they had used condoms ( $N = 108$ ). A very small minority ( $N = 6$ ) reported using no penetrative sex; these respondents, together with those providing less clear reports of safer-sex strategies (such as “exclusivity” or “prevention of pregnancy and disease”;  $N = 24$ ) were omitted from subsequent analyses. Hence, the analyses on reports of safer sex with current or most recent sexual partners focused specifically on condom use.

The remaining measure of safer-sex practice focused on sexual activity occurring within the 8-week interval immediately prior to completion of the second questionnaire (i.e., the interval between the two testing sessions). This item asked participants to rate how often they had used condoms when having sexual intercourse during this time period on a 7-point scale ranging from 1 (*never*) to 7 (*always*).

### **Factor Analyses**

The measures of attachment (Relationship Scales), Difficulty in Assertion, and Speaking of ATDS were factor analyzed separately, using principal components analysis. The results of these analyses are summarized). *RSQ*. Factor analysis of the 30 items, followed by varimax rotation, resulted in the extraction of two factors: comfort with closeness and anxiety over relationships. These two factors explained 39.3% of the total variance and, as noted earlier, correspond to the two major dimensions of attachment identified by previous researchers. The comfort with closeness factor contained 13 items assessing the degree of comfort with intimacy in relationships. Sample items include “I find it easy to get emotionally close to others.” “I am comfortable depending on other people,” and “Romantic partners often want me to be closer than I feel comfortable being” (reverse scored). The anxiety over relationships factor contained 10 items assessing fear and anxiety concerning the possible loss of relationship partners. Sample items include “I often worry that romantic partners won’t want to stay with me,” “I often worry that romantic partners don’t really love me,” and “I find that others are often reluctant to get as close as I would like.” Scales were formed to assess each factor using unit weights, with alpha reliability coefficients of .32 (comfort) and .86 (anxiety). The two scales were not significantly intercorrelated ( $r = -.04$ ).

#### *Difficulty in assertion*

Examination of the scree plot for the 30 items suggested either a one- or two-factor solution. Because the two-factor solution was not readily interpretable, the single-factor solution was retained. This solution explained 34.2% of the total variance, with 23 of the items loading greater than .4 on the factor. The factor was interpreted as general difficulty in assertion. The alpha reliability coefficient of the scale formed from the 23 items was .92.

#### *Speaking of AIDS*

Examination of the scree plot for the 14 items again suggested either a one- or two-factor solution. The second factor contained only three items, however; these items assessed attitudes toward asking potential partners specific AIDS-related questions (e.g., concerning their history of AIDS testing), but did not form a reliable scale. For this reason, the single-factor solution was retained and was interpreted as attitudes to discussing AIDS prevention. This factor explained 32.8% of the total variance, with 11 items loading greater than .4. Sample items include “If I try to talk with a potential partner about AIDS prevention, he or she will be suspicious of me,” “Suggesting the use of a condom will ruin an intimate mood,” and “If asked in future relationships, I will be totally honest in discussing prior sexual experiences.” High scores on this scale indicate favorable attitudes toward the discussion of AIDS-related topics. The associated alpha reliability coefficient was .92.

### Predicting Safer-Sex Practice

Hierarchical regression analyses were used to assess the importance of the attachment and communication measures in predicting the three measures of safer sex practice. The means, standard deviations, and intercorrelations of the predictor variables are shown in Table 1. Additional correlational analyses showed that the predictor variables were not related to the potential confounding variable of length of current relationship. Further, the Comfort dimension of attachment was not reliably related to any of the measures of safer sex (all  $r_s < 0.10$ , *ns*), and hence this dimension was not included in the regression analyses.

Because attachment dimensions are relatively stable individual characteristics which are thought to influence patterns of interpersonal behavior, the anxiety dimension of attachment was entered into the regression equations at the first step; the communication measures were entered at Step 2<sup>1</sup>. This order of entry tests for one of the key conditions of mediated relationships; namely, that the association between the independent and dependent variables is substantially reduced when the proposed mediating variable (in this case, communication) is statistically controlled (Baron & Kenny, 1986).

Table 1

#### Means, Standard Deviations, and Intercorrelations of the Predictor Variables

Variable	1	2	3	4
1. Comfort	—			
2. Anxiety	-.04	—		
3. Difficulty in assertion	-.20*	.42***	—	
4. Attitudes to AIDS-related discussion	.07	-.30***	-.34***	—
<i>M</i>	28.93	26.21	65.59	53.51
<i>SD</i>	7.61	6.84	22.96	7.59

Note. Possible range of scores was 13 to 65 for comfort, 10 to 50 for anxiety, 23 to 161 for difficulty in assertion, and 11 to 66 for attitudes to AIDS-related discussion.

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

### Condom use in general

The first regression analysis focused on the prediction of condom use in general on a 5-point scale ranging from 1 (*never*) to 5 (*always*);  $N = 162$ ). Scores on the dependent variable showed a moderate degree of positive skew: 43.30% of the sample reported that they always used condoms, whereas only 16.39% reported never using them. However, transformation of the dependent variable did not substantially alter the results of the regression analysis. Hence, for ease of interpretation, results are presented based on the raw scores.

Anxiety over relationships provided highly reliable prediction of general reports of condom use at Step 1 (Table 2), with greater anxiety about relationship issues being associated with less condom use. At Step 2, addition of the communication variables resulted in a significant increase in explained variance. This effect was attributable primarily to the measure of Attitudes to AIDS-related Discussion, with favorable attitudes being associated with greater condom use. Difficulty in assertion was not a significant predictor of condom use. When the communication

<sup>1</sup> Additional hierarchical regression analyses were conducted in which each communication variable was entered separately at the second step (i.e., difficulty in assertion was entered at Step 1 in one analysis, and attitudes to AIDS-related Discussion was entered at Step 2 in another analysis). The results of these analyses were consistent, however, with those in which these two variables were entered together. Hence, for ease of presentation, only the latter results are presented.

variables were added to the equation, the importance of anxiety over relationships was reduced somewhat, and was no longer statistically significant in the full model.

Because general reports of condom use were provided by all participants (given that all had had some sexual experience), the number of subjects was considered sufficiently large to enable separate analyses for males ( $N = 50$ ) and females ( $N = 112$ ). As was the case for the full sample, anxiety about relationship issues was associated with less reported condom use at Step 1 for both males and females ( $\beta = -0.34$  and  $-0.20$ , respectively,  $p < .05$  in each case). At Step 2, however, the results were gender-specific. For males, condom use was related negatively to difficulty in assertion ( $\beta = -0.33$ ,  $p < .05$ ), and positively to attitudes to speaking about AIDS ( $\beta = 0.30$ ,  $p < .05$ ); the inverse association between condom use and anxiety about relationships remained significant at Step 2 ( $\beta = -0.44$ ,  $p < .01$ ). For females, however, the communication variables did not add to the prediction of condom use beyond that afforded by anxiety, despite the greater statistical power of this analysis.

Table 2

*Prediction of Frequency of Safer-Sex Practice in General*

Predictor		<i>r</i>	$\beta$
Step 1	$R^2 = .06$		$F(1, 160) = 7.73^{**}$
Anxiety		-.22**	-.22**
Step 2	$R^2$ (inc) = .05		$F$ (inc) = 4.54***
Anxiety		-.22**	-.15
Difficulty in assertion		-.16*	-.03
Attitudes to AIDS-related discussion		.27**	.25**

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

*Condom use on most recent encounter*

The second regression analysis, a logistic regression, involved predicting reported condom use (Yes/No) on the most recent sexual encounter. Again, the majority of subjects reported using condoms. Of the 162 subjects included in this analysis, 108 reported that they had used them on the most recent encounter. As in the first regression analysis, anxiety over relationships was reliably associated with less condom use at Step 1 (refer to Table 3). At Step 2, the addition of the communication variables failed to explain a significant amount of additional variance in condom use. In the full model, the only reliable predictor of condom use was anxiety over relationships.

Again, the number of participants was sufficiently large to enable separate analyses to be conducted for males ( $N = 50$ ) and females ( $N = 112$ ). The results were strikingly similar for the two genders and replicated those for the full sample. For both males and females, anxiety over relationships was reliably associated with less adoption of condom use at Step 1 ( $\beta = -0.19$  and  $-0.10$ , respectively,  $p < .05$  in each case). For both genders, the communication variables failed to explain additional variance in condom use on the most recent encounter.

Table 3

*Prediction of Safer Sex on Most Recent Encounter*

	Predictor	B	Wald
Step 1	Improvement $\chi^2(N = 1621) = 8.45, p < .005$		
	Anxiety	-.07	7.93**
Step 2	Improvement $\chi^2(N = 1622) = 0.87, ns$		
	Anxiety	-.07	6.68**
	Difficulty in assertion	.01	0.18
	Attitudes to AIDS-related discussion	.02	0.87

\*\* $p < .01$ .*Condom use in the last 8 weeks*

The final regression analysis related the attachment and communication variables to the reported frequency of condom use in the last 8 weeks on a 7-point scale ranging from 1 (*never*) to 7 (*always*;  $N = 115$ ). At Step 1, anxiety over relationships provided reliable prediction (Table 4), being inversely associated with the frequency of condom use. The increase in explained variance provided jointly by the two communication variables at Step 2 was not statistically significant, although both anxiety over relationships and attitudes to speaking about AIDS were reliable predictors of condom use in the full model.

Table 4

*Prediction of Frequency of Condom Use in Last 8 Weeks*

	Predictor	$r$	$\beta$
Step 1	$R^2 = .04$	$F(1, 113) = 4.81^*$	
	Anxiety	-.20	-.20*
Step 2	$R^2$ (inc) = .04	$F$ (inc) = <i>ns</i>	
	Anxiety	-.20	-.20*
	Difficulty in assertion	-.05	-.16
	Attitudes to AIDS-related discussion	.21	.23*

\* $p < .05$ .**Discussion**

When the attachment dimension of anxiety over relationships was used alone to predict general reports of condom use, it was a relatively strong predictor. That is, young heterosexual individuals who experience basic insecurities about being unloved and abandoned by relationship partners are less likely to practice condom use. This result supports Hypothesis 1. It is interesting to note that anxiety over relationship issues is strongly associated with negative working models of the self (Feeney, 1995; Griffin & Bartholomew, 1994). This finding suggests that those individuals who see themselves as unworthy of love may focus on trying to preserve their relationships, and that this concern may cause them to act in ways that are ultimately not in their own best interests. There are a number of specific reasons why anxiety over relationships may be associated with less safer-sex practice, reflecting the perceptions which highly anxious individuals have of themselves, their partners, and their romantic relationships (as discussed later).

In contrast, the attachment dimension of comfort with closeness was not reliably related to general reports of condom use. As the term implies, *comfort with closeness* assesses attitudes toward dependence and intimacy, and is closely linked with the positivity of working models of others (Feeney, 1995; Griffin & Bartholomew, 1994). It



appears that positive attitudes toward intimacy may not be important in the negotiation of sexual encounters, at least in terms of safer-sex practices. One reason for this finding may be an association between intimacy and less safer-sex practice. Using a similar sample of heterosexual students, Gardner (1992) found that those who were sexually active but who did not use condoms were characterized by positive attitudes toward having sexual intercourse, and also by positive partner norms toward having sexual intercourse.

Consistent with Hypothesis 2, the communication variables added significantly to the prediction of general reports of condom use. Specifically, positive attitudes toward speaking of AIDS with sexual partners were associated with greater condom use. By contrast, general assertiveness was relatively unimportant as a predictor, providing further support for the second hypothesis. The latter result cannot be explained in terms of the partial overlap between the two communication variables. The simple correlations supported the particular importance of attitudes to AIDS-centered communication, as did the analyses in which each communication variable was entered separately at Step 2.

The utility of anxiety over relationships as a predictor of general reports of condom use was reduced when the communication variables were added. It should also be recalled that links were observed between anxiety over relationships and attitudes to speaking about AIDS, and between condom use and attitudes to speaking about AIDS. Together, these findings suggest that the link between anxiety over relationships and less condom use may be mediated, in part, by attitudes to AIDS-related discussion. Thus, in line with Hypothesis 3, the tendency for those who are highly anxious about their relationships to engage in less safer sex may be partly explained by their reluctance to speak to sexual partners about AIDS-related issues.

It is important to note that anxiety over relationships involves not only fears about the possible loss of relationships, but also the desire for extreme closeness with partners. In addition, as noted earlier, this variable has been consistently linked with negative views of the self. It is also noteworthy that many young people express concerns that speaking about HIV prevention with sexual partners might result in those partners perceiving them negatively, and in some damage to the relationship (Cline et al., 1990; Gallois, Terry, Timmins, McCamish, & Kashima, 1994; Moore & Rosenthal, 1993). Further, AIDS preventive behaviors are generally seen as reflecting low levels of relationship quality and commitment (Misovich, Fisher, & Fisher, 1997). Given these findings, it is not surprising that those who are highly anxious about relationships are reluctant to raise issues concerning safer sex, as they may see this behavior as having the potential to jeopardize the future of their relationships.

In predicting general reports of condom use, however, anxiety over relationships only narrowly failed to reach significance in the full model. Given this finding, it appears that this variable may also influence safer-sex behavior in ways other than via attitudes to communication. It is possible, for example, that individuals who are highly anxious about their relationships are less able or less willing to persist in the negotiation of safer-sex behavior, even if they hold relatively favorable attitudes toward talking about these issues. This problem may be linked with anxious individuals' more general tendency to oblige their partners' wishes (Pistole, 1989). There is also empirical evidence that individuals who are anxious about their relationships report very high levels of sexual attraction to partners, and tend to believe in love at first sight (Hazan & Shaver, 1987). Together, these factors may further interfere with the negotiation of safer-sex behavior.

It should be noted that the association between anxiety over relationships and general reports of condom use was observed for both males and females. In contrast, the role of communication variables (difficulty in assertion and attitudes to speaking about AIDS) was reliable only for males. This finding may reflect men's greater access to social power (Noller, 1993). Specifically, it has been argued that men's language style is more dominant, that men are seen as the experts on problems, and that topics initiated by women tend not to become the focus of conversation (Henley & Kramarae, 1991). Such factors may explain why women's attitudes to AIDS-related talk did not predict their safer-sex behavior. It could be argued that women with favorable attitudes to AIDS-related talk might be engaging in alternative forms of safer sex (e.g., nonpenetrative sex), but it has already been noted that only a very small minority of the present sample reported using these alternative forms of safer sex. In explaining why assertion and favorable attitudes to AIDS-related talk predicted safer sex for males only, it is also important to note that men who wish to be assertive about safer sex can implement the decision to use a condom unilaterally, whereas women cannot.

As was the case for the prediction of general reports of condom use, condom use on the most recent sexual encounter was associated with lower levels of anxiety over relationships. In other respects, however, the patterns of prediction differed for these two outcome measures. In particular, neither of the communication variables was reliably related to condom use on the most recent encounter, and anxiety over relationships remained a strong predictor, even in the full model.

Hence, although communication variables (especially attitudes toward discussing AIDS-related issues) predict general reports of condom use, they are not reliably linked with reports of condom use on a particular (most recent) occasion. As discussed earlier, safer-sex behavior on a particular occasion is likely to be influenced not only by general attitudes and skills, but also by factors specific to that occasion. In a situation of high sexual arousal, even those who hold favorable attitudes to safer-sex talk and who possess the required negotiation skills may fail to adopt safer-sex practices. They may see prior discussion of sexual activity as inappropriate, and may also make a variety of rationalizations for engaging in unsafe sex on a particular occasion (Gold, 1993). This “slippage” between off-line and on-line cognitions may be particularly marked among young people who have had little experience with negotiating sexual encounters, and hence may not have developed well established patterns of safer-sex behavior.

Previous research suggests another reason why attitudes toward discussing AIDS-related issues may be a poor predictor of safer-sex behavior on a specific occasion. Cline, Johnson, and Freeman (1992) found that of those college students who had talked to their partners about AIDS, only one third had discussed topics related to safer sex, and only 6% had talked specifically about condom use. These results highlight the fact that favorable attitudes to talking about AIDS do not necessarily lead to safer-sex behavior.

It should also be acknowledged that reports of general safer-sex practice represent a multiple-act criterion variable. As such, this variable is likely to be more highly reliable than reports of any one specific sexual act (Jaccard & Wan, 1995). This point provides yet another explanation of why attitudes to discussing AIDS related issues may be a poor predictor of safer-sex behavior on a specific occasion. However, it is noteworthy that anxiety over relationships was related to safer-sex behavior on the most recent encounter, despite the possible limited reliability of that outcome measure.

The frequency of condom use in the last 8 weeks was related inversely to anxiety over relationships and positively to attitudes to discussing AIDS-related issues. These results were largely consistent with those for the prediction of general condom use. For sexual activity in the last 8 weeks, however, there was no evidence of the link between anxiety and condom use being mediated by attitudes to AIDS-related discussion. The reason for this difference in results across these two dependent measures is not clear at this stage. It is possible that reports of recent condom use (e.g., in the last 8 weeks) are more likely to detect specific and separate effects of anxiety and attitudes to AIDS-related communication. As noted earlier, anxiety may influence safer-sex behavior via sexual attraction, persistence, and so forth, as well as via attitudes to communication. Reports of general condom use, on the other hand, involve respondents aggregating over more instances and over longer time frames. Hence, responses may reflect more generalized concerns about relationships, explaining shared variance in anxiety and attitudes to AIDS-related discussion.

In interpreting the present results, it is important to acknowledge the limitations of the study. First, all measures were obtained by self-report. Although alternative measures of sexual behavior are not readily available, it must be kept in mind that some subjects may have been influenced by response sets (e.g., social desirability) in reporting the extent of their safer-sex behavior. Second, the predictor variables accounted for only a small proportion of the variance in the outcome measures, even for general reports of safer sex. This finding indicates that other variables are also important in influencing these outcomes. In terms of the constructs assessed in this study, greater predictive strength may be afforded by measures that specifically tap anxiety about the current relationship or anxiety about discussing safer sex with the current partner.

Nevertheless, the present research has important strengths and suggests a number of implications for theory and practice. The research was longitudinal, with the more trait-like individual difference variables being assessed at Time 1, and safer-sex practices assessed at Time 2. Hence, it is unlikely that the observed associations are reactive in nature (e.g., involvement in safer-sex behavior leading to the reporting of more positive attitudes to AIDS-related discussion).

Further, the various measures of safer sex used in the study complement each other in useful ways. The measures of condom use in general and on the most recent encounter are applicable to all sexually experienced participants, thus providing greater statistical power and allowing for comparison of patterns of prediction for males and females. Reports of condom use in the last 8 weeks, because of their focus on recent sexual encounters, are likely to be less prone to problems of recall. Thus, these reports should be highly reliable.

One of the major points to emerge from this research is that the factors implicated in safer-sex practice depend to some extent on the time frame used in assessing such practice. Although positive attitudes toward speaking of AIDS with sexual partners were associated with reports of safer-sex practice in general and in the last 8 weeks, they were not related to behavior in the most recent sexual encounter. Hence, educators in this area should not assume that fostering such positive attitudes is a sufficient strategy to produce sustained and consistent behavioral change. It is also important for educators to consider factors which may interfere with safer-sex behavior on a given occasion, including on-line or “hot” cognitions (those occurring “in the heat of the moment”).

The present study has shown that individuals who are highly anxious about their relationships are less likely to engage in safer sex. This finding highlights the centrality of relational issues to safer-sex behavior. One of the reasons for this effect seems to be that highly anxious individuals are reluctant to talk to their partners about AIDS-related issues, probably because they fear the effects that such talk may have on the quality and stability of their relationships. Anxiety over relationships may also be linked with less successful negotiation of sexual encounters, especially when sexual arousal is high, or when partners argue strongly for unsafe sex. It is important for future research to clarify the specific mechanisms underlying the link between anxiety over relationships and unsafe sex. An understanding of these mechanisms is required in order for intervention programs to be maximally effective.

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