

# WOMEN, MEN, AND CONDOMS

## *Attitudes and Experiences of Heterosexual College Students*

Susan Miller Campbell and Letitia Anne Peplau  
*University of California, Los Angeles*

Sherrine Chapman DeBro  
*The Claremont Graduate School*

Little is known concerning gender and ethnic differences in attitudes about condoms or about the impact of attitudes on condom use. College students ( $N = 393$ ) rated many features of condoms. Overall, students were mildly positive about condoms, believing they offer effective protection but detract from sexual sensation. Both past condom use and future intentions to use condoms were higher among students with more favorable global attitudes toward condoms and more favorable specific beliefs about the interpersonal dynamics of condom use. Future intentions to use condoms were also associated with greater worry about sexually transmitted diseases and fewer previous sexual partners. Women were more favorable toward condoms than men. Gender differences also emerged in the predictors of condom use. Implications for assessing condom attitudes and for increasing condom use among young heterosexuals are discussed.

Heterosexual teenagers and young adults are at growing risk for AIDS and other sexually transmitted diseases (STDs). Despite the advice of public health officials, however, most sexually active young women and men do not use condoms (Cates & Rauh, 1985; Friedland & Klein, 1987; O'Reilly & Arol, 1985). For example, Baldwin and Baldwin (1988) found that during a 3-month period, only 13% of sexually active college students

We are very grateful to Lisa Aspinwall, Paula Cooperman, Tracy Herbert, Joseph Pleck, and Heidi Wayment for their helpful comments on earlier versions of this paper. We also thank Dale Berger, Barry Collins and Jorge Manzi for their statistical advice.

Address correspondence and reprint requests to Susan M. Campbell, Department of Psychology, UCLA, Los Angeles, CA 90024-1563.

always used a condom during vaginal intercourse, and 66% had never used a condom. Further, when young adults do use condoms, they use them only sporadically (DeBuono, Zinner, Daamen, & McCormack, 1990; Kegeles, Adler, & Irwin, 1988). A major impediment to condom use may be attitudes that discourage men and women from wanting to use condoms.

Previous research has sought to assess general favorability toward condoms and has begun to identify some of the specific domains of condom use that are salient in people's attitudes, such as embarrassment (Brown, 1984) and inhibition of sexual pleasure (Bernard, Hebert, de Man, & Farrar, 1989). Unfortunately, earlier studies have provided little information about possible gender differences in attitudes about condoms. Several studies of condom attitudes have used single-sex samples, either women only (Catania et al., 1989) or men only (Baffi, Schroeder, Redican, & McCluskey, 1989; Pleck, Sonenstein, & Ku, 1990, 1991), thus precluding gender comparisons. Two studies sampled both women and men. Brown (1984) studied attitudes about the use of condoms for birth control. Although no statistical tests were reported, she concluded that there were "no appreciable sex differences" (p. 262). A second study (Bernard et al., 1989) did not report gender comparisons. At present, there is a serious gap in our knowledge about the distinctive ways in which women and men may perceive and evaluate the use of condoms.

Research on related topics suggests that gender differences may be found. For example, birth control research has found that women rate both ease of use and familiarity as more important characteristics of a contraceptive method than do men (Murray, Harvey, & Beckman, 1989). Carroll (1988) found that women are more likely than men to report behavior change in response to fear of AIDS. A major goal of the present study was to investigate the attitudes of women and men toward condoms.

Our study examined general favorability toward condoms and attitudes about specific features of condoms. Based on previous research, four aspects of condoms were selected for study: the effectiveness of condoms as protection against pregnancy and STDs (Bernard et al., 1989; Brown, 1984), the comfort and convenience of condoms (Bernard et al., 1989; Brown, 1984), condoms' interference with sexual pleasure (Bernard et al., 1989; Brown, 1984; Catania et al., 1989; Pleck et al., 1990), and the interpersonal consequences of discussing or using a condom (Bernard et al., 1989; Brown, 1984; Catania et al., 1989; Pleck et al., 1990).

The hypothesis was that men and women would differ on each of these four domains of attitudes about condoms. A consideration of the different concerns that women and men may have about sexual matters led to the following tentative predictions (e.g., Leigh, 1989). First, given that women bear the primary burden of unwanted pregnancies, women may have heightened concerns about the effectiveness of condoms as a protection against pregnancy and STDs, and thus may perceive condoms as less effec-

tive than do men. Second, because condoms are worn by men, men may perceive condoms as less comfortable and convenient than women do. Third, men may also be more concerned than women that condoms interfere with sexual sensation. Fourth, gender stereotypes suggest that women may be more concerned than men about potentially awkward or unpleasant interpersonal aspects of condom use. This point is illustrated by one woman's description of her efforts to get male partners to use condoms:

I used to have problems asking men to wear condoms. They'd say no or whine and prophesy that it just wouldn't work. I'd get embarrassed by the fact that I could produce a condom and they couldn't—it made me look so eager. Finally, I got tired of the conflict with the men and myself, and blew off even suggesting prophylactic protection for a while. (Monagle, 1989, p. 52)

In summary, rather than seeking to create a comprehensive measure of attitudes toward condoms, the present study was designed to provide information about differences in the condom attitudes of women and men. Four predictions about gender differences were investigated:

1. Men consider condoms to be relatively more effective than women do.
2. Women perceive condoms as more comfortable and convenient than men do.
3. Men perceive condoms as interfering with sexual sensation more than women do.
4. Women perceive condoms as contributing to embarrassing or negative interpersonal exchanges more than men do.

A second goal was to investigate links between condom use and condom attitudes. Are people with more positive attitudes about condoms more likely to report having used them in the past and to say that they intend to use condoms in the future with new partners? Four previous studies found that more positive attitudes are associated with greater past and/or intended condom use (Baffi et al., 1989; Catania et al., 1989; Hebert, Bernard, de Man, & Farrar, 1989; Pleck et al., 1990, 1991).

Sexual experience and concern about contracting AIDS might also be associated with the use of condoms. Previous research has produced mixed results concerning the number of sexual partners and condom use. One study found that having had more sexual partners was associated with greater condom use (Hebert et al., 1989), whereas another found that college students with more sexual partners were less likely to have used condoms (Bishop & Lipsitz, 1990). Greater concern about the risk of getting AIDS, however, has been associated with both greater previous condom use (Baldwin & Baldwin, 1988) and greater intended future condom use (Pleck et al., 1990).

Another important question concerns sex differences in the predictors of condom use among college students. Maticka-Tyndale (1991) suggested that research should go beyond exploring simple gender differences in sexual behaviors to investigate the different predictors of these behaviors

for women and men. Previous studies have not examined whether attitudes and other predictors might differ for women and men. Three studies used single-sex samples, and Hebert and colleagues (1989) did not explore gender differences in the predictors of condom use. The predictors of condom use probably differ for women and men. For example, if wearing condoms has a negative impact on men's perceptions of sexual sensation, but little or no impact on women's sensation, we might expect attitudes about sensation to predict condom use for men but not for women. Thus, a unique feature of the present study was a comparison of the predictors of condom use for women and men.

Young heterosexuals are increasingly at risk for sexually transmitted diseases and consequently are an important group to investigate (St. Louis et al., 1991). This research targeted undergraduate students at a large, metropolitan state university and made efforts to ensure that the sample was diverse with respect to ethnic background. No previous research has examined ethnic differences in condom attitudes. Some researchers have found ethnic differences in reported use of condoms (Baldwin & Baldwin, 1988; Pleck et al., 1990) and in knowledge about AIDS (Crawford & Robinson, 1990), but the pattern of these ethnic differences has been inconsistent and does not suggest clear predictions about how ethnicity might affect attitudes about condoms. The nature of possible ethnic variation in condom attitudes merits further consideration and was investigated in the present study.

## METHOD

College students completed an anonymous 16-page questionnaire that included questions regarding demographic characteristics, dating experiences, and sexual history. Because of the sensitive nature of many questions, a number of steps were taken to ensure participants' privacy. While completing the questionnaires, participants were seated individually in separate rooms. Participants were asked to place completed questionnaires in plain envelopes before returning them to the researcher.

### Participants

Participants were 393 undergraduate students (213 women and 180 men) at the University of California, Los Angeles. Unmarried heterosexual students were recruited from introductory psychology courses and received course credit for their participation. Students ranged in age from 18 to 24, with a mean age of 18.6 years. The sample was diverse with respect to ethnicity: 23% were Asian American, 10% were African American/black, 53% were Anglo/white, and 14% were Latino/Chicano.

## Measures

*Measure of condom attitudes.* A 20-item measure of condom attitudes was devised for this study (Table 1). Items were constructed to assess beliefs about condoms in four domains: the comfort and convenience of condoms, the effectiveness of condoms (both as a method of birth control and as a protection against AIDS), interpersonal aspects of condom use, and the effect of condoms on sexual sensation. These domains were chosen to represent a range of issues pertinent to condom use and to highlight potential gender differences in condom attitudes. Participants responded to each statement on a 5-point scale; 5 indicated strong agreement and 1 indicated strong disagreement. Half the items were worded positively, and half were worded negatively. For data analysis, the scores for negatively worded items were reversed, so that higher scores always reflected more favorable attitudes toward condoms. A separate mean score was computed for each of the four attitude domains, and a total score was computed for all 20 items.

Reliability for the four domains and the 20-item total score, computed using Cronbach's alpha, was moderate to good: comfort and convenience, .55; effectiveness, .65; interpersonal aspects, .60; sexual sensation, .75; and for the total score, .76. Intercorrelations ( $r$ ) among the four domains ranged from .08,  $p = .06$  (between efficacy and sensation) to .42,  $p < .001$  (between comfort and convenience and interpersonal), with an average correlation of .24.

A separate single-item measure of general condom attitudes was also included in the questionnaire. Students responded on a 6-point scale to the question "How positive or negative are your personal feelings about you/your partner using a condom?"

*Measures of condom use.* Students with sexual experience were asked two questions about past condom use. A general question asked whether "you/your partner have ever used a condom during intercourse." A second question concerned recent condom use, and asked students to describe which form of birth control, if any, they used "the last (most recent) time you had sexual intercourse."

In addition, all students, regardless of past sexual experience, were asked about their intentions to use condoms in the future. Students were asked to imagine that they were going to have sexual intercourse with a new partner. They then responded to four questions: "Would you suggest the use of a condom?", "Would you insist on the use of a condom?", "Would you resist the use of a condom?", and "Would you reject the use of a condom?" Responses ranged from 1, indicating they definitely would not, to 5, indicating they definitely would. Scores on the "resist" and "reject" items were reversed, and all four responses were averaged to create an index of the likelihood of using a condom. The index had good reliability ( $\alpha = .81$ ),

**Table 1**  
The condom attitudes items

---

Comfort and convenience

1. Condoms are easy to obtain.
2. Condoms are expensive. (R)
3. An advantage of condoms is that you don't need a prescription from a physician.
4. It would be embarrassing to be seen buying condoms in a store. (R)
5. Modern condoms are reasonably comfortable for the man to wear.
6. Condoms are messy and awkward to dispose of. (R)
7. Condoms are convenient and easy to carry.
8. Condoms are difficult for a man to wear. (R)

Efficacy

9. The use of a condom is an effective method of birth control.
10. Condoms are not effective because they often break easily. (R)
11. The use of a condom is a good way to prevent getting sexually transmitted diseases.
12. Condoms do not offer reliable protection. (R)

Interpersonal

13. Discussing the use of a condom with a partner can improve communication.
14. The use of a condom might be embarrassing to me or to my partner. (R)
15. The peace of mind gained from using a condom can improve a sexual relationship.
16. Interrupting lovemaking to use a condom spoils the mood. (R)

Sexual sensation

17. A problem with condoms is that they reduce sexual stimulation. (R)
  18. The use of a condom can actually enhance sexual pleasure for both myself and my partner.
  19. Sex doesn't feel as natural with a condom. (R)
  20. The thinking ahead that is needed when using a condom adds excitement to lovemaking.
- 

*Note:* Scores for items followed by (R) were reversed before computing means, so that higher scores indicate more positive attitudes. Each item was rated on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). Items were presented in a random order without headings.

and a principal components factor analysis confirmed that the four items constituted a single factor, accounting for 65.2% of the variance.

*Predictors of condom use.* Seven variables were considered as possible predictors of condom use. Five measures of attitudes about condoms were used. As a global measure of favorability toward condoms, the single-item measure of general condom attitudes was used. To investigate how attitudes about specific features of condoms might be linked to condom use, each of the four condom attitude domain scores (comfort and convenience, efficacy, interpersonal, and sensation) described was also used.

Two other predictors were included in the analyses based on findings

from previous research. Respondents' assessments of the extent to which they would worry about getting a sexually transmitted disease with a new partner was rated on a 5-point scale. Finally, as a measure of sexual experience, a seventh variable was students' reports of the number of previous sexual partners, indicated on a scale from 1 to 6. A 1 represented one or two sexual partners, and a 6 represented more than 20 sexual partners.

## RESULTS

### Condom Attitudes

Mean scores for the total 20-item measure, as well as for each domain, are shown in Table 2. The sample mean for all 20 items was 3.54 on the 5-point scale, indicating that students were generally neutral to slightly positive about condoms. The range of individuals' mean summary scores on the 20-items was 1.95 (mildly negative) to 4.60 (very positive); 77% of the students scored between 3.00 and 3.90.

Differences in attitudes about the four domains were investigated by conducting a Gender (men/women)  $\times$  Ethnicity (African American/Anglo/Asian American/Latino) within-subjects MANOVA on the four domain scores. Results indicated that there was a significant main effect for domain,  $F(3, 1,128) = 244.12$ ,  $p < .0001$ . Students were most positive about the efficacy of condoms ( $M = 3.98$ ) and least positive about the effects of condoms on sexual sensation ( $M = 2.63$ ) (Table 2). Using a conservative  $p$  value of .008 (6 tests/.05 = .008), dependent-sample  $t$  tests showed that the differences among all four means were significant (all  $ps < .0001$ ). In addition, a significant main effect for gender emerged,  $F(1, 376) = 9.43$ ,  $p < .01$ . Women were generally more positive about condoms ( $M = 3.64$ ) than were men ( $M = 3.41$ ). There was no significant main effect for ethnicity,  $F(3, 376) = .95$ , n.s.

Qualifying the main effects, however, the MANOVA also revealed a significant Gender  $\times$  Domain interaction,  $F(3, 1,128) = 12.76$ ,  $p < .0001$ . Post-hoc  $t$  tests were conducted to locate significant differences within the interaction, using a conservative  $p$  value of .01 (4 tests/.05 = .01) (first two columns of Table 2). As predicted, women were significantly more favorable than men about the comfort and convenience of condoms ( $p < .01$ ). Also as predicted, men were more concerned than women about the effects of condoms on sexual sensation ( $p < .01$ ) and believed condoms to be marginally more effective than did women ( $p < .05$ ). Contrary to our prediction, however, women were more positive than men about the interpersonal aspects of condom use ( $p < .01$ ). The magnitude of these gender differences was typically small, ranging from 0.12 to 0.44 on a 5-point scale and averaging about half a standard deviation.

**Table 2**  
Mean scores separated by gender or ethnic  
identity for the four condom attitude domains

	<i>Men</i>	<i>Women</i>	<i>Asian</i>	<i>Black</i>	<i>Anglo</i>	<i>Hispanic</i>	<i>All</i>
Domains							
Comfort and convenience	3.62	3.83	3.70	3.76	3.74	3.74	3.73
Efficacy	4.04	3.92	4.00	3.89	4.02	3.81	3.98
Interpersonal	3.33	3.77	3.44	3.66	3.61	3.54	3.57
Sexual sensation	2.41	2.82	2.76	2.83	2.58	2.52	2.63
Overall score	3.41	3.64	3.52	3.58	3.55	3.47	3.54

*Note:* Higher scores indicate more positive attitudes.

### Predictors of Condom Use

A second major goal of the research was to investigate how attitudes and other factors affect the reported use of condoms. In this college sample, more men (73.3%) than women (59.2%) had previously engaged in sexual intercourse,  $\chi^2(1) = 8.54$ ,  $p < .01$ . Asian Americans (45.4%) were least likely to have had sexual intercourse, compared to African Americans (61.7%), Latinos (67.8%), and Anglos (76.7%),  $\chi^2(3) = 27.71$ ,  $p < .0001$ . Of those students who had had sexual intercourse, 83.2% had used a condom at least once during intercourse, but only 30.6% had used a condom during their most recent sexual experience. There were no significant gender or ethnic differences in either measure of condom use. In addition, condom use was unrelated to the number of current dating partners, suggesting that individuals in monogamous dating relationships were no more or less likely to use condoms than were those with multiple dating partners.

Significant gender and ethnic differences were found in the mean scores for many of the predictors of past and intended condom use. In addition to the four condom attitude domains described above, women were more positive about condoms ( $M = 5.04$ ) than were men ( $M = 4.69$ ) on the single-item measure of condom attitudes ( $p < .05$ ). Given the large number of respondents, however, a  $p$  value of  $< .05$  should be considered only marginally significant. There were no differences among ethnic groups on the single-item measure.

Gender and ethnic differences were also found in the number of previous sexual partners. A 2 (Women/Men)  $\times$  4 (African American/Anglo/Asian American/Latino) ANOVA revealed a marginally significant Gender  $\times$  Ethnicity interaction,  $F(3, 384) = 2.84$ ,  $p < .05$ . Asian-American men had fewer sexual partners ( $M = 1.10$  on a 6-point scale, equivalent to two partners) than either African-American men ( $M = 1.89$ ) or Anglo men ( $M = 1.88$ ). Latino men had significantly more partners than



did men in the other three groups ( $M = 2.44$ , equivalent to four partners). Among women, however, Latinas ( $M = 0.73$ , equivalent to less than one partner) and Asian Americans ( $M = 0.76$ ) reported having fewer partners than African Americans ( $M = 1.30$ , equivalent to two partners) and Anglos ( $M = 1.39$ ).

Women also differed from men in the extent to which they would worry about getting an STD from a new partner. Rated on a 5-point scale, where 5 indicated a respondent would definitely worry about getting an STD, the mean for women was 3.95, whereas the mean for men was 3.55,  $F(1, 381) = 13.51$ ,  $p < .0001$ . There were no ethnic differences in worry about disease.

### Predicting Past Condom Use

A first set of analyses focused on predictors of past condom use, as assessed by students' reports of whether or not they had used a condom during their most recent sexual intercourse. (Only students who had ever had intercourse were asked this question.) To compare the predictors of condom use for women and men, separate analyses were performed for each sex. For the analysis of ethnic differences in the predictors of condom use, the African-American and Latino samples were too small to permit separate analyses.

Discriminant function analysis (Klecka, 1980) was used to determine which variables differentiated those students who had used condoms during their most recent sexual intercourse from those who had not (Tables 3, 4). One way to evaluate a discriminant function is to determine the percentage of respondents who are correctly classified by group using the discriminant scores as a basis for prediction. Tests of the equality of group centroids indicated that 73.0% of the women and 74.0% of the men were correctly classified. For women, the Wilks's lambda statistic was .81 ( $p < .001$ ), indicating that 19% of the variance in condom use was accounted for by the seven predictors (variance =  $1 - \text{Wilks's lambda}$ ). For men, Wilks's lambda was .85 ( $p < .001$ ), indicating that 15% of the variance was accounted for by the function.

Discriminant analysis also determines which variables are the best predictors of group membership. The canonical discriminant function was derived using a direct procedure. All variables were entered simultaneously into the analyses. Because each predictor variable represents a separate univariate test, a more stringent significance criterion value must be established. Using the Bonferroni procedure, the appropriate significance value was determined to be  $p < .007$ .

Table 3 presents the results of this discriminant analysis for women. The order of the predictors is based on the value of the function coefficients, with the strongest predictor listed at the top of the table. Two variables successfully discriminated women who reported using a condom during their most recent sexual intercourse from those who did not: general con-

**Table 3**  
Discriminant function analysis classifying women who used a condom during their last sexual intercourse and women who did not

	<i>Group Means for Condom Use</i>		<i>F</i>	<i>p</i>	<i>Function Coefficient</i>
	<i>Users (n = 36)</i>	<i>Nonusers (n = 88)</i>			
Single-item condom attitude rating	5.83	4.72	17.62	< .001	.78
Sensation subscale	3.09	2.49	12.75	< .001	.65
Efficacy subscale	4.20	3.90	6.10	n.s.	.46
Interpersonal subscale	3.76	3.51	3.06	n.s.	.32
Comfort and convenience subscale	3.89	3.80	1.04	n.s.	.19
Worry about disease	3.78	3.97	0.98	n.s.	-.18
Number of partners	1.86	1.89	0.10	n.s.	.02

**Table 4**  
Discriminant function classifying men who used a condom during their last sexual intercourse and men who did not

	<i>Group Means for Condom Use</i>		<i>F</i>	<i>p</i>	<i>Function Coefficient</i>
	<i>Users (n = 43)</i>	<i>Nonusers (n = 88)</i>			
Interpersonal subscale	3.46	2.98	13.83	< .001	.78
Single-item condom attitude rating	5.26	4.41	11.64	< .001	.72
Sensation subscale	2.54	2.21	4.59	n.s.	.45
Efficacy subscale	4.15	3.99	2.23	n.s.	.31
Number of partners	2.28	2.51	0.72	n.s.	-.18
Comfort and convenience subscale	3.61	3.57	0.15	n.s.	.08
Worry about disease	3.49	3.55	0.08	n.s.	-.06

dom attitudes (single-item measure) and the sensation domain of condom attitudes. Women who had used a condom had more positive feelings about condoms and were less negative about the effect of condoms on sexual sensation. The remaining five variables did not significantly differentiate female users from nonusers.

Comparable results for men are shown in Table 4. Only two variables were significant predictors: the interpersonal domain of condom attitudes

and general condom attitudes (single-item measure). Men who reported using a condom during their most recent sexual intercourse were more positive about the interpersonal aspects of condom use and had more positive general feelings about using a condom with a sexual partner.

For both women and men, only a few variables emerged as significant predictors of previous condom use. General attitudes about condoms predicted past condom use for both genders. However, although attitudes about the interpersonal issues surrounding the use of condoms predicted condom use for men, attitudes about the effects of condoms on sexual sensation predicted condom use for women. Attitudes about the convenience and efficacy of condoms, worry about getting an STD from a new partner, and number of previous sexual partners were not associated with past condom use for women or men.

### Predicting Future Condom Use

Another question of interest was whether condom attitudes would be predictive of students' beliefs about their future behavior. A four-item index of the likelihood of using a condom with a new sexual partner was used; higher scores indicated a greater likelihood of using a condom in the future. Significant gender and ethnic differences in scores on this index were revealed by a 2 (Women/Men)  $\times$  4 (African American/Anglo/Asian American/Latino) ANOVA. Women were significantly more likely to say they would use a condom with a new partner ( $M = 4.48$ ) than were men ( $M = 4.00$ ),  $F(1, 381) = 44.43$ ,  $p < .0001$ . In addition, Anglos ( $M = 4.31$ ) and Asian Americans ( $M = 4.29$ ) reported greater likelihood of using a condom than did African Americans ( $M = 4.14$ ) and Latinos ( $M = 4.11$ ),  $F(3, 381) = 2.65$ ,  $p < .05$ . The Gender  $\times$  Ethnicity interaction was not significant.

To identify significant predictors of the likelihood of using a condom with a future partner, multiple regression analyses were performed (Table 5). Separate regression analyses were conducted for women and for men with the same seven predictor variables used in the earlier discriminant function analysis. These regression analyses could not be conducted separately for the four ethnic groups because of the small numbers of African Americans and Latinos. Results are presented in Table 5.

For both genders, three variables emerged as predictors of future condom use: the single-item measure of general condom attitudes, the interpersonal domain of condom attitudes, and the number of previous sexual partners. Students with more positive feelings about condoms were more likely to say they would use a condom in the future, as were students with more positive views about the interpersonal aspects of condom use. Students who had had fewer sexual partners were more likely to say they would use a condom with a new partner. A fourth variable predicted intentions for women but not for men: Women who were more worried

**Table 5**  
Regression analyses predicting expected  
use of a condom with a new partner

	Women			Men		
Predictor	Standard Coefficient	SE	t	Standard Coefficient	SE	t
Single-item condom attitude rating	.15	.03	4.82***	.27	.04	6.22***
Comfort and convenience	.06	.11	0.52	.12	.11	1.05
Efficacy	.09	.07	1.31	.06	.10	0.64
Interpersonal	.21	.08	2.82**	.35	.10	3.66***
Sexual sensation	.10	.05	1.88	-.02	.08	-0.28
Worry about disease	.24	.04	5.74***	.03	.05	0.62
Number of sexual partners	-.13	.03	-4.19***	-.11	.04	-2.77**
	$R^2 = .53$			$R^2 = .50$		
	$F = 19.05***$			$F = 17.23***$		

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

about getting an STD were more likely to say they would use a condom in the future.

## DISCUSSION

Our data shed light on several aspects of condom attitudes and use. A number of gender differences emerged in condom attitudes and the predictors of condom use.

### Condom Attitudes

Students' attitudes toward condoms were significantly related to gender. Women were consistently more positive about condoms than were men. We predicted that there would be significant gender differences in attitudes about four aspects of condoms. As predicted, women found condoms more comfortable and convenient than did men. In addition, men were more likely than women to believe that condoms reduce sexual pleasure and to perceive condoms as effective. Contrary to our predictions, however, men were more concerned than women that condom use could create embarrassing or negative interpersonal exchanges.

One possible explanation for these gender differences is that women may

generally be more cautious about sexual encounters than men. Several findings provide at least partial support for this interpretation. Women scored significantly higher than men on a measure of worry about contracting STDs. Women also showed a more conservative approach to sex; women had fewer sexual partners, on average, than did men.

Previous research supports the interpretation that women are more sexually cautious than men. Baldwin and Baldwin (1988) found that women were less likely to take sexual risks than men. In their study, women reported having had fewer sexual partners and were less likely to have had "casual sex." Sprecher (1989) reported that women scored lower on a scale of premarital sexual permissiveness, which she argued may be because of women's greater sexual conservatism. If women are more cautious in their approach to sexual relations, then women might be more positive in their evaluations of condoms. The one area in which men were marginally more positive about condoms than women was efficacy. Both women and men recognize that condoms are generally effective in preventing pregnancy and the spread of disease, but women may be more aware of the occasional failures in condom protection.

### Predicting Condom Use

We found that the predictors of past and future condom use were quite similar for women and for men. Attitudes about condoms were significantly linked to self-reports of actual and expected behavior. For both genders, global favorability toward condoms was consistently associated with greater likelihood of using a condom. A number of previous studies have demonstrated a similar relationship between condom attitudes and condom use (Baffi et al., 1989; Catania et al., 1989; Hebert et al., 1989; Pleck et al., 1990, 1991).

A potentially important finding from our study was the link between attitudes about the interpersonal aspects of condom use and the likelihood of future condom use. Those students who worried the most that using a condom would be embarrassing or would spoil the mood for lovemaking were least likely to anticipate using a condom in the future. Other studies have also suggested the importance of interpersonal concerns. For example, a national survey of adolescent men (Pleck et al., 1990, 1991) revealed that a man's belief that a partner would appreciate his using a condom was associated with the intention to use condoms in the future. Another study (Catania et al., 1989) revealed that adolescent women who were more willing to ask a partner to use a condom used condoms more frequently.

We also examined the impact of worrying about STDs on condom use. Baldwin and Baldwin (1988) found that individuals who worried more about contracting AIDS were significantly more likely to say they had used condoms in the past. In a study of adolescent men, greater worry about contracting AIDS was associated with greater intended condom use (Pleck

et al., 1990, 1991). Our results differed from these earlier findings. In our sample, current worries about STDs were not associated with previous use of condoms. It is possible, of course, that students have only recently begun to worry about STDs. In addition, when we asked students about the likelihood that they would use a condom with a future sexual partner, worry about STDs was significantly associated with anticipated condom use, but only for women. This gender difference may reflect the fact that the general level of worry in our sample was higher among women than among men, or that for men other factors override the potential importance of fears about disease in determining patterns of condom use.

The impact of ethnicity on condom use remains uncertain and deserves more investigation. One previous study found that Latinos were more likely to have used condoms in the past than were African Americans, Asian Americans, or Anglos (Baldwin & Baldwin, 1988). In contrast, we found no association between ethnicity and previous condom use in our sample. Concerning intentions to use condoms in the future, one study of adolescent men found that Latinos were less likely to consider using condoms in the future than were African Americans or Anglos (Pleck et al., 1990). We found that Latinos and African Americans were less likely than Anglos or Asian Americans to intend to use condoms in the future. The reasons for these contradictory findings are unknown but may be related to differences among the three samples in age, geographic location, or education. Future research exploring the relationship between ethnicity and condom use is needed and, based on our findings, such research should also consider possible interactions of gender and ethnicity.

Those women and men in our sample who had had relatively more sexual partners in the past were relatively less likely to expect to use a condom with a new partner in the future. Bishop and Lipsitz (1990) also found that those students who had had more sexual partners in the past—and so were potentially at greater risk for AIDS or other STDs—were significantly less likely to say they would use a condom in the future with a new partner. Despite women's greater cautiousness about sex, this pattern held for both genders. Why might those at greatest risk for STDs be least likely to protect themselves? The adventurousness that leads some students to greater sexual experimentation in high school and college may also contribute to decreased worry about potential consequences and decreased willingness to use condoms. It is both ironic and frightening that those who are most willing to take sexual risks may be the least concerned with the consequences of their risky behavior.

### Implications for Increasing Condom Use

How might the findings of this study be applied to intervention programs designed to improve attitudes and increase the use of condoms? The multidimensionality of condom attitudes is supported by our findings and those

of previous research (Bernard et al., 1989; Brown, 1984) and has implications for encouraging condom use. For instance, efforts to inform young people about the efficacy of condoms may be unnecessary because college students are in general agreement that condoms offer reliable protection. In contrast, intervention efforts might usefully focus on issues of sexual sensation, which received the lowest ratings from college students of both genders and all ethnic groups. The belief that condoms diminish sexual enjoyment was undoubtedly an obstacle to condom use in this sample.

Similarly, intervention efforts should also recognize students' worries about the interpersonal aspects of using a condom. Students who were more concerned about embarrassment and "spoiling the mood" reported that they would resist or avoid the use of a condom in the future. Successful interventions will need to find creative ways to convince students that condoms need not be embarrassing or dampen sexual excitement and may even be "fun" (cf. Kyes, 1990; Tanner & Pollack, 1988).

Gender should also be considered by those promoting the use of condoms. The gender differences obtained in the present study suggest that men and women may respond differently to interventions. One previous study demonstrated that reading sexual stories involving the use of condoms resulted in more positive attitudes for men but not for women (Kyes, Brown, & Pollack, 1991). Another study found that men view condom advertisements as generally more effective than do women (Struckman-Johnson, Gilliland, Struckman-Johnson, & North, 1990). Women may be less responsive than men to such interventions because their attitudes about condoms are already relatively positive. Those who seek to encourage young adults to use condoms as protection against AIDS and other sexually transmitted diseases may need to tailor their messages to the specific concerns of men and women.

*First draft received: April 2, 1992*

*Final draft received: June 25, 1992*

## REFERENCES

- Baffi, C. R., Schroeder, K. K., Redican, K. J., & McCluskey, L. (1989). Factors influencing selected heterosexual male college students' condom use. *Journal of American College Health, 38*, 137-141.
- Baldwin, J. D., & Baldwin, J. I. (1988). Factors affecting AIDS-related sexual risk-taking behavior among college students. *Journal of Sex Research, 25*, 181-196.
- Bernard, J., Hebert, Y., de Man, A., & Farrar, D. (1989). Attitudes of French-Canadian university students toward use of condoms: A structural analysis. *Psychological Reports, 65*, 851-854.
- Bishop, P. D., & Lipsitz, A. (1990). Sexual behavior among college students in the AIDS era: A comparative study. *Journal of Psychology and Human Sexuality, 3*, 35-52.
- Brown, I. S. (1984). Development of a scale to measure attitudes toward the condom as a method of birth control. *Journal of Sex Research, 20*, 255-263.
- Carroll, L. (1988). Concern with AIDS and the sexual behavior of college students. *Journal of Marriage and the Family, 50*, 405-411.

- Catania, J. A., Dolcini, M. M., Coates, T. J., Kegeles, S. M., Greenblatt, R. M., & Puckett, S. (1989). Predictors of condom use and multiple partnered sex among sexually-active adolescent women: Implications for AIDS-related health interventions. *Journal of Sex Research*, 26, 514-524.
- Cates, W., & Rauh, J. L. (1985). Adolescent sexually-transmitted diseases: An expanding problem. *Journal of Adolescent Health Care*, 6, 257-261.
- Crawford, I., & Robinson, W. L. (1990). Adolescents and AIDS: Knowledge and attitudes of African-American, Latino, and Caucasian midwestern U.S. high school seniors. *Journal of Psychology and Human Sexuality*, 3, 25-33.
- DeBuono, B. A., Zinner, S. H., Daamen, M., & McCormack, W. M. (1990). Sexual behavior of college women in 1975, 1986, and 1989. *New England Journal of Medicine*, 322, 821-825.
- Friedland, G. H., & Klein, R. S. (1987). Transmission of the human immunodeficiency virus. *New England Journal of Medicine*, 317, 1125-1135.
- Hebert, Y., Bernard, J., de Man, A. F., & Farrar, D. (1989). Factors related to the use of condoms among French-Canadian university students. *The Journal of Social Psychology*, 129, 707-709.
- Kegeles, S. M., Adler, N. E., & Irwin, C. E. (1988). Sexually active adolescents and condoms: Changes over one year in knowledge, attitudes, and use. *American Journal of Public Health*, 78, 460-461.
- Klecka, W. R. (1980). *Discriminant analysis*. Beverly Hills, CA: Sage.
- Kyes, K. B. (1990). The effect of a "safer sex" film as mediated by erotophobia and gender on attitudes toward condoms. *Journal of Sex Research*, 27, 297-303.
- Kyes, K. B., Brown, I. S., & Pollack, R. H. (1991). The effect of exposure to a condom script on attitudes toward condoms. *Journal of Psychology and Human Sexuality*, 4, 21-36.
- Leigh, B. C. (1989). Reasons for having and avoiding sex: Gender, sexual orientation, and relationship to sexual behavior. *Journal of Sex Research*, 26, 199-209.
- Maticka-Tyndale, E. (1991). Sexual scripts and AIDS prevention: Variations in adherence to safer-sex guidelines by heterosexual adolescents. *Journal of Sex Research*, 28, 45-66.
- Monagle, K. (1989, May). Nice girls do . . . or want to. *Ms.*, 17(11), pp. 50, 52.
- Murray, J., Harvey, S. M., & Beckman, L. J. (1989). The importance of contraceptive attributes among college students. *Journal of Applied Social Psychology*, 19, 1327-1350.
- O'Reilly, K. R., & Arol, S. O. (1985). Adolescence and sexual behavior: Trends and implications for STD. *Journal of Adolescent Health Care*, 6, 262-272.
- Pleck, J. H., Sonenstein, F. L., & Ku, L. C. (1990). Contraceptive attitudes and intention to use condoms in sexually experienced and inexperienced adolescent males. *Journal of Family Issues*, 11, 294-312.
- Pleck, J. H., Sonenstein, F. L., & Ku, L. C. (1991). Adolescent males' condom use: Relationships between perceived cost-benefits and consistency. *Journal of Marriage and the Family*, 53, 733-745.
- Sprecher, S. (1989). Premarital sexual standards for different categories of individuals. *The Journal of Sex Research*, 26, 232-248.
- St. Louis, M. E., Conway, G. A., Hayman, C. R., Miller, C., Petersen, L. R., & Dondero, T. J. (1991). Human immunodeficiency virus infection in disadvantaged adolescents: Findings from the U.S. Job Corps. *Journal of the American Medical Association*, 266, 2387-2391.
- Struckman-Johnson, C. J., Gilliland, R. C., Struckman-Johnson, D. L., & North, T. C. (1990). The effects of fear of AIDS and gender on responses to fear-arousing condom advertisements. *Journal of Applied Social Psychology*, 20, 1396-1410.
- Tanner, W. M., & Pollack, R. H. (1988). The effect of condom use and erotic instructions on attitudes toward condoms. *Journal of Sex Research*, 25, 537-541.