Activity and Similarity in Safer Sex Workshops Led by Peer Educators

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Objectives. Sexually transmitted disease is a growing problem for college students. To address this problem, health professionals on many campuses have turned to peer led prevention workshops. The research evaluated the effectiveness of four types of such workshops.

Methods. The workshops followed either an information based format or an activity based format. In addition, the peer leaders were portrayed as similar to their audience or as dissimilar.

Results. Results indicate that the Activity Workshop was more effective than the Information Workshop at encouraging condom use in the month following the workshop. Also, the similarity of the peer leaders influenced behavioral intentions to use a condom with new sex partners.

Conclusions. The discussion focuses on self-persuasion and changes in social norms as possible theoretical mechanisms underlying these effects.

Sexually transmitted diseases (STDs) such as chlamydia, gonorrhea, genital herpes, genital warts, and syphilis are now near epidemic proportions among young people in the United States (Cates, 1991). For example, in a survey of college students throughout the state of Illinois, over 10 percent of the students reported that they had contracted an STD (Pryor & Reeder, 1994). Apart from their immediate symptoms, such STDs can have detrimental effects on later fertility and serve as a bellwether for HIV, which has a much longer incubation period. To cope with the problem of STDs on campus, health professionals often train teams of students to present workshops encouraging safer sex in student residence halls, classrooms, and at campus activity centers. Peer education programs are now widespread on campuses in the United States (Conant Sloane & Zimmer, 1993; Gould & Lomax, 1993).

Despite the growth of these programs, the literature contains little systematic research on the effect of peer education among college students (Fennell, 1993; Kelly & Murphy, 1992; Fisher & Fisher, 1992). Moreover, the few studies that have reported successful outcomes shed minimal light on the specific factors that contribute to changing students’ intentions and behaviors. The present research examined the effectiveness of a peer led workshop that was designed to encourage condom use. This self-reported behavioral outcome was selected because condom use is an effective means of preventing the spread of STDs among sexually active
young people. The research investigated two potentially important variables: (1) the level of activity in the workshop and (2) the similarity of the peer educators to their audience. The theoretical rationale for the importance of these variables is discussed below.

**ACTIVITY LEVEL IN THE WORKSHOP**

Successful safer sex workshops often include activities and exercises (Fisher & Fisher, 1992; Jemmott, Jemmott, & Fong, 1992; Kelly & Murphy, 1992; Valdiserri, Lyter, Leviton, Callahan, Kingsly, & Rinaldo, 1989; Winter & Goldy, 1993). The implication is that workshop participants who engage in discussions, role plays, and active problem solving are more receptive to the message of the workshop, compared to participants who merely listen to a presentation. Yet the theoretical factors that might account for the importance of activity are unclear. Two possibilities will be considered here. First, active, effortful participation may initiate a self-persuasion process. Research in attitude change suggests that people who act on a belief (e.g., write an essay in support of a particular belief) often change their attitudes and/or subsequent behavior to be consistent with that belief (Bem, 1972; Festinger, 1957). For example, Aronson and his colleagues induced individuals to make a videotape which publicly advocated the importance of safer sex (Aronson, Fried, & Stone, 1991; Stone, Aronson, Crain, Winslow, & Fried, 1994). This manipulation of public commitment led these individuals to purchase a greater number of condoms under some circumstances.

The present research explored the possibility that such a self-persuasion process might also operate in a group setting, in the context of peer education. Workshop participants who actively role play behaviors related to condom use might be more likely to adopt favorable attitudes toward condoms and incorporate condoms into their sexual relationships. Self-persuasion may be enhanced if people feel that their role playing is voluntary and requires effort on their part. As described below, our activity based procedure included both of these components.

Related research by Fazio (1986) suggests that this self-persuasion process may also lead to a more behaviorally relevant attitude. Attitudes which are acquired from direct experience (activity) with an attitude object tend to be spontaneously accessed in the presence of the attitude object. Thus, after engaging in condom related activities at the workshop, attitudes toward condoms should come to mind, or be accessible, at a later time when the person confronts a sexual situation. Accessible attitudes are then more likely to guide behavior (Norris & Devine, 1992). It follows that attitudes created in the context of an activity workshop might be more predictive of future behavior.

A second possible reason for the effectiveness of an active format is that it is appropriate for conveying some of the skills needed to follow safer sex guidelines (Bandura, 1992). In order to use a condom correctly, a couple must have knowledge about the mechanics of condom use, overcome embarrassment, and make sure that a condom is available prior to sex. The modeling literature suggests that such skills might be more effectively transmitted through active learning, rather than through simple observational learning (Bandura, 1986). Active, self-directed learning may decrease one's perception of the difficulty of performing safer sex
activities. In Bandura’s terms, these activities should increase self-efficacy, which should predict future levels of effort and subsequent accomplishment.

SIMILARITY BETWEEN PEER LEADERS AND THEIR AUDIENCE

A second variable under study concerns the similarity between workshop leaders and their audience. There is good evidence that people show greater imitation of role models who are similar in age and gender (Bandura, 1986; Kazdin, 1974; Perry & Bussey, 1979). Similarity may be important in at least two respects. First, similarity may influence the perception of social norms. People often look to their reference group for cues on how to behave (Bandura, 1986; Fishbein, Middlestadt, & Hitchcock, 1994). If peer leaders are perceived as members of the reference group, their attitudes should be thought to represent the social norm (Bandura, 1992; Fisher, 1988; Kelly et al., 1992). As such, their attitudes (which support safer sex) might have greater impact on the workshop participants.

A second reason for the importance of similarity is that workshop participants are likely to assume that they possess the same capabilities as peer leaders of the same age and background (Bandura, 1992). If similar peer leaders demonstrate an ability to communicate about safer sex matters and describe their success in protecting themselves, participants may assume that they too possess these capabilities. Such an increase in perceived self-efficacy may lead to behavioral changes consistent with the goals of the workshop.

CURRENT SEXUAL PARTNERS VERSUS NEW PARTNERS

Our pilot research on college populations revealed that approximately fifty percent of this group are currently involved in an ongoing sexual relationship of some kind. It is also likely that many of these students will have sex with more than one individual during their college years. An effective safer sex program aimed at condom use should therefore target intentions and behavior toward both current sexual partners and new sexual partners. Yet it is not clear that these two sets of behaviors are equally malleable, or that the social cognitive variables that underlie change will be the same in each case. The present research allowed for a preliminary assessment of any such differences.

METHOD

OVERVIEW AND DESIGN

Study participants filled out a pretest questionnaire in a large group setting and signed up for a second small group session to be held approximately one week later. At the second session they were randomly assigned to receive one of four types of workshops, or were assigned to a “no treatment” Control Group. Each of the four workshops comprised one cell of a 2 x 2 factorial design with the following factors: activity level of the workshop (activity based vs. information based) and similarity (similar peer leaders vs. dissimilar peer leaders). Immediately after the workshop, participants filled out a second questionnaire similar to that administered at the pretest. Those in the Control Group merely filled out the questionnaire during the
second session. Approximately one month later, all participants (including those in the Control Group) returned to fill out a delayed posttest questionnaire.

SUBJECTS
Participants were recruited to the study via a general education course offered by the Psychology Department at Illinois State University. They received extra credit toward their course for participating. Approximately 22 percent of the participants listed psychology, or another social science, as a major area of study. The remaining participants represented a variety of academic backgrounds. The sample was primarily Caucasian and female (130 females vs. 66 males). Over 90 percent of the participants were freshmen, while the remainder were more advanced undergraduates. The median age was 18 years, with 89 percent being 19 years old or younger. The vast majority had never been married (98 percent). Of these participants at the pretest, 14 dropped out of the study prior to the workshop. After the workshop, 11 more dropped out, with attrition ranging between one to three subjects in each cell of the design. The data from these 25 participants were omitted from the analyses. The final sample consisted of 171 participants whose demographic profile was similar to that of the full sample.

PROCEDURE
Prior to the start of the study, two teams of college aged peer leaders, each composed of a man and a woman, were trained by the coordinator of the Peer Education Program at Illinois State University. The training included a weekend retreat at the beginning of the semester, and weekly two hour meetings thereafter. Each team delivered each of the four types of workshops twice, thereby preventing a confounding of the workshops with the personality characteristics of the peer leaders.

After meeting in a large classroom and receiving a general description of the study, participants in groups of approximately 30 filled out consent forms. They were informed that the purpose of the study was to investigate patterns in students’ sexual behavior across the course of the semester. They then received the pretest questionnaire. A code was utilized to maintain the anonymity of participants, yet still allow the experimenters to track responses over time. Subsequently, participants signed up for a second session to be held a week later. At each first session, participants selected one of five times for their second session. The experimenter later randomly assigned the different session times to the different conditions of the experiment. Thus, although we did not randomly assign individual participants to the different workshops, the procedure of randomly assigning small groups minimized systematic biases associated with self-selection.

Participants reported to the second session, or workshop, in small, mixed-gender groups composed of five to 15 students. These groups were randomly assigned to receive one of the four workshops or to serve as part of the Control Group. At the beginning of each workshop the participants were informed that the peer leaders were working cooperatively with the Psychology Department at ISU to evaluate their workshops.

Following the workshops, participants received a short questionnaire that asked for an evaluation of the workshop. Next, a research assistant handed out the workshop questionnaire, which was described as part of the ongoing study of students’ sexual behavior over the course of the semester. This questionnaire was identical to that administered at the pretest. One month later, at the delayed posttest, subjects filled out
the same questionnaire a third time, were thanked, debriefed, and received extra credit toward their coursework.

**Manipulating Activity in the Workshop.** All of the workshops (except the control condition) lasted approximately 45 minutes. The topics in the workshops were selected based on a review of influential theoretical models (Catania, Kegeles, & Coates, 1990; Fisher & Fisher, 1993). The crucial manipulation varied the format by which the topics were presented. In the Activity Workshop the peer leaders functioned as facilitators who led the participants through a sequence of small-group exercises. To heighten perceptions of personal vulnerability, the participants were asked to think of someone they knew who had contracted an STD. Each participant wrote a description of the incident, describing who was involved, the nature of the relationship, and how an STD could have been prevented. They were then asked to generate a list of the most common STDs on the ISU campus. These lists were then shared among small groups of participants.

Motivation was addressed by having groups of three to five persons generate a list of different types of safer sex activities in the form of a menu, which included “light fare, entrees, and desserts.” Each small group then reported back to the main group with a summary. As a way of indicating where condoms fit into a sexual script, each participant wrote out a sequence of behaviors that typically precedes intercourse, and noted where a condom might be introduced into this sequence.

The peer leaders divided the participants into groups of two, and then organized role plays on the topic of communicating and negotiating condom use. The mechanical use of condoms was demonstrated by supervising participants as they each practiced unrolling a condom over a wooden prop. Participants also handled different types of condoms and, in the context of small groups, generated a list of locations where condoms were available on campus. The leaders summarized information from each group by making a master list on an overhead projector. Participants were then asked to sign a commitment statement pledging to use a condom the next time they had sexual intercourse. Finally, participants were offered condoms, were informed about campus and community resources, and received brochures on safer sex.1

In the Information Workshop, the peer leaders spoke on each of the topics described above, encouraging discussion and demonstrating skill based activities. For example, to establish feeling of personal vulnerability to STDs, the peer leaders cited on campus STD statistics and related vivid stories about students who had contracted STDs. The peer leaders also role-played communications and negotiations about condom use. Although the content and order of topics was identical to the Activity Workshop, the participants in the Information Workshop played a relatively passive role, whereas the peer leaders played an active role.

**Manipulation of Similarity.** The similarity manipulation occurred when the peer leaders introduced themselves at the beginning of the workshop. This manipulation was orthogonal to the activity manipulation. In the Similar Condition, the peer leaders described themselves as members of the Peer Education Program at ISU and wore ISU peer education sweatshirts to reinforce that message. Each of the leaders then described his or her views of premarital sex in a manner thought to be typical of students at ISU. These descriptions were based on a script that covered the following points: (1) the peers were initially not concerned about safer

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1. A full description of the workshop activities can be obtained by writing to the first author.
sex; (2) they then learned of acquaintances who had STDs; (3) they heard about Magic Johnson, who contracted HIV from heterosexual intercourse; and (4) a friend told them about the Peer Education Program at ISU.

In the Dissimilar Condition, in contrast, the peer leaders stated that they were part of the Peer Education Program at Illinois Wesleyan University, a campus located a couple of miles from ISU. In addition, the leaders wore sweatshirts with "Illinois Wesleyan University" emblazoned across the chest. Their self-descriptions stressed the idea that although their personal religious beliefs were opposed to premarital sex, today's workshop would focus on condom use as well as abstinence. This view of premarital sex was thought to be atypical of ISU students. In all other respects, the procedure in the Dissimilar Condition was identical to that of the Similar Condition.

MEASURES

Most of the dependent measures described below were phrased once in the context of new partners and again in the context of current partners. The questionnaire defined a "current partner" as someone with whom sexual intercourse first occurred more than 30 days ago, and where there was a mutual expectation that the relationship would continue. A "new partner" was defined as someone with whom sex might occur for the first time in the next 30 days or someone with whom sex first occurred within the last 30 days.

Manipulation Check on Perceived Similarity. Participants indicated the degree of similarity and commonality they felt with the leaders on nine point scales. These two items were averaged, and coefficient alpha was computed as a measure of internal consistency. The level of consistency was considered adequate (alpha = .76).

Attitudes Toward the Workshop. A summary evaluation measure was derived from five point scales tapping presentation style, quality of written handouts, and overall evaluation of the workshop, alpha = .92.

Knowledge. Participants were asked six questions about STDs and condom use. The format of these questions required short answer, fill in the blank responses. The questions asked about the following topics: most common STD on campus, three places where condoms are sold on campus, proper type of lubrication, proper ways to put on and remove a condom, and the value of a spermicide. The responses to these knowledge questions were scored by a coder who was "blind" to the workshop or control condition of each respondent.

Self-Reported Condom Use and Intentions with New Partners. The major dependent variables for current partners concerned self-reported condom use. One item asked if subjects had ever used a condom with their partner during the last 30 days, whereas a second measure asked about the percentage of time a condom was used during this time period. The scale points on this latter item were labeled 0 percent, 25 percent, 50 percent, 75 percent, and 100 percent. The major dependent measure for new partners consisted of two items tapping the subjects' behavioral intentions to use a condom if they had sex with a new partner in the next 30 days. These items asked about the extent to which subjects planned to use condoms, and the likelihood of their actually doing so, respectively on nine point scales, alpha = .76 at the pretest.

Auxiliary Measures. Self-efficacy was measured by four items, alpha = .74. These four items asked about the perceived difficulty of the following activities: buying condoms, discussing their use with a partner, having a condom nearby when it is needed, and putting a condom on self or partner. Two items tapped response efficacy
Table 1. Mean Attitude toward the Workshop as a Function of Workshop Format and Similarity of the Peer Leaders

<table>
<thead>
<tr>
<th>Workshop Format</th>
<th>Dissimilar Leaders</th>
<th>Similar Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informational</td>
<td>3.56</td>
<td>4.04</td>
</tr>
<tr>
<td>Activity</td>
<td>4.14</td>
<td>4.26</td>
</tr>
</tbody>
</table>

Note. Higher numbers indicate a more positive rating of the workshop.

(or the extent to which people believe condoms help to prevent STDs and pregnancy), alpha = .72. Perceptions of social norms were measured on two items, with one focused on whether friends were thought to use condoms and the other on whether college students, in general, used condoms, alpha = .75. Expected outcomes from communicating about condoms, such as embarrassment or having one's partner think one was promiscuous or had an STD, were measured on three items, alpha = .63. Perception of a sexual partner's favorability toward condoms (partner favorability) was measured on a single item with endpoints "Strongly Approve" and "Strongly Disapprove." Two related measures tapped perceptions of the approval of close friends and parents (others' favorability) and were combined, alpha = .75. Finally, a single item was used to tap the perceived risk of contracting an STD from unprotected intercourse.

RESULTS

CHECK ON THE MANIPULATION OF SIMILARITY

The index of perceived similarity to the peer educators was analyzed by a 2 (workshop activity level) × 2 (similarity) × 2 (gender of subject) analysis of variance. As expected, participants in the Similar Workshops rated themselves as having more in common with the peer educators (M = 6.80) than did participants in the Dissimilar Workshops (M = 5.05), F(1,140) = 33, p < .001. No other effects in the design achieved statistical significance.

ATTITUDES TOWARD THE WORKSHOP

As displayed in Table 1, participants rated the Active Workshops more favorably than the Information Workshops, F(1,138) = 6.24, p < .05. In addition there was a marginally significant tendency for the Similar Workshops to receive higher ratings than the Dissimilar Workshops, F(1,138) = 3.65, p < .06.

KNOWLEDGE SCORES

Preliminary analyses revealed no significant differences in knowledge at the pretest. Consequently, knowledge scores immediately after the workshop and at delayed posttest were separately subjected to analysis of covariance (ANCOVA), with pretest

2. All of the statistical analyses used the individual as the level of analysis. This type of analysis, of course, rests on the assumption that individual units were assigned to the different conditions of the experiment. As noted in methods section, this assumption was violated by our having randomly assigned small groups (on average, six persons), rather than individuals, to the various conditions. As described earlier, there is no a priori reason to suspect that this randomization procedure would introduce significant bias. In fact, none of our measures revealed significant differences between the experimental groups on the pretest. The pretest data, therefore, support the assumption of equivalence among subjects in the different groups. Nevertheless, some caution is appropriate when interpreting the findings of this study.
Table 2. Mean Self-Reported Percent Condom Use at Delayed Posttest

<table>
<thead>
<tr>
<th>Workshop Format</th>
<th>Dissimilar Leaders</th>
<th>Similar Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informational</td>
<td>38%</td>
<td>44%</td>
</tr>
<tr>
<td>Activity</td>
<td>51%</td>
<td>61%*</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td>M = 41%</td>
</tr>
</tbody>
</table>

Note. Means are adjusted for pretest scores. An asterisk signifies a significant difference with the Control Condition.

scores as the covariate. Knowledge levels did not differ significantly across the conditions of the experimental design at either point in time. However, a series of planned contrasts revealed that all four of the experimental conditions registered significantly higher knowledge than the Control Group both immediately after the workshops (Ms = 8.13 for the Experimental Groups vs. 6.18 for the Control Group) and at delayed posttest (Ms = 7.15 for the Experimental Groups vs. 5.95 for the Control Group), all ps < .05. All of the workshops, then, appear to have conveyed a significant amount of knowledge relevant to condom use.

RESPONSES TO CURRENT SEX PARTNERS

At the pretest, 80 percent of the subjects described themselves as having experienced sexual intercourse at some point in their life. Of the total sample, 46 percent reported a current sex partner at both pretest and at posttest (ns ranged between 14 and 20 across the five cells of the design). Preliminary analyses of data from those with current partners revealed no significant differences on the pretest. Consequently, a 2 (activity level) x 2 (similarity) x 2 (gender) multivariate analysis of covariance (MANCOVA) was conducted on the delayed posttest measures, using pretest scores as covariates. As predicted, this analysis revealed a significant multivariate effect of the activity variable, F(10, 29) = 2.70, p < .05. Univariate analyses indicated highly significant effects on both of the self-reported behavioral measures. Compared to participants in the Information Workshop, those in the Active Workshop were more likely to have used a condom, at least once with their current partner, in the 30 days following the workshop, F(1,38) = 20.50, p < .001. As displayed in Table 2, participants in the Active Workshop also used condoms a greater percentage of the time, F(1,38) = 7.56, p < .01. Planned comparisons indicated that frequency of condom use was significantly higher within the Active/Similar workshop, compared to the Control Group. None of the remaining workshops differed significantly from the Control Group.

Despite the fact that the activity manipulation had a strong effect on the two behavioral measures at the delayed posttest, none of the univariate tests associated with the auxiliary measures attained significance either immediately after the workshop, or at delayed posttest. Notably, perceptions of self-efficacy were not significantly affected by the activity variable. This pattern suggests that the effect of activity on condom use was not mediated by changes in variables such as self-efficacy. Besides condom use, then, the attitude toward the workshop was the only other measure to be significantly influenced by activity.

The MANCOVA on the posttest measures also revealed an interaction of similarity and gender, F(10,29) = 2.21, p < .05. This multivariate effect reflects a tendency for females to view their current partner as more favorably inclined toward condoms following exposure to the similar peers, rather than the dissimilar peers. In contrast,
Table 3. Mean Intention to Use a Condom With a New Sexual Partner at Delayed Posttest

<table>
<thead>
<tr>
<th>Workshop Format</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dissimilar Leaders</td>
<td>Similar Leaders</td>
</tr>
<tr>
<td>Informational</td>
<td>8.30</td>
<td>8.70*</td>
</tr>
<tr>
<td>Activity</td>
<td>8.73*</td>
<td>8.79*</td>
</tr>
<tr>
<td>Control</td>
<td>8.18</td>
<td></td>
</tr>
</tbody>
</table>

Note. Means are adjusted for pretest scores. Higher numbers on this nine point scale indicate more positive intentions. An asterisk signifies a significant difference with the Control Condition.

males tended to view their partner as more favorably inclined toward condoms following exposure to the dissimilar peers.

In line with Fazio's (1986) model of attitude accessibility, attitudes toward the workshop were positively correlated with condom use within the Activity Workshop, \( r(28) = .46, \ p < .05 \), but not within the Information Workshop, \( r(33) = -.10, \) ns. This finding supports research indicating that when attitudes are based on direct experience with an attitude object (as in our Activity Workshop), greater consistency is found between attitudes and behavior. The link with direct experience would be especially strong where behavior relates to current (actual) partners, as opposed to new (hypothetical) partners. Indeed, the link between attitudes and behavioral intentions toward new partners was relatively weak, regardless of the activity level in the workshop, \( rs = -.10 \) and \( .16, \) ns., within the Activity and Information Workshops, respectively.

RESPONSES TO NEW SEXUAL PARTNERS

Very few subjects had a new sexual partner during the five weeks separating the pretest and posttest. Consequently, the analysis focused on intentions to use a condom with a new sexual partner, and on the auxiliary measures. No significant differences were observed at the pretest. The measure of intentions, along with auxiliary measures, was then subjected to MANCOVA separately for the data collected immediately after the workshop and at delayed posttest. In both analyses, scores on the pretest served as the covariates. At the workshop, the only significant multivariate effect involved the variable of gender, \( F(8,122) = 2.86, \ p < .01 \) Univariate tests of gender were significant for perceptions of self-efficacy and expectations about communicating on the topic of condoms, \( Fs(1,129) = 8.52 \) and \( 6.37, \ ps < .02 \). Compared to males, females indicated that they expected to encounter greater difficulty attempting to use and communicate about condoms.

Analyses at delayed posttest indicated a significant multivariate effect of the similarity manipulation, \( F(8,112) = 2.13, \ p < .05 \). As shown in Table 3, intentions to use a condom with a new partner were significantly greater when the workshops were delivered by similar peer leaders, rather than dissimilar peer leaders, \( F(1,119) = 4.51, \ p < .05 \). Although the multivariate effect of activity level of the workshop did not approach significance, activity level did have a marginally significant effect on intentions, univariate \( F(1,119) = 3.46, \ p < .07 \). This finding is in the expected direction such that intentions to use a condom tended to be more positive in the Activity Workshops compared to the Information Workshops. Table 3 also displays the results of a series of planned contrasts comparing the experimental conditions to the Control Group. The contrasts indicate that intentions in the three workshops which featured an active workshop and/or which involved similar leaders were more positive than those in the Control Group. In sum, although
intentions were generally quite high, the overall pattern suggests the importance of both the similarity and activity variables.

**Auxiliary Measures.** Significant univariate effects of the similarity variable were found on several auxiliary measures. When the workshops were delivered by similar peer leaders, participants perceived their close friends and parents to be more supportive of condom use, perceived their peers (friends and other college students) as more frequent users of condoms, and perceived greater risks of contracting an STD from unprotected sexual intercourse, \( F(1,119) = 4.02, 4.17, 9.03, \) \( p < .05, \) respectively. Apparently, when similar peer leaders stressed the need for condom use, participants came to believe that their own reference group favored the use of condoms. In other words, similar peer leaders were able to exert influence over the perception of social norms.

At the delayed posttest we also observed a multivariate effect of gender, \( F(8,112) = 3.66, \) \( p < .001. \) Compared to males, females had more positive intentions to use condoms, perceived greater risks of unprotected sexual intercourse, and expected more negative outcomes from communicating about condoms (such as embarrassment).

**DISCUSSION**

This study represents one of the few systematic outcome evaluations of peer education in a college population. Beyond demonstrating that brief (45 minute) programs can "work," the study helps point the way toward a better understanding of the specific factors that contribute to effective peer education. The data support the importance of including activities within safer sex workshops. In the month following the workshops, self-reports of condom use with current partners were significantly higher in the Activity Workshops than in the Information Workshops. The similarity of the peer leaders also mattered, such that participants in workshops led by similar peers expressed more positive intentions to use condoms with new sexual partners.

**ACTIVE PARTICIPATION IN THE WORKSHOP**

A straightforward explanation for the effect of activity would be in terms of increased self-efficacy. That is, perhaps participants in the Activity Workshop began to believe that it is easier for them to use condoms. However, the manipulation of activity level did not produce differential perceptions of self-efficacy. Thus, it appears that the activity variation in our study exerted its influence through some other mechanism than self-efficacy (at least as self-efficacy was measured in this study).

A more compelling explanation for the impact of activity level is that a self-persuasion process is at work. The key difference between the Activity and Information Workshops may involve the process of effort justification. Active involvement in such exercises as generating explanations for how STDs can be avoided and role-playing the negotiation of safer sex is much more effortful than simply watching the workshop leaders go through the exercises. Self-persuasion theories suggest that voluntary effort expenditure can result in a state of dissonance or self-perception that could be expressed in more positive attitudes toward the workshop and changes in intentions and behavior. The fact that attitudes
toward the workshop were more positive in the Active Workshop than in the Information Workshop is consistent with this position.

This perspective also helps to explain the correlational relationships we observed between attitudes and behaviors. Fazio (1986) suggests that attitudes that are based on direct experience with an attitude object are more strongly linked to the attitude object and are likely to guide future behavior. Indeed, within the Activity Workshop, attitudes toward the safer sex workshop and frequency of condom use with current partners were positively correlated. Yet, within the Information Workshop, no correlation was observed. It is possible that attitudes about condoms formed in the Activity Workshop were more likely to come to mind in sexual situations with the current partner (Norris & Devine, 1992). Once these relatively positive attitudes were brought into working memory, they would be likely to guide behavior. We hope future research will explore this hypothesis more directly.

SIMILARITY TO THE PEER LEADERS

Before discussing similarity from a theoretical standpoint, possible alternative interpretations of the similarity manipulation should be noted. By mentioning Magic Johnson, the similar condition may have inadvertently increased the perceived threat of STDs. In addition, the dissimilar condition may have been confounded with a religious message. Such confounds might be responsible for findings described above for the similarity manipulation. However, two points should be considered. First, we included a measure of perceived similarity as a check on our manipulation of similarity, and analysis of this measure indicated a very reliable effect in the intended direction. Second, if the observed effects of the similarity manipulation in this study were influenced by factors other than similarity, these effects should remain when the influence of perceived similarity is statistically controlled. To investigate this possibility, we repeated the major analyses, with the addition of perceived similarity as a covariate. This analysis revealed that all of the statistically significant findings noted above for the similarity manipulation, including the effect on intentions to use condoms, were reduced to nonsignificance once perceived similarity was statistically controlled. Thus, it appears that the effects attributed to the similarity manipulation were indeed mediated by perceived similarity.

Why might perceived similarity be important in a safer sex workshop? One possibility is that workshop participants learned more information, or felt increased self-confidence about condom use after exposure to similar models. However, measures of knowledge gain and self-efficacy did not differ as a function of the similarity manipulation. Instead, similar peer leaders appear to have been successful in this study because they altered the perception of social norms. Specifically, participants exposed to similar peer leaders perceived more support for condom use among their friends and family, and they increased their estimate of the frequency with which other college students used condoms. In essence, similar peer leaders can become role models, allowing them to shape the perception of social norms.

We also found some evidence of gender differences among our workshop participants. Compared to males, females were more concerned about the risks of unprotected sexual intercourse and, perhaps as a result, held more positive intentions to use condoms. Compared to males, females also anticipated a more
negative reaction to initiating a conversation about condoms. These differences are consistent with traditional sex-roles in our culture such that as women tend to be more sexually conservative.

It is important to note that our study utilized a limited number of behavioral measures. Also, behavioral measures based on self-report may be biased (Catania, Gibson, Chitwood, & Coates, 1990). Had we included other indices such as condom purchases, greater confidence could be placed in our findings. Future studies should also track other aspects of safer sex, including the number of sex partners over time. The present study followed participants for only one month after the workshop, making it impractical to employ such measures. An extended frame of measurement could also determine if self-reported behavioral changes are maintained over time.

Our attempt to isolate and manipulate the variables of activity and similarity must be viewed as preliminary. These variables each contain multiple facets, and it is not clear which particular aspects of each variable were responsible for the findings we have reported. Finally, the participants in our study were college students, the majority of whom are middle class, heterosexual, and do not inject drugs. Other populations that are at higher risk for exposure to HIV infection may be less responsive to the variables we investigated.

REFERENCES


