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HIV PREVENTION AND HETEROSEXUAL COLLEGE STUDENTS:
THE IMPACT OF VIDEO INSTRUCTION ON
THE "SAFER" SEXUAL BEHAVIORS OF
SEXUALLY ACTIVE MEN

by

Cheryl L. Knight

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Philosophy
Department of Psychology

Western Michigan University
Kalamazoo, Michigan
December 1994

HIV PREVENTION AND HETEROSEXUAL COLLEGE STUDENTS:
THE IMPACT OF VIDEO INSTRUCTION ON
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SEXUALLY ACTIVE MEN

Cheryl L. Knight, Ph.D.

Western Michigan University, 1994

Despite increasing evidence of the heterosexual transmission of the human immunodeficiency virus (HIV) among young adults, research with college students has been primarily restricted to descriptions of the levels of risky behavior and the correlates of that behavior. To date, few experimentally validated HIV prevention programs have been reported. Furthermore, the existing experimental investigations have seldom based an intervention on a thorough analysis of the barriers to the practice of safer sex.

Experiment One surveyed 195 heterosexual college students to assess HIV risk factors, including sexual behavior, risk perception, knowledge and 10 barriers to the consistent practice of "safer" sex. The results of Experiment One showed that heterosexual college students reported high levels of sexual intercourse, thus placing them at risk for the sexual transmission of HIV. An analysis of barriers to the consistent practice of "safer" sex showed that men most frequently reported two

barriers related to attitudes that "safer" sex practices reduced the erotic value of sexual intercourse. The top barrier cited by females was the belief that they would not contract a sexually transmitted disease.

Based on these results, two versions of a "safer" sex video for heterosexual males were developed and experimentally evaluated. One version provided verbal instructions about how to use condoms and erotically incorporate them into sexual activity. The second version was identical to the first, but incorporated sexually explicit video clips to model the erotic techniques discussed in the video. Subjects included 80 male, heterosexual, college students, randomly assigned to one of the two video conditions or a control group.

Analysis of self-reported barriers and sexual behaviors showed minimal changes between and within groups as a function of viewing the video tapes. These results suggest the need to consider alternative interventions (e.g., multicomponent interventions) to increase "safer" sexual behavior and decrease "risky" sexual behavior. Despite the limited impact of the intervention, the ranking of barriers to the practice of safer sex provides some guidance as to which factors might be prioritized in efforts to promote "safer" sex.

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Western Michigan University, 1994

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CHAPTER I

EXPERIMENT ONE: INTRODUCTION

Cohen (1993) reported that the development of a cure or treatment for Acquired Immune Deficiency Syndrome (AIDS) and a vaccine for the Human Immunodeficiency Virus (HIV--the virus implicated in the development of AIDS) did not appear likely in the near future. Even with viable treatments, vaccines or cures, Coates (1990) has suggested that HIV transmission will remain a threat to a significant portion of the population. To support his position, he stated,

Despite effective, inexpensive, and easily delivered technologies for treating many sexually transmitted diseases (STDs), epidemics of gonorrhea, chlamydia, herpes, hepatitis, venereal warts, and primary syphilis have rages in recent years, especially among ethnic minorities and young persons. (p. 57)

In light of these considerations, it appears that AIDS and HIV infection remain--and will remain--a threat to those who engage in behavior that allows the exchange of blood, semen and vaginal fluids (Francis & Chin, 1987).

Of the possible routes for HIV transmission (i.e., sexual intercourse; shared syringes; perinatal transmission; etc.), many authors (e.g., Carballo, Cleland, Careal & Albracht, 1989) have suggested that the most

common avenue of HIV transmission is sexual intercourse. Other than abstinence, the use of latex barriers, such as condoms or dental dams, in combination with a lubricant containing nonoxynol-9,¹ provides the most effective method of preventing HIV transmission during sexual intercourse (Centers for Disease Control and Prevention [CDC], 1986). Therefore, the consistent practice of safer sex behavior² remains essential for many sexually active people.

Seroprevalence-Based Identification of At-Risk Populations

A review of the literature shows that a substantial body of descriptive research has been conducted with heterosexual college students. Unfortunately, little of this research has focused upon determining specific factors which place students at risk for the sexual transmission of HIV. In addition, even fewer investigations have used such a data-based approach to design and then evaluate interventions. Some of this inattention may have resulted from the fact that many of the early HIV prevention efforts focused on crisis-intervention for populations with the highest incidence of AIDS diagnoses (Kelly & St. Lawrence, 1987; Poppen & Reisen, 1994). From this perspective, college students do not represent a major target for intervention. According to the Cen-

ters for Disease Control (CDC, 1994), the adolescent (ages 13-19) and young adult (ages 20-24) populations, which include college students, account for comparatively low proportions of AIDS diagnoses (i.e., 0% and 4%, respectively, during 1993).

St. Lawrence (1993) incorporated a more sophisticated use of seroprevalence data to identify populations in need of HIV prevention. She cited the 10 year latency between HIV infection and AIDS diagnosis. She then used data on AIDS diagnoses for persons in their twenties, to assess rates of initial HIV infection in the adolescent population. Using St. Lawrence's (1993) approach, assessment of HIV infection during college years (roughly 18-24 years of age) requires inspection of the data showing persons diagnosed with AIDS in the CDC age categories of 25-29 and 30-34 (CDC, 1994). This approach suggests that the 38% of persons diagnosed with AIDS in 1993, acquired their HIV infections during age ranges that include college students. Furthermore, in 1993, these two age categories combined (i.e., 25-29 and 30-34) accounted for 41% of the diagnosed AIDS cases classified as resulting from heterosexual contact. Using seroprevalence data from this perspective suggests a more thorough investigation of HIV risk among young, heterosexual adults, including college students.

Behavior-Based Identification of At-Risk Populations

An alternative method for assessing risk of HIV infection investigates the prevalence of behaviors implicated in HIV transmission. Poppen and Reisen (1994) suggested that, despite comparatively low rates of HIV infection, many heterosexuals engage in behaviors which place them at risk of HIV transmission. As one example, they cited research with heterosexual college students showing high rates of risky behavior, with little evidence of the behavior changes reported in the gay and bisexual male communities (Becker & Joseph, 1988; Catania et al., 1991).

Several studies (e.g., Baldwin & Baldwin, 1988; Gray & Saracino, 1989; MacDonald et al., 1990; and Mickler, 1993) have reported that anywhere from 69% to 80% of college students have a history of sexual intercourse. Unfortunately, these studies also reported low rates of condom use. For example, Mickler (1993) reported a mean of 52.6% condom use during sexual intercourse. Baldwin and Baldwin (1988) reported that less than 20% of sexually active students said they used condoms for 75% or more acts of intercourse. The behaviors reported in these studies identify a substantial segment of the heterosexual college student population as being at-risk for the sexual transmission of HIV.

A few authors (Butcher, Manning & O'Neal, 1991; MacDonald et al., 1990) have placed emphasis on multiple sexual partners as an indicator of risk of HIV-transmission. A survey of heterosexual college males reported that 14.4% of the respondents had more than one sexual partner during the previous month (Baffi, Schroeder, Redican & McCluskey, 1989). However, reliance upon this factor as a sole indicator of risk may result in underestimates. Students reporting only one partner may have a sexual partner who has had multiple partners. Furthermore, the person reporting a single partner may not possess accurate knowledge about the partner's history. Research has suggested that college students frequently misrepresent their sexual histories to their sexual partners (Cochran & Mays, 1990). In addition to accurate knowledge of their partners' sexual histories, sexually active college students also require accurate information about a sexual partner's history of injecting drug use or use of blood products. Given these considerations, even students reporting a single, lifetime sexual partner may be at risk for HIV transmission. Therefore, behavioral measures of unprotected intercourse may provide better behavior-based information about HIV risk.

Factors Associated With the Practice of Safer Sex

Knowledge

Several authors have surveyed college students to assess their knowledge about HIV prevention. Baldwin and Baldwin (1988) concluded that the majority of students surveyed possessed "relatively accurate" knowledge about HIV transmission. Of the students who answered 19 questions about HIV transmission, 54% correctly answered 15 or more questions. Other researchers have reported similar results and made similar conclusions (Delene & Brogowitz, 1988; Fan & Shaffer, 1990; Gray & Saracino, 1989; Katzman, Mulholland & Sutherland, 1988; Manning, Barenberg, Gallese & Rice, 1989; McDermott, Hawkins, Moore & Cittadino, 1987; and Thurman & Franklin, 1990).

Investigations of a potential relationship between knowledge and the safer sex behavior of college students, however, have produced conflicting results. Two studies reported no relationship between knowledge and risky or safer sexual behavior (Gray & Saracino, 1989; Mickler, 1993). However, Baldwin and Baldwin (1988) found a relationship between knowledge and safer sex behavior. Unfortunately, students with more knowledge tended to practice less safer sexual behavior.

A review of the knowledge items sampled by these and other surveys may explain some of these results. As

demonstrated by the questions used by Manning et al. (1989), knowledge items typically fit into five basic categories: (1) knowledge about the symptoms and progression of HIV infection and AIDS (e.g., "AIDS is a medical condition in which the body cannot fight off disease," p. 257), (2) advances in medical research (e.g., "A person can take a blood test to see if he or she has been exposed to AIDS," p. 257), (3) HIV epidemiology (e.g., "Only gays and drug abusers can get AIDS," p. 257), (4) knowledge about HIV transmission through casual contact (e.g., "Just being around someone with AIDS can give you the disease," p. 257), and (5) knowledge about established routes of HIV transmission (e.g., "Using a condom [rubber] during sex can lower the risk of getting AIDS," p. 257). Of these categories, only one (i.e., knowledge about established routes of HIV transmission) relates directly to the consistent practice of safer sex. Given this global approach to assessing knowledge, these measures for assessing knowledge about HIV (e.g., Manning et al., 1989; etc.) seem insufficient for concluding that college students possess adequate knowledge about safer sex. Similarly, hypotheses regarding a relationship between knowledge about HIV/AIDS and the practice of safer sexual behaviors would not appear adequately addressed by these measures. Therefore, conclusions about the degree of knowledge college students

possess, and relationships between knowledge and safer sex, appear premature.

Attitudes About Condom Use

Several studies with various populations have reported statistically significant relationships between attitudes about condoms and condom use. Some of these studies found relationships between greater condom use and measures such as greater perceived enjoyment of condoms (Catania et al., 1989), greater perceived acceptance of condoms (Valdiserri et al., 1988), and greater anticipated sexual pleasure when using condoms (Catania et al., 1991). These relationships provide the potential for hypothesis generation and experimental evaluation. However, several problems arise when attempting to summarize this descriptive literature. The basis for many of these complications seems related to inconsistent approaches for measuring and analyzing attitudes toward condom use.

While some authors have provided sufficient detail about the content of items and the measurement scales they used (e.g., DiClemente et al., 1992; O'Leary, Goodhart, Jemmott & Boccher-Lattimore, 1992; and Pendergrast, DuRant & Gaillard, 1992), other authors have provided less complete descriptions. For example, Wulfert and Wan (1993) reported using an unspecified

number of items to assess attitudes, taken from their 20 item, general assessment of HIV issues. Pleck, Sonenstein and Ku (1991) did not specify the rating scale used for attitude items. As a result of this incomplete dissemination of information, many of these studies present limited opportunities to evaluate results and conclusions in terms of assessment instruments.

With respect to the content of attitude items, some authors have collected data on attitudes about condom use based upon a construct such as "perceived costs" of condom use (DiClemente, 1992). Using this construct approach, DiClemente et al. (1992) analyzed their data based upon a composite score reflecting the "perceived costs" of condom use. The composite score was the sum of ratings on six items that could be variously described as attitudes (i.e., "having to stop sex to put on a condom takes the fun out of sex", p. 198), beliefs (i.e., "sex partners often disagree about whether or not to use condoms", p.198), or self-report of insufficient knowledge (i.e., "choosing which kind of condom to buy can be confusing", p.198). However, Geringer, Marks, Allen & Armstrong (1993) assessed attitudes toward condoms without any apparent reference to a complex construct. As a result, they analyzed items individually. Their measures assessed condom enjoyability, use of condoms to prevent pregnancy and reasons why participants would not use con-

doms. While both approaches constitute viable avenues of research methodology, they limit cross-study comparisons.

As this sampling of the research suggests, a number of complex issues prohibit a clear summary of the attitude and condom use literature. Furthermore, as with all descriptive studies, it remains impossible to determine the direction of causality--if any--between attitudes toward condoms and condom use. To date, no research has attempted to systematically manipulate either attitudes or condom use and assess change in the target variable. As a result, the use of this descriptive research on attitudes and condom use remains limited to generating a diverse set of hypotheses for experimental investigations.

Perceived Vulnerability

Extrapolating from literature which showed relationships between perceived risk and change in a number of health-related behaviors, a number of authors have investigated the role of perceived risk or vulnerability to HIV infection and behavior change (Joseph et al., 1987). At least one study (Mickler, 1993) has suggested that college students underestimate their risk of contracting an HIV infection. However, Mickler (1993) found no relationship between "perceived AIDS vulnerability" and condom use. Although Carroll (1988) found a relationship

between concern about AIDS and reported alterations in risk-reduction behavior, this relationship did not persist when he collected an independent measure of risk behavior. Therefore, research examining the relationship between perceived risk and safer sex behavior remains inconclusive.

Alcohol and Drugs

A number of studies have provided evidence that college students engage in a substantial amount of experimentation with alcohol and other drugs (Delene & Brogowicz, 1988). Two studies have demonstrated relationships between the use of drugs during sexual activity and less consistent condom use (O'Leary et al., 1992; Valdiserri et al., 1988). One of these studies (O'Leary et al., 1992) used college students as participants. These results suggest the potential for drug use and a relationship between drug use during sex and less consistent condom use. Therefore, additional descriptive and experimental research exploring these factors could provide valuable information for the development of HIV prevention programming. If experimental research further substantiates the role of drug use in HIV prevention behavior, it could well lead to a combination of HIV and drug abuse prevention programming.

Assertiveness

Catania et al. (1989) reported the results of a survey with adolescent women that showed a relationship between a greater willingness to ask a partner to use a condom and greater condom use. The authors interpreted this relationship as one between better communication skills and increased condom use. Unfortunately, this study relied upon the self-report of assertiveness as the solitary measure of communication skills.

Some authors have recommended the incorporation of communication skills into multi-component HIV prevention programs (e.g., Boyer & Kegeles, 1991; Kelly & Murphy, 1992). Therefore, additional investigation of such a relationship could add to hypotheses about the effectiveness of communication skills components within multi-component interventions. However, such descriptive research could improve upon the existing literature by using an analogue measure of communication skills, rather than relying upon self-report.

Summary

A substantial body of research has explored relationships between several factors and more consistent condom use. A number of methodological concerns limit the interpretation of these studies. Perhaps more impor-

tantly, these descriptive studies appear limited in their contributions to intervention development. Although these descriptive studies provided an important function early in the AIDS epidemic, current needs to develop HIV-prevention programming require more specific information. For example, general knowledge about HIV/AIDS is well established. Knowledge specific to practicing safer sex is not well documented.

In addition to the need for more specific investigation, research needs to address the possibility that additional factors may play a role in HIV-prevention. To date, no study has collected self-report data from heterosexual college students to assess a number of factors which could interfere with the consistent practice of safer sex.

Experiment One expanded upon the previous descriptive research with heterosexual college students. It assessed specific information in a number of areas relevant to the development of HIV-prevention programming. Students were asked to provide self-report information on the following variables: (a) sexual behavior, (b) HIV risk perception, (c) HIV/AIDS knowledge, (d) sexual health information sources, (e) attendance at university sexual health programs, and (f) ratings of ten potential barriers to the consistent practice of safer sex.

Endnotes

1. At the initiation of Experiments One and Two, the CDC, as cited above, recommended the use of nonoxynol-9 in combination with latex condoms. Since that time, research on the use of nonoxynol-9 demonstrated the development of genital ulcers and vulvitis (Kreiss, et al., 1992) and epithelial disruption of the cervix and vagina (Niruthisard, Roddy & Chutivongse, 1991). In 1993, the Centers for Disease Control and Prevention (1993) modified its recommendations for HIV prevention, with less emphasis on the use of nonoxynol-9.

2. In this paper, the terms "safer" and "risky" distinguish between sexual behavior with and without the use of a latex barrier, respectively. Unless otherwise specified, "sexual behavior" refers to the following types of contact which allow the exchange of bodily fluids: penis to vagina or anus; and mouth to penis, vagina or anus. As evinced by the results of Experiment One, these definitions address the majority of "safer" and "risky" sexual behavior for participants in this research. In addition, the independent variables in Experiment Two target the use of latex barriers during oral, anal or vaginal intercourse to reduce the transmission of HIV. Therefore, other forms of safer and risky sex remain beyond the scope of this investigation.

CHAPTER II

EXPERIMENT ONE: METHOD

Subjects

I obtained a randomly generated list of names and addresses of 600 undergraduate students enrolled at Western Michigan University (W.M.U.). Of this number, 75 students did not have local addresses and were omitted from the mailing. This left a total of 525 surveys mailed to students with local addresses. Approximately 37% ($n = 195$) of the students completed and returned the surveys.

Of the surveys returned, first year students accounted for 57% ($n = 111$) of the completed surveys. Sophomores (11.8%), juniors (12.8%) and seniors (18.5%) completed the remaining surveys. Female students comprised slightly more than half (59%) of the respondents. The majority of the students identified themselves as white (93%) and heterosexual (97%).

The survey asked that only sexually active students respond to questions about safer sex behavior. Following this instruction, 70.8% of the students ($n = 138$) completed items asking about barriers to the consistent

practice of safer sex. Of the respondents completing this portion of the survey, 63.5 % ($n = 88$) were females.

Procedure

The surveys were mailed with instructions to complete and return them anonymously. Respondents also received stamped, self-addressed envelopes for returns. As an incentive to complete and return surveys, students were offered entry into a \$50.00 lottery. To protect the confidentiality of participants, students wishing to participate in the drawing returned a postage paid card under separate cover from their completed surveys.

W.M.U. Student Sexual Health Survey

All participants completed a paper and pencil survey--the W.M.U. Student Sexual Health Survey. This survey contained items about student sexual behavior, HIV risk perception, HIV/AIDS knowledge, sources of information about sexual health and attendance at university sexual health programs. Moreover, the survey assessed 10 potential barriers to the consistent practice of safer sex. (See Appendix A for a copy of the survey in its entirety.)

Data Analysis

I analyzed the results from the survey using Statis-

tical Package for the Social Sciences (SPSS, Inc., 1991).

Descriptive statistics provided information on the variables discussed above.

CHAPTER III

EXPERIMENT ONE: RESULTS

Risk Behavior

A minority of students (18.2%, $n = 35$) reported no oral, anal or vaginal intercourse during their lifetimes (see Figure 1). The remaining students reported various histories of sexual intercourse. Information about sexual activity during the previous month showed that 55.9% of the survey respondents participated in one or more acts of unprotected oral, anal or vaginal intercourse. Students with a history of sexual intercourse also estimated their use of condoms during all forms of sexual intercourse (see Figure 2). Only 16% said that they used condoms "all of the time (100% of the time)."

Of the 195 respondents who completed the survey, 126 (64.6%) reported having one or more sexual partners during the previous month. The majority of the respondents who reported having a sexual partner (79.0%, or 111 out of 126), reported only one partner during the previous month. The remaining fifteen of these respondents (11.9%) reported from two to nine sexual partners during the previous month. Eight males and seven females re-

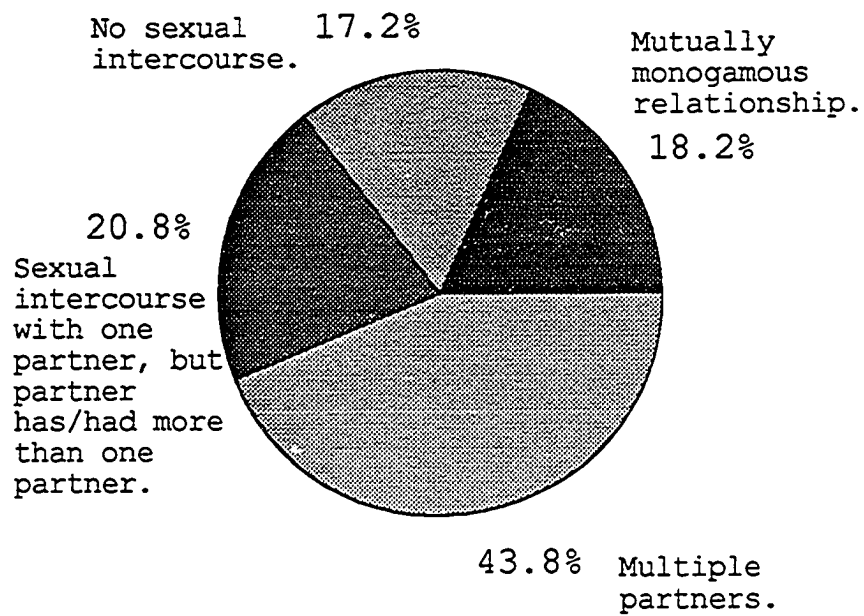


Figure 1. Reported History of Sexual Intercourse.

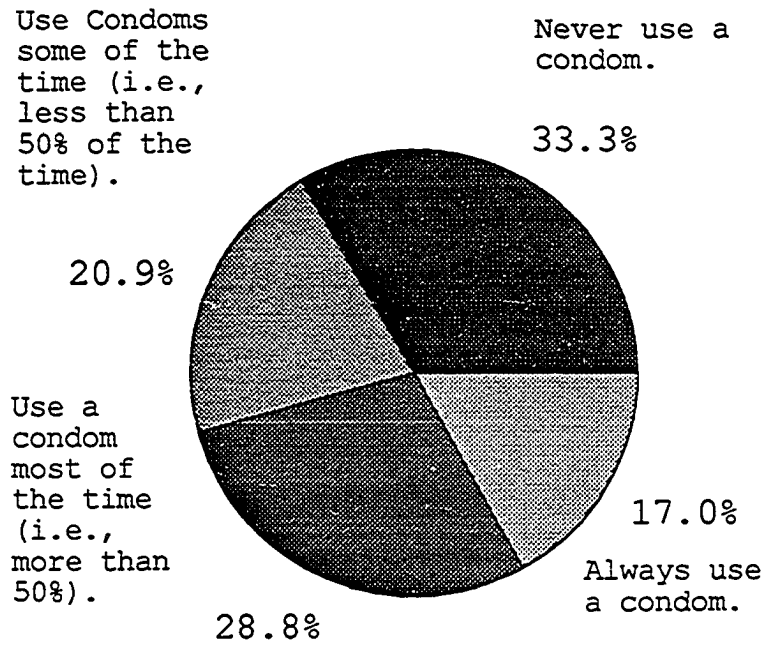


Figure 2. Estimated Percentages of Condom Use.

ported multiple partners. No respondents reported sexual behavior during the previous month with a partner who might be sharing needles to inject drugs. One respondent reported one instance of sharing needles during the previous month.

HIV Risk Perception

Two items asked students to rate the degree to which they perceived their chances of HIV infection, at present and in the future (See Figure 3). Nearly two thirds of the respondents reported that their current risk of HIV infection was "zero%". The percentage of respondents estimating a "zero" chance of HIV infection in the future decreased somewhat, from 62.1% ($n = 121$) reporting a current risk of "zero" to 48.2% ($n = 94$) reporting a future risk of "zero". A substantial number of students also rated their current risk of HIV infection using the "1-25%" category. Approximately one third of the respondents indicated this chance of risk at the present. Slightly more respondents (41.3%) estimated this degree of risk in the future. Estimates in the remaining three categories of current and future risk (i.e., "26-50%"; "51-75%"; and "76-100%") were minimal.

Chi square tests of independence were conducted on dichotomous variables, between the report of risky behavior in the past month (i.e., no risky behavior or one or

Number of Responses

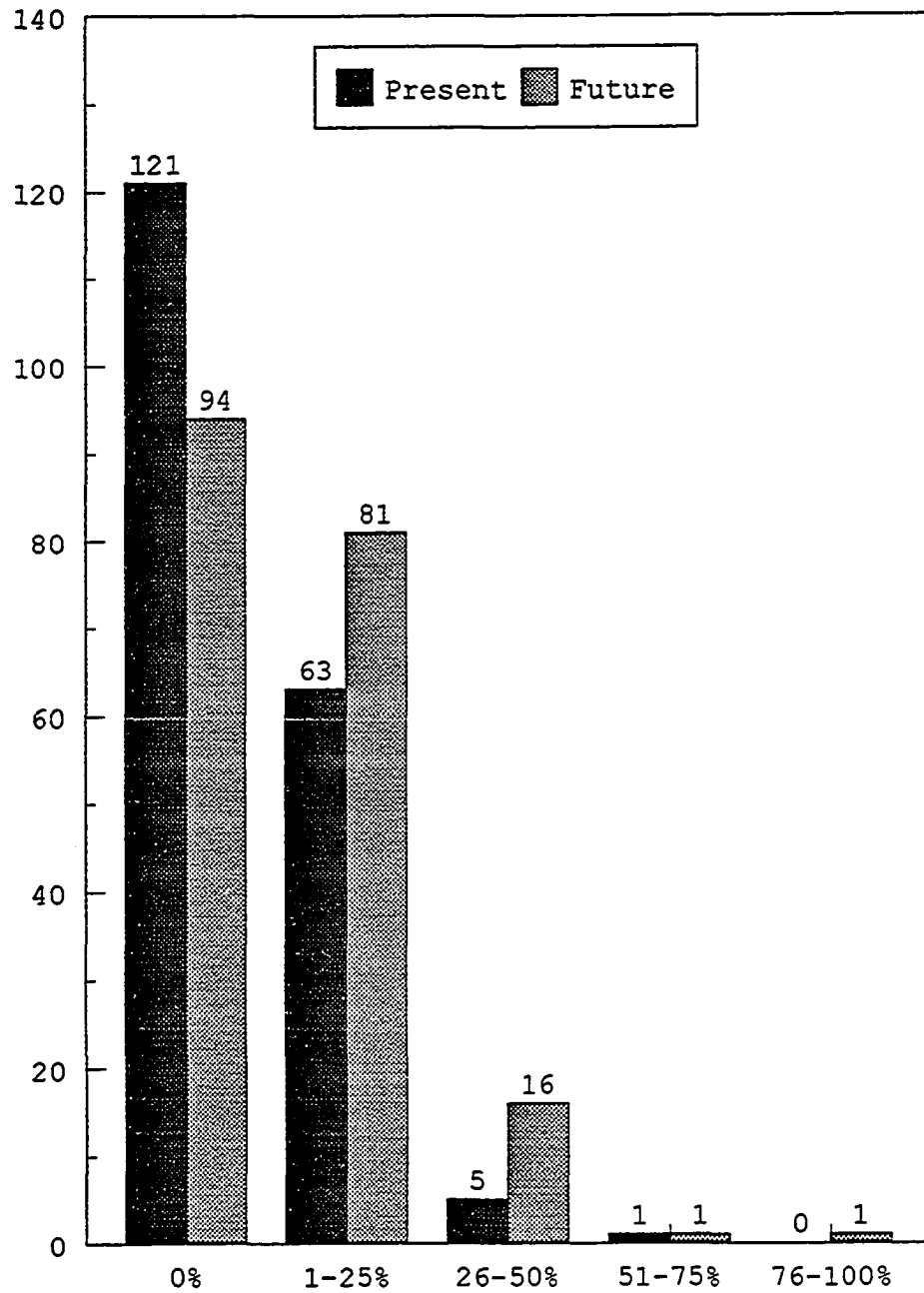


Figure 3. Perceived Chances of HIV Infection.

more act of risky behavior) and an estimate of risk (zero risk or range of 1% to 100% risk). Results showed that respondents with one or more acts of risky behavior were more likely to report a chance of current HIV infection (i.e., range of 1% to 100% risk) than were respondents reporting no risky behavior, $\chi^2 (1, N = 190) = 8.56, p < .05$. No significant relationship was found between risky behavior and estimated future risk of HIV infection.

HIV/AIDS Knowledge

Nineteen true or false items assessed general information about HIV/AIDS knowledge. Figure 4 shows the six items most frequently answered incorrectly. The mean number of correctly answered items equalled 15.5 (i.e., 81.6% correct). The most frequent errors occurred on the following three items:

1. "Applying a condom to an uncircumcised penis is just the same as applying one to a circumcised penis," (74.6%, $n = 141$, incorrect).
2. "In laboratory tests, the active ingredient in spermicide does not kill HIV," (72.6%, $n = 138$, incorrect).
3. "According to some studies, AIDS is likely to be one of the leading causes of death for American women of childbearing age, by 1991," (55.7%, $n = 108$, incorrect).

Percent of Respondents Who Incorrectly Answered Item

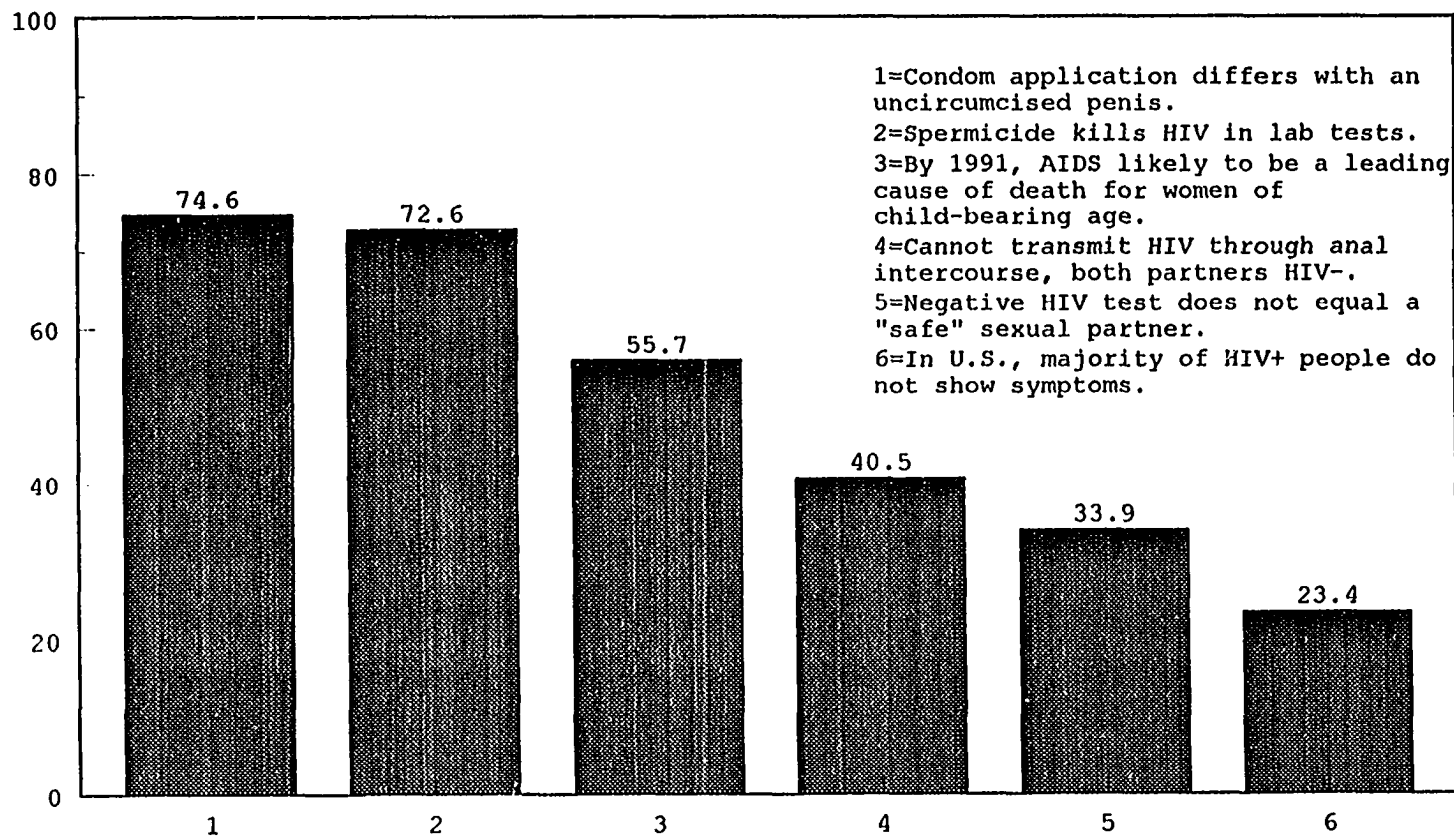


Figure 4. Percent of Respondents Who Incorrectly Answered the Six Most Frequently Missed Knowledge Items.

Sources of HIV Information

Using a five point scale (1 = Extremely important; 2 = Somewhat important; 3 = Somewhat unimportant; 4 = Extremely unimportant; 5 = Never use information from this source.), students rated the degree to which eight sources of information contributed to their knowledge about sexual health. For purposes of analysis, I combined responses from the categories "extremely" and "somewhat important" (see Figure 5). "Magazines" received the greatest percentage of ratings (67.7%, $n = 132$), followed by "talking to friends my own age" (63.0%, $n = 123$). Presentations at a community agency received the least percentage of combined "important" ratings (37.0%, $n = 72$).

Attendance and Use of University-Based HIV Prevention Programming

At the time of the survey, W.M.U. HIV/AIDS education programs primarily involved mailing an informational brochure to all incoming students and a number of informational presentations on campus. Of the 70 respondents who reported reading some or all of the brochure, 45.7% ($n = 32$) said that they intended to make changes in their behavior to protect themselves from HIV, and 36.8% ($n = 25$) reported already making those changes (see Figure 6).

These percentages increase slightly for 95 respondents

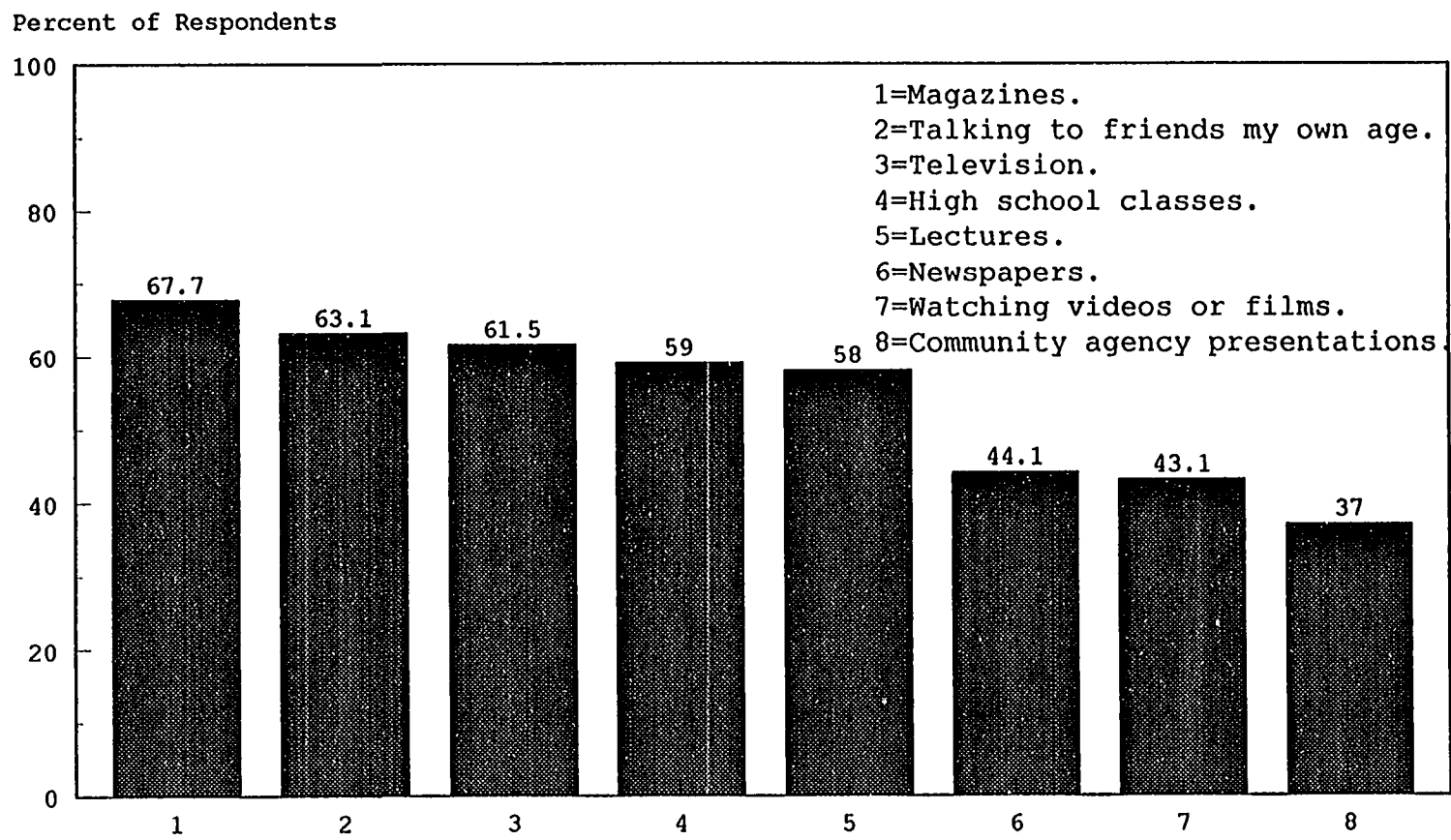


Figure 5. Percent of Respondents Reporting Sources of Sexual Health Information As "Extremely" or "Somewhat Important."

Percent Of Affirmative Responses

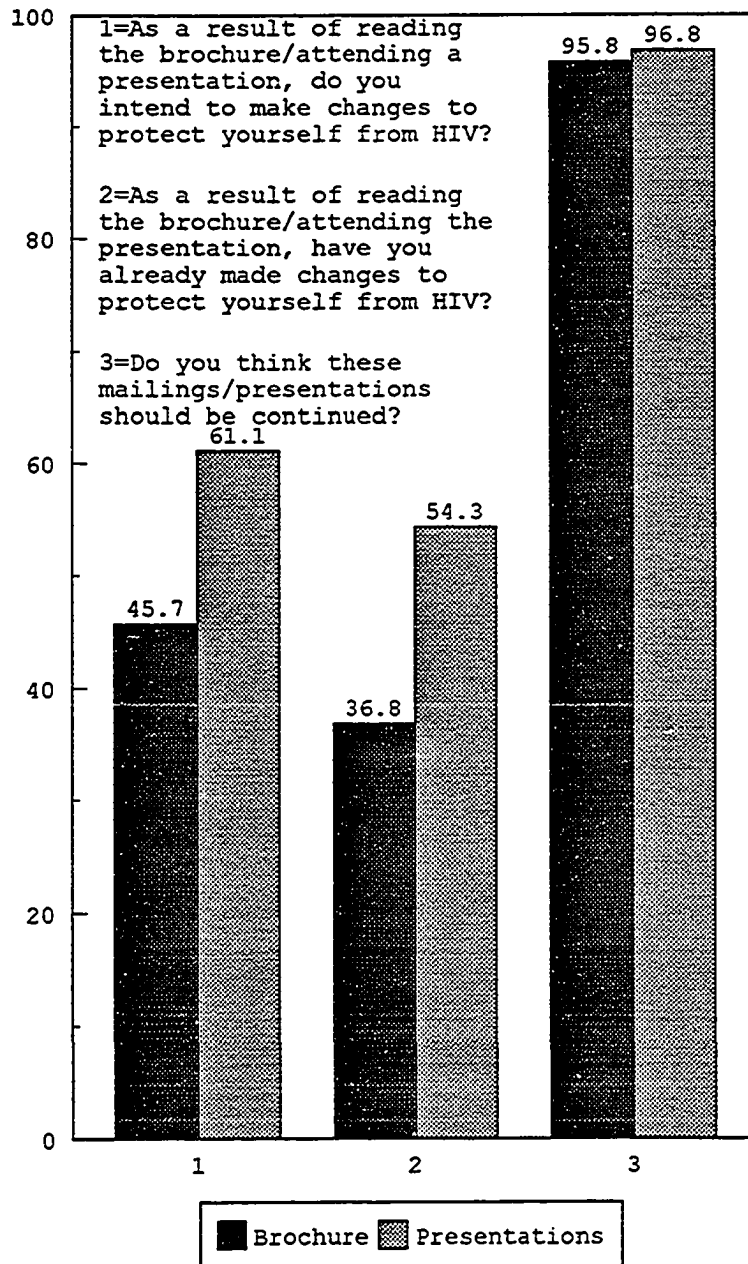


Figure 6. Responses of Recipients of University Interventions: Brochures and Presentations.

attending university presentation. Of these respondents, 61.1% ($n = 58$) reported an intent to make changes to protect themselves from HIV (see Figure 6). Additionally, 54.3% ($n = 51$) reported already making some changes. Almost all of the respondents receiving brochures and attending university presentations said that the university should continue these services.

Barriers to Safer Sex

Sexually active students rated ten potential barriers to the consistent practice of safer sex. Each respondent rated these ten barriers on a four-point scale, indicating that the barrier either: (1) "never prevents me from practicing safer sex," (2) "occasionally prevents me from practicing safer sex," (3) "frequently prevents me from having safer sex," or (4) "always prevents me from having safer sex." For purposes of visual analysis, I summed all the responses reporting that a barrier "occasionally", "frequently" or "always" prevented consistent safer sex. These responses showed some differences between genders (see Figure 7). After ranking the responses from most frequently reported to least frequently reported barrier, male and female students differed in the top two reported barriers. Male students most frequently reported the following two barriers:

1. "I think that using condoms decreases the plea-

Percent of Responses

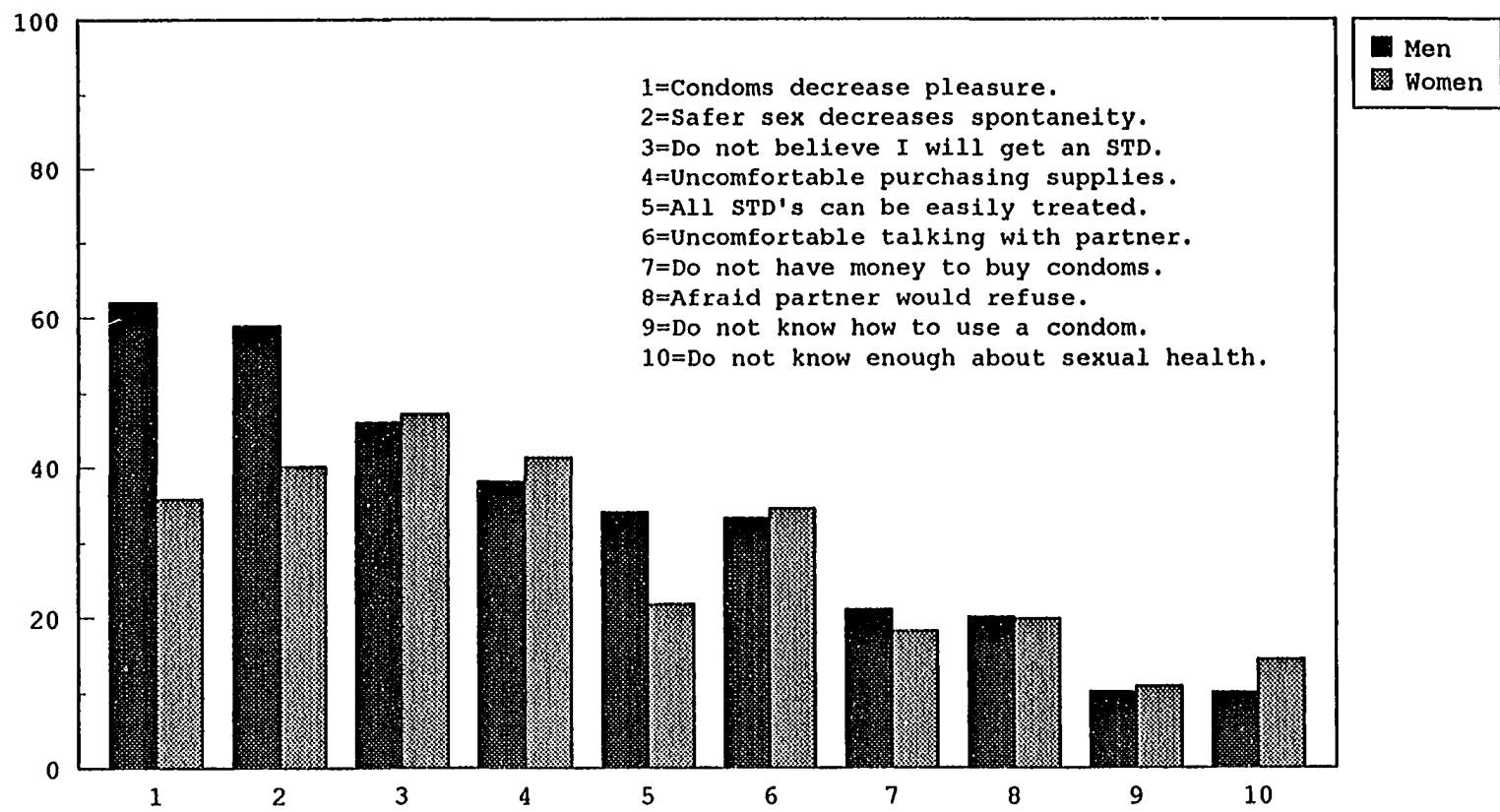


Figure 7. Percent of Respondents Reporting That Barriers "Always," "Frequently" or "Occasionally" Interfere With Consistent Safer Sex.

surable sensations of sex" (62.0%, $n = 31$).

2. "I think that safer sex practices interfere with the spontaneity of sex" (58.9%, $n = 30$).

Female students most frequently reported:

1. "I do not really believe I will get an STD" (47.1%, $n = 41$).

2. "I am uncomfortable about purchasing condoms or other supplies" (41.2%, $n = 30$).

Although a greater percentage of males reported that decreases in the erotic quality of the safer sex experience (i.e., decreased sensations and spontaneity) prevented consistent safer sex practices, sizeable portions of the female students also cited these barriers. These barriers constituted the third and fourth most commonly reported barriers to consistent safer sex among female students. Approximately 40% ($n = 35$) said that safer sex reduced spontaneity. Slightly less (i.e., 35.7%, $n = 30$) reported that condoms decreased pleasurable, sexual sensations.

CHAPTER IV

EXPERIMENT ONE: DISCUSSION

Risk Behavior

As suggested by previous surveys, the results of this study show that a substantial number of heterosexual college students place themselves at varying degrees of risk for HIV transmission through sexual contact. According to students' reports, 55.9% ($n = 109$) participated in at least one episode of unprotected sexual intercourse (oral, anal or vaginal) in the previous month. Only 17% ($n = 26$) of the sexually active students said that they used condoms for every episode of sexual intercourse.

The report of sexual activity and the use of latex barriers permits identification of students at varying degrees of HIV transmission risk. The 18.2% ($n = 35$) of the respondents who did not report a history of sexual intercourse represent the only individuals in this sample who are clearly not at risk for the sexual transmission of HIV. The 17.2% ($n = 33$) of the respondents who reported sexual intercourse within a mutually monogamous relationship can be considered at minimal risk of HIV

infection. Unfortunately, risk cannot be assumed to be zero because their partners may be infected with HIV. These partners might not know about their own HIV infection, or might misrepresent their HIV statuses. The 64.6% ($n = 124$) of students reporting either multiple partners or a single partner with a history of multiple partners, represent the proportion of students most at-risk for the sexual transmission of HIV.

Several additional survey items requested information about risk behaviors during the previous month. Only 15 respondents reported being at risk of HIV transmission through having multiple partners. Of these 15 respondents, no pattern emerged in terms of gender (i.e., seven females, and eight males). Furthermore, only one respondent reported one instance of sharing needles, and no respondents reported sexual intercourse with a partner who might have shared needles. Given this report of risk behaviors during the previous month, these college students do not appear to be at great risk of HIV transmission through multiple sexual partners, through sharing needles or through sexual activity with a partner who might have shared needles. Based upon the information gathered in this survey, the primary avenue of HIV transmission with this sample of students appears to be through the practice of sexual intercourse without the use of latex barriers.

HIV Risk Perception

The number of students reporting no chance of current HIV infection decreased from 121 respondents to 63 respondents, when asked about their perceived future risk of infection. This suggests that at least some students acknowledge the possibility for future HIV infection. The statistically significant relationship between reported risky behavior and the report of a greater than zero chance of current infection, suggests that students may be incorporating the use of their own risky sexual practices as a factor in personal risk perception. Unfortunately, this survey did not collect any information about the reasons why these students thought that they might be at risk of infection, both currently or in the future. Such information could more directly assist in identification of factors students use when estimating their risk of HIV infection.

HIV/AIDS Knowledge

The majority of respondents showed a good level of knowledge about HIV/AIDS. The average respondent correctly answered over 80% of the items. This supports the results of previous research with college students and knowledge about HIV/AIDS (Baldwin & Baldwin, 1988; Delene & Brogowitz, 1988; Fan & Shaffer, 1990; Gray & Saracino,

1989; Katzman et al., 1988; Manning et al., 1989; McDermott et al., 1987; and Thurman & Franklin, 1990).

Over half of the items on the knowledge portion of the WMU Sexual Health Survey related directly to the established routes of HIV transmission. In this respect, the current survey improved upon previous research by including more items relevant to the practice of safer sex behaviors and the reduction of risky behavior. Inspection of the content of the six items missed by 20% or more of the respondents shows that four of these items relate to knowledge about HIV transmission and the practice of safer sex. Over 70% ($n = 141$) of the respondents did not know that condom application to an uncircumcised penis differs from application to a circumcised penis. Approximately the same percentage of respondents incorrectly answered a question about the ability of nonoxonyl-9, the active ingredient in spermicide, to kill HIV in laboratory tests. Therefore, the results of the knowledge portion on this survey, unlike previous surveys, suggest that heterosexual college students might benefit from the provision of knowledge about specific aspects of HIV transmission. Since knowledge about safer sex and risky sex are prerequisites for taking protective measures against the sexual transmission of HIV, information specific to these variables could enhance university and college prevention programming.

Sources of HIV Information

The responses on items assessing the importance of eight sources of sexual health information showed that the respondents had histories with a number of information sources and considered them important. Over 50% of the respondents rated as "extremely" and "somewhat important": (a) magazines, (b) talking to friends my own age, (c) television, (d) high school classes, and (e) lectures. These various sources of information suggest a number of possibilities for the dissemination of sexual health and HIV/AIDS information. Magazines and television both provide a means of information dissemination that permits anonymous use. Individuals need not self-identify as being in need of prevention programming when they can use magazines and television programming in private. The importance of peer education (e.g., Keeling, 1991) is further supported by the report that many of these respondents found talking with peers an important source of information.

Finally, these results support the need for the continued delivery of group presentations in both high school and university settings. An increasing number of authors have recommended that the provision of knowledge alone does not constitute adequate HIV prevention programming (e.g., Kelly, Murphy, Sikkema & Kalichman,

1993). However, the dissemination of information updates, as well as the dissemination of information to members who "come of age" during the AIDS epidemic, will undoubtedly remain a necessary component of HIV/AIDS education. Furthermore, answers to knowledge items on this survey suggest that college students might benefit from information specific to safer sex. The continued use of the group presentation format may therefore remain an important part of any HIV prevention programming. However, only experimental validation of group presentations will attest to the efficacy of this method of information dissemination.

Attendance and Use of University-Based HIV Education Programming

Nearly all the respondents who attended university presentations or read university-mailed brochures recommended that these activities continue. However, a thorough assessment of the benefits of these interventions would require an evaluation of any behavior change associated with these interventions. Although substantial portions of the students who used these resources reported intent to change and/or already changing their HIV-risk behaviors, no direct measures of behavior change were collected in this survey. Experimental evaluations could include a pre- and post-test evaluation of knowl-

edge, attitudes and behaviors relevant to HIV transmission. The use of a control group could account for any change as a result of factors existing in the general environment.

Barriers to the Practice of Safer Sex

Among the sexually active students surveyed, several differences existed between the type and degree to which male and female students reported barriers to consistent safer sex. The top two barriers reported by males both related to the erotic quality of safer sexual experiences. Approximately 60% ($n = 30$) of the males reported that condoms decreased sexual sensations and that safer sex interferes with sexual spontaneity. Female students most frequently reported not believing they would get an STD (47.1%, $n = 41$) and discomfort purchasing safer sex supplies (41.2%, $n = 30$). In addition, sizeable differences in the percentages of male and female students occurred on three barriers. Greater percentages of male students reported: (a) that condoms decreased pleasure (a 26.3% difference), (b) that safer sex reduces spontaneity (a 18.8% difference), and (c) the belief that "all STD's can be easily treated" (a 12.3% difference).

Although male students most frequently cited the two barriers related to the erotic safer sex experience, another 46% reported that they did not believe they would

get an STD. Substantial segments of the female students (40.1% and 35.7%), like their male counterparts, reported that decreases in the erotic value of the safer sex experience prevented the consistent practice of safer sex. In addition, the minority of students who reported barriers such as a lack of knowledge about safer sex or condoms, a lack of money to buy condoms, or fear that a partner would refuse requests for safer sex, also require attention.

The range of barriers reported by these students suggests considerable variation. In addition, students could report more than one barrier. Ideally, assessment of individual needs might result in the tailored prescription of one or more aspects of HIV prevention programming for each student. Such an approach requires the development of a more psychometrically sound assessment device than the list of ten potential barriers used in this survey. In addition to basic psychometric concerns, such as the various types of reliability, the data from this survey prompt questions about the need for including barriers in addition to the ten barriers sampled here.

For example, the fact that a comparatively lower percentage of female students reported barriers might simply indicate that the survey did not fully sample the complete range of barriers. Additional research might identify other self-report variables affecting consistent

safer sex practices among women. Other barriers amenable to self-report, such as discomfort about initiating safer sex practices, may exist. Focus groups with female students who report difficulties consistently practicing safer sex could provide a more thorough list of barriers for a future survey or assessment device.

Additional development and refinement of the barrier portion of this survey could result in a psychometrically sound assessment instrument for heterosexual students. Further investigation of the refined instrument could determine its applicability to other populations as well. Such a line of research could suggest the feasibility of a single or a series of population-specific assessment instruments, determining individual prevention programming needs.

In the event that individual assessment of HIV-programming needs are not feasible, the results of the current survey suggest priorities for prevention programming development that could affect a majority of student needs. Toward that end, the following discussion focuses on HIV prevention programming based upon the two most frequently reported barriers for each gender.

Female students reported inconsistent safer sexual practices due to the belief that they would not get an STD. Additional research could examine the variables which support this belief. Possible variables could

relate to each woman's assessment of her or her partner's risk, such as the following: (a) trusting that her current partner has only had intercourse with her, (b) misunderstanding statistics when applied to her own personal risk assessment, (c) inability to believe that her partner could have HIV, (d) a strong desire for a satisfying sexual encounter which outweighs an accurate appraisal of risk considerations, or (e) cognitive development which does not promote objective assessment of risk. Exploration of these variables and other variables in focus groups of female students could provide information for additional research.

The fact that a substantial segment of the female students reported discomfort about purchasing safer sex supplies suggests a treatment approach based upon desensitization principles. Typical desensitization techniques involve establishing a relaxation response and a hierarchy of situations which produce anxiety (Tunks & Bellissimo, 1991). The women reporting discomfort in this survey most likely experience a lesser degree of anxiety than the phobic individuals most often treated with systematic desensitization. However, the discomfort, as reported by these women, results in the inconsistent practice of safer sex. Therefore, an intervention to break a cycle of avoidance, using systematic desensitization principles, seems warranted. Since some

discomfort about purchasing condoms or personal lubricants might result from greater societal beliefs and the actions of other people (Fuqua et al., 1993), developing and teaching strategies to shop for supplies could also assist in combating discomfort. For example, instructions could include: (a) shopping with a friend, (b) going to a store that makes access to condoms and lubricants less stressful, (c) shopping in stores with helpful or supportive staff, or (d) techniques to make sexual supply purchases less conspicuous.

The results from this survey also suggest that male students might benefit from HIV prevention interventions that address perceptions about the erotic aspects of safer sex. Several authors have addressed the importance of portraying safer sex education in an erotic manner (e.g., Cowell, 1986). Unfortunately, little research about the efficacy of such approaches exists (i.e., Tanner & Pollack, 1988; Lagana & Hayes, 1993; Quadland, Shattls, Schuman, Jacobs & D'Eramo, 1988). One possible approach includes providing information about ways to make safer sex more enjoyable, such as applying lubricant inside the condom or maintaining physical stimulation during condom application. An educational approach might incorporate aspects of instruction and the explicit modeling of those techniques.

Summary

The results of this survey contribute to the conclusion that a substantial segment of the student population engage in behaviors that place them at varying degrees of risk for the sexual transmission of HIV. Abstinence remains the only way to avoid HIV through sexual transmission. However, for those students who continue to engage in sexual intercourse, the consistent practice of safer sex provides the best protection against HIV. This survey showed that students may benefit from information about the specific ways in which they can protect themselves from the sexual transmission of HIV. Furthermore, the use of multiple sources for the dissemination of such information is supported by the respondents ratings of importance. Although students reported an intent to alter their behaviors as a result of HIV programming that focused primarily on the dissemination of information, this survey conducted no evaluation of the knowledge, attitude or behavior change relevant for assessing such programs. Finally, a number of interventions, based on respondents' reported barriers to safer sex were discussed. Specifically, programming directed toward risk perception, desensitization and increasing the erotic aspects of the safer sex experienced are suggested by the

results of this survey. The development of such programming, however, requires experimental validation.

CHAPTER V

EXPERIMENT TWO: INTRODUCTION

The results of Experiment One supported previous research showing that heterosexual college students constitute a population at risk for the sexual transmission of HIV. Examination of the barriers to consistent safer sexual behavior showed that the top two barriers reported by male students related to a decrease in the erotic value of the safer sex experience. More specifically, 62% ($n = 31$) of the men reported, "I think that using condoms decreases the pleasurable sensations of sex," and 58.9% ($n = 30$) reported, "I think that safer sex interferes with the spontaneity of sex." Drawing from this survey, I developed and evaluated a video based intervention designed to alter safer sex practices and condom-related attitudes of heterosexual, male college students.

A substantial body of literature supports the use of modeling to affect imitative behavior change. More specifically, the use of films to model various health-related skills has been demonstrated to facilitate skill acquisition (Masters, Burish, Hollon & Rimm, 1987). A video modeling safer sexual behaviors might similarly

result in the acquisition of new behavior. Unfortunately, Masters et al. (1987) suggest that acquisition of novel behavior through modeling alone is relatively rare. One possible way to strengthen the effects of modeling safer sex might incorporate instruction with modeling.

Conceptualizations describing verbal behavior and its potential impact on the listener's behavior provide a theoretical basis that can be used to support the development of a safer sex video incorporating instruction and modeling. Schlinger and Blakely (1987) describe contingency-specifying stimuli as "rules" or "instructions" which delineate relationships between some combination of antecedent stimuli, behavior and consequent stimuli. The properties of contingency-specifying stimuli are relevant to the present discussion in terms of their function-altering effects on antecedent stimuli. This conceptualization of function-altering effects describes how behavior may be evoked at a time remote from the provision of contingency-specifying stimuli. Video instruction that describes the erotic consequences of various safer sexual techniques could potentially serve to increase the degree of evocative control that antecedent stimuli (such as future opportunities for safer sexual behaviors) have on behaviors (such as the use of lubricant inside a condom). Either during or after the video, the viewer might engage in covert or overt verbal behav-

ior related to the video instruction. Then, when sexually aroused and in the presence of a woman willing to engage in intercourse with a condom, the man might again, in effect, covertly emit some or all of the instruction. As a result, the presence of the female partner might have the potential to evoke the safer sex technique.

Schlinger and Blakely (1987) also describe how some contingency-specifying stimuli, or "rules," may be self-generated. While watching a video showing a man and woman using a condom, a viewer might covertly describe relationships between safer sex techniques and their consequences. As he observes a video scene showing a woman react pleasantly when she sees man produce a condom, he might covertly emit a form of verbal behavior that has the effect of saying, "Women get sexually excited when the man gets out a condom." Occasional covert or overt rehearsal of this self-generated, contingency-specifying stimulus might then, given an opportunity for intercourse, result in the man's introduction of a condom into sexual activity.

Once the novel or low-rate behavior is emitted, its future probability will be determined by direct acting contingencies (Michael, 1993). If the use of lubricant inside a condom is followed by punishing consequences, such as a female partner who laughs when the man introduces a condom, then a lower probability of this behavior

may be expected. If the consequent event is reinforcing, such as the sexual sensations which can result from lubricant between the penis and condom, then a greater probability of using lubricant inside condoms may be expected.

As these examples suggest, a behavior analytic approach can provide some suggestions about how safer sexual behavior may be initiated through instruction and modeling, and then maintained by direct acting contingencies. However, it is important to acknowledge that theories of verbal behavior are not directly supported by any substantial body of research. They represent extrapolations from what is known about operant conditioning and non-verbal behavior (Michael, 1993). Therefore, the use of behavior analytic principles to support the efficacy of video instruction remains, in part, theoretical. However, literature taken from the fields of sex therapy, contraceptive education and HIV prevention, contributes experimental evidence that more directly supports the efficacy of video instruction and/or sexually explicit modeling for altering sexual behavior.

Annon and Robinson (1978) reviewed the use of sexually explicit material as an intervention for treating sexual problems. Pointing to the extensive use of modeling and vicarious learning interventions with non-sexual problems, they recommended the use of explicit sexual

materials as a modeling intervention for sex therapy. However, their review of the limited research on the therapeutic effects of viewing "pornography" suggested that it does not constitute a sufficient condition for long term behavior change. First, they concluded that there was no convincing evidence that explicit sexual materials produced any long term effects on behavior and attitudes. In fact, attitudes about various sexual behaviors appeared to remain relatively stable. Secondly, "pornography" viewers rarely initiated novel sexual activities or increased low-rate sexual behaviors. In spite of the limited efficacy of sexually explicit materials, they did not dismiss such material as a viable component of a behavior change intervention. Instead, they recommended the addition of therapeutic instructions to sexually explicit material as a viable strategy to enhance the therapeutic effects of viewing "pornography" under analogue or in vivo conditions.

In support of their recommendation, Robinson (cited in Annon & Robinson, 1978) conducted his dissertation research with nonorgasmic females and an intervention designed solely to evaluate the role of vicarious learning. The video intervention incorporated a combination of therapeutic instruction and modeling. One group of nonorgasmic women viewed a series of videotapes which provided general information about sexual behavior and

attempted to normalize sexual practices. A second group of women viewed a series of videotapes which provided information specific to self-stimulation. Both series of tapes used a therapist to provide information to a male and female couple. The couple role-played the therapist-instructed behaviors. In comparison to a control group, women who viewed either set of videos acquired or increased a number of sexual behaviors discussed and modeled on the video tapes. Despite these promising results, Annon and Robinson (1978) cautioned that a complete intervention for sexual dysfunction would typically require more than vicarious learning alone. Therefore, video interventions might help people acquire or initiate sexual behavior. Whether or not that behavior continues and whether or not attitudes change might be a function of reinforcement for that behavior. Extrapolated to the use of safer sex issues, these results suggest that explicit sexual videos, with or without instructions, might have a salutary effect on attitudes and behaviors about safer sex, such as condom use. Additionally, these results provide some warnings that factors above and beyond modeling effects may be crucial to promotion of long-term changes in safer sex attitudes and behavior.

Lagana and Hayes (1993) reviewed several studies on contraceptive health programs for college and university students which incorporated erotica. Two of the studies

used written erotica to alter attitudes about condoms and intentions to use condoms. Black (cited in Lagana & Hayes, 1993) stated that males provided with erotic sexual scripts, incorporating the use of condoms, reported significantly more positive attitudes toward condoms at post-test, when compared with a control group. Females, however, did not alter their attitudes.

Tanner and Pollack (1988) also used written erotica and assessed the attitudes of heterosexual, mutually monogamous couples toward condoms. One group of couples received condoms, with verbal instructions to use three per week for two weeks. A second group received the same number of condoms, plus a written set of instructions that suggested erotic techniques for condom use. A control group received neither condoms nor instructions. Statistical analyses showed significant increases in positive attitudes toward condom use only in the group which received the condoms plus the erotic suggestions for their use.

Similar results have been reported using videos rather than written erotica. Kyes (1990) reported changes in attitudes and intent to use condoms in a study which incorporated erotic, safer sex videos. He assigned male and female college students to one of four video conditions: (1) a safer sex film, showing the introduction of a condom into foreplay; (2) a safer sex film

depicting sexual foreplay, but without introducing a condom; (3) a safer sex film which demonstrated condom application on a test tube; and (4) a neutral film about airplanes. Participants who viewed the safer sex film depicting the introduction of condoms into foreplay, significantly increased their positive attitudes toward condom use. However, only female students reported significantly greater intent to use condoms in the future.

These studies suggest that modeling sexually explicit behavior (but not intercourse) can impact upon the attitudes and intent to use condoms among heterosexual college students. Unfortunately, none of the studies incorporated measures of condom use and it would be premature to conclude that improvements in condom attitudes and intentions would lead to condom useage and increases in safer sexual behavior.

Only a few studies have assessed the impact of sexually explicit materials on behaviors relevant to HIV transmission. "The 800 Men Study" (Quadland et al., 1988) assessed the use of eroticized safer sexual education with gay and bisexual men. In this study, researchers collected data on relevant target behaviors: (a) four types of risky behavior, and (b) nine types of safer behavior. The authors compared the erotic, visual presentation of safer sex education with three other inter-

ventions: (1) an information group providing basic facts about safer sex guidelines; (2) an AIDS "awareness" education group, designed to inform and raise anxiety about AIDS; and (3) an erotic, non-visual presentation of safer sex education. The "awareness" group intervention showed statistically significant decreases in "high-risk" sexual behavior. The group viewing the erotic, visual presentation of safer sex showed the greatest increases in "low-risk" behaviors.

Numerous authors have cited the Quadland et al. (1988) study, but evidently the study was never published. Although presented at an HIV prevention conference, a number of critical methodological issues remain unaddressed. For example, the presentation summary did not address the nature of the explicit sexual visuals, nor specify the statistical analyses used. Additionally, it is unclear whether similar results might be attained with subject populations other than gay men. Most importantly, successful replication of these promising results have not appeared in the HIV prevention literature. This leaves one to speculate whether others have attempted similar interventions and produced results that did not meet criterion for publication, or whether the lack of detail in the Quadland et al. (1988) study has precluded any attempts to replicate this study. Therefore, an attempt to further investigate the role of sexually

explicit materials in safer sexual interventions seems warranted.

In spite of the above limitations, the conclusions from the Quadland et al. (1988) study are congruent with the recommendations of Annon and Robinson (1978)--the use of explicit sexual materials, in combination with instructional material, can result in increases in critical target behavior. Unfortunately, both studies suffer from a confound between the sexually explicit visuals and verbal instructions imbedded in the interventions. More specifically, neither Annon and Robinson (1978) nor Quadland et al. (1988) assessed the impact of instruction about erotic techniques alone, on sexual behavior. Given the potential for controversy surrounding the use of sexually explicit visuals, it is important to determine if verbal instructions alone are sufficient to produce meaningful changes in HIV risk behavior. If so, then politically sensitive materials may be omitted from intervention programs without adverse impact on risky and safer sexual behaviors.

Experiment Two drew upon the results of Experiment One by using the most frequently endorsed barriers to consistent safer sexual behavior in heterosexual, male college students--expectations that condoms interfere with sexual spontaneity and decrease the erotic value of safer sex. A review of the limited research in sex

therapy, contraceptive education and HIV prevention, suggested that sexual behavior can be acquired or increased through the use of modeling sexual behavior and instruction. To better isolate the effects of instruction about sexual techniques alone, Experiment Two used two versions of a video tape designed to target the safer sexual behaviors and attitudes of heterosexual male college students. The first tape, the Instruction Only video, provided instruction about safer sexual techniques. The second tape, the Instruction Plus Modeling video, was identical to the first tape, except that it included segments modeling some of the safer sex techniques described in the instructional component.

CHAPTER VI

EXPERIMENT TWO: METHOD

Participants

A total of 80 male, heterosexual college students completed the study. Although 130 men attended initial screening sessions, 12.3% ($n = 16$) did not meet one or more criteria for participating in the research. (See below for a description of inclusion criteria.) Another 34 men (29.8% of those eligible for the study) did not complete all eight weeks of data collection.

Ages of participants ranged from 18 to 34 years, with a mean of 20.5 years and a mode of 19 years. All but two participants reported their race as "white", "Caucasian" or "Anglo" (97.5%). One participant described himself as Chinese, and another as Jewish.

Inclusion Criteria

Participants who qualified for the study met a total of five inclusion criteria. The Screening Form assessed the first four criteria. The "Screening Form: Condom Application Assessment" measured the fifth criterion. (See Appendix B for copies of both instruments.)

First, each man reported one or more opportunities for sexual contact in a typical month. Since dependent measures included sexual behavior, this requirement established a history of opportunities for sexual contact. Secondly, all subjects reported a history of risky sexual behavior to allow for possible treatment effects. Third, each participant indicated that a primary reason for inconsistent safer sex related to a perceived decrease in the erotic value of safer sex. We considered this third criterion met when a man rated one or both of the two erotic barriers (decreased spontaneity or decreased sensations) as "occasionally", "frequently", or "always" interfering with the practice of safer sex. In addition, he could not rate any of the other eight barriers higher than the erotic barriers.

To meet the fourth criterion, each participant demonstrated a basic level of knowledge about the sexual transmission of HIV on the "Screening Form". We required participants to correctly answer all seven knowledge questions. When participants missed one or more questions, they received a short instruction on the correct answers and their rationale. Subjects then completed the knowledge portion of the "Screening Form" again. Participants repeated this procedure until they correctly answered all seven questions.

Finally, each participant needed to demonstrate

condom application skills and knowledge in an analogue assessment (see Procedure, below). We required that each participant choose the best condom and lubricant (i.e., latex condom with nonoxynol-9 and lubricant with nonoxynol-9) and miss no more than two additional items on the "Screening Form: Condom Application Assessment." When participants did not meet this last criterion, they received instructional feedback on their performances and repeated the entire assessment. As with the knowledge questions on the "Screening Form", participants repeated this process until demonstrating competency.

We thanked men who did not meet all criteria for their interest, and asked if they needed any information or referrals related to HIV-prevention. Men with questions that exceeded the expertise of researchers received referrals to a local HIV education service.

Recruitment Procedures

Experiment Two used two recruitment procedures. In one approach, researchers distributed flyers (see Appendix C) on campus. Several researchers attended a large, outdoor, university-sponsored event, where they handed out flyers. On several other occasions, researchers stood in various areas on campus with high rates of pedestrian traffic. When handing out flyers, researchers asked people to read the flyer in the event that they, or

people they knew, might be interested in participating. The flyer instructed men interested in participating to contact the Behavioral Medicine Laboratory.

A variation of this procedure occurred when members of a campus organization for male students expressed interest in participating in the study. Their stated interests included the promotion of HIV education and fund raising. Therefore, 27 participants learned about the study from fellow organization members, rather than from research personnel. However, all organization members attending the initial session received information identical to the information provided on the flyer. Due to the limited response to this method of recruitment, researchers developed a second approach.

The second method of recruitment used researcher presentations to college classes. Researchers attended several introductory level college classes and gave five minute presentations about the project (see Appendix C for flyer and recruitment text). Although some recruitment occurred in biology and engineering classes, the majority of presentations occurred in introductory psychology classes.

Men who expressed interest in the study attended an initial screening session to determine eligibility. Men read and signed an Informed Consent (see Appendix D) prior to beginning the screening.

Personnel

Numerous personnel assisted with Experiment Two. A doctoral student of psychology at W.M.U. supervised researchers during my one-year absence from campus. A professor in the Department of Psychology at W.M.U. also provided consultations at research project meetings during my absence. Several undergraduate psychology students functioned as researchers in this experiment. They participated in project development, recruitment, data collection and the organization of data. Researchers met at weekly or biweekly meetings to discuss the project's status. All researchers who conducted initial screening sessions completed at least two hours of group or individual training in experimental procedures. The training sessions provided instruction about the procedures for conducting sessions and used role playing exercises. The training required that researchers achieve 90% interobserver agreement during mock condom application assessments (see Appendix B, "Screening Form: Condom Application Assessment"). Percent occurrence agreement equalled number of agreements divided by total agreements and disagreements, multiplied by 100. All personnel interacting with participants completed participant confidentiality forms (see Appendix D).

Materials

All appointments with research participants occurred in the Behavioral Medicine Laboratory--a six room set of offices in the Psychology Department at W.M.U. Two rooms provided privacy for completing research forms. Another room contained a one-way observation mirror. An intercom system permitted communication between this room and an adjacent observation room.

The analogue condom application assessments (see Procedure, below) occurred in the room with the one-way observation mirror to minimize experimenter bias and promote participant comfort. The room contained a table and chair positioned under the observation mirror, with the chair facing the mirror. The table contained a display of supplies related to condom application. Arranged in a semicircle, from left to right, the supplies included: (a) two unlubricated latex condoms, (b) two lubricated latex condoms without nonoxynol-9, (c) two condoms lubricated with nonoxynol-9, (d) two lambskin condoms, (e) a bottle of baby oil, (f) a jar of petroleum jelly, (g) a tube of water-based lubricating jelly, and (h) a tube of lubricant with nonoxynol-9. To eliminate the possibility that different brand names would influence condom choice, we used condoms of one brand name

only. We positioned a "life-like" rubber model of a penis in the center of the semi-circle.

The Videos

Based on the results from Experiment One, we created two versions of a video designed for heterosexual, male, college students who report that safer sex practices decrease the erotic sensations and spontaneity of intercourse. The first video (the Instruction Only Video) featured a male and female theater student whose physical characteristics (i.e., age, color, dress, etc.) were representative of the intended video audience. Table 1 summarizes the content of the video, which provided suggestions and demonstrations of erotic, safer sex techniques using a rubber model of a penis.

The second video (The Instruction and Modeling video) used the same footage as the first video, but incorporated several segments from professionally produced, sexually explicit videos. As shown in Table 1, the video clips depicted men and women using latex barriers during oral and vaginal intercourse (see Appendix E for copyright releases).

Instruments

Several questionnaires and checklists collected data on the following variables: (a) age and race, (b) general

Table 1
Summary of Video Contents

1. Rationale for practicing safer sex.

Instruction Plus Modeling Video: "Behind the Green Door--The Sequel" (Mitchell Brothers' Film Group, 1986).

Bar bouncer tells a patron that "things have changed", and gives him a safer sex kit containing condoms, gloves and lubricant with nonoxynol-9.

2. Selecting condoms and lubricants:

- a. Condom must meet government standards.
- b. Do not use "novelty" condoms.
- c. For vaginal or anal sex, use condoms prelubricated with nonoxynol-9, or add lubricant with nonoxynol-9.
- d. For oral sex, select an unlubricated condom. You can add flavored lubricant.
- e. If you switch from oral sex to vaginal or anal intercourse, add nonoxynol-9.
- f. Condoms come in many textures and colors.

Instruction Plus Modeling Video: "Fortune Smiles", from "A Sensual Escape" (Royale & Leonard, 1988).

A man applies a clear condom to his penis as a woman watches. Then they engage in vaginal intercourse.

Instruction Plus Modeling Video: "The Last Condom" (Spinelli, 1988).

A woman applies a blue condom to a man's penis. Then they engage in vaginal intercourse.

- g. Condoms come in different sizes and shapes.

Table 1--Continued

- h. Use lubricant with nonoxynol-9 for vaginal or anal sex. It comes as a gel or lotion. If used inside the tip of the condom, lubricants can provide additional sexual stimulation to the penis when used inside the condom.
- 3. You can shop for safer sex supplies in a variety of places, alone or with a sexual partner.
- 4. How to eroticize condom application.
 - a. Both partners can participate in application.
 - b. Your partner can apply condom for you.

Instruction Plus Modeling Video: "The Last Condom" (Spinelli, 1988).

A woman uses her hands and mouth to apply a condom to a man's penis. Then they engage in vaginal intercourse.

- c. Using any new techniques, like those suggested in this video, require practice.
- d. You can use verbal and non-verbal encouragement, or requests, to involve your partner in condom application.
- e. Keep supplies in places where they are easily obtained during sexual activity.
- f. You can maintain physical contact or stimulation while getting supplies or applying condoms.
- g. Do not hurry to apply a condom.
- h. Using lubricant inside the condom adds to the sexual stimulation of the penis.
- i. Your partner can use oral stimulation while applying a condom.

Table 1--Continued

Instruction Plus Modeling Video: "Behind the Green Door--The Sequel" (Mitchell Brothers' Film Group, 1986).

A woman applies a condom to a man's penis, providing oral stimulation to the penis as she unrolls it to the base of the penis.

5. You need to use a condom for oral sex.

Instruction Plus Modeling Video: "The Pick-Up", from "A Taste of Ambrosia" (Royale & Firestone, 1987).

Woman applies a condom to a man's penis and then gives him oral sex. Then they engage in vaginal sex.

6. Attitudes about condoms may interfere with using them. If you get past the attitudes and try some of these techniques, you might find the experience erotically rewarding.

Instruction Plus Modeling Video:

A montage of film clips, taken from the previously cited videos.

knowledge about the sexual transmission of HIV, (c) condom application skills, (d) sexual behavior, (e) reported barriers to the consistent practice of safer sex, and (f) questions to ensure contact with the independent variables. Appendix B contains copies of all instruments used in this study. I developed all but one of the questionnaires and checklists used in this experiment. The "Screening Form: Condom Application Assessment" represents a revision of several versions of non-copy-

righted instruments. My colleagues and I developed and used earlier versions of condom application assessments in previous studies conducted in the Behavioral Medicine Laboratory.

Screening Form

The "Screening Form" collected information on age and race. Seven questions (six true or false and one multiple choice) assessed basic knowledge about the sexual transmission of HIV. Another question asked for an estimate of monthly sexual opportunities. One item assessed the relative proportion of times when participants performed sexual intercourse with and without latex barriers. Instructions for a list of 10 barriers requested that each man rate the degree to which the barriers prevented consistent safer sex. The four point rating scale was defined, from lowest to highest, as:

1. This never prevents me from practicing safer sex.
2. This occasionally prevents me from practicing safer sex.
3. This frequently prevents me from practicing safer sex.
4. This always prevents me from practicing safer sex.

To promote consistency between studies, this form used the same list and ratings of barriers as Experiment One.

Screening Form: Condom Application

The "Screening Form: Condom Application" provided researchers with a script for conducting the condom application assessment. Four items required vocal responses to questions asked by researchers. The remaining 13 items represented a series of steps for condom application, such as condom selection and unrolling the condom in the proper direction. The form provided an area for researchers to record whether or not the participants correctly completed the 17 condom application items.

Sexual Behavior Checklist

The "Sexual Behavior Checklist" provided a place for each participant to record the weekly frequency of behaviors. The behaviors included five types of risky behavior (i.e., intercourse without a latex barrier), five types of safer behavior (i.e., intercourse with a latex barrier), and 13 types of behavior associated with safer sex (i.e., shopped for supplies, talked positively about safer sex, etc.). During the eighth and final week of data collection, participants also completed additional items about barriers to safer sex. The list of 10 barriers duplicated the list from the Screening Form.

Video Questionnaire

Three questions on a four inch by six inch index card assessed each participant's contact with the videos. Two questions asked about the content of the video. A third question asked about the conditions under which the participant viewed the video (i.e., did not watch entire video, watched it with a partner, etc.).

Software for Statistical Analyses

I used Minitab Statistical Software, Release 9.1 for VAX/VMS (Minitab, Inc., 1992) for relevant statistical analyses.

Dependent Measures

The dependent measures consisted of responses in five categories: (1) safer sex, (2) risky sex, (3) behavior associated with safer sex, (4) erotic barriers, and (5) other barriers.

Risky and Safer Sexual Behaviors

As discussed in Chapter I, safer and risky sex behaviors included oral, anal and vaginal intercourse (see Table 2). Any of these activities permit the exchange of blood, semen and vaginal fluids--known avenues of HIV transmission (Francis & Chin, 1987). However, the

Table 2
Safer and Risky Sexual Behavior

Safer Sex
Penis in Vagina, With Latex Condom or Other Latex Barrier
Penis Mouth, With Latex Condom or Other Latex Barrier
Penis in Anus, With Latex Condom or Other Latex Barrier
Mouth On or Around Vaginal Opening, With Latex Barrier
Mouth On or Around Anal Opening, With Latex Barrier
Risky Sex
Penis in Vagina, No Latex Barrier
Penis in Mouth, No Latex Barrier
Penis in Anus, No Latex Barrier
Mouth On or Around Vaginal Opening, No Latex Barrier
Mouth On or Around Anal Opening, No Latex Barrier

use of latex barriers (i.e., condoms or dental dams) will reduce the risk of HIV transmission (CDC, 1987). Therefore, the distinction between safer and risky sexual behaviors was determined by the presence (i.e., safer sex) or absence (i.e., risky sex) of latex barriers.

Behaviors Associated With Safer Sex

Behaviors associated with safer sex included behavior that did not permit the exchange of body fluids, but which may be associated with the practice of safer sex. Examples include ordering safer sex supplies, or maintaining physical touch with a partner when applying a condom (see Table 3). These behaviors do not constitute the primary target behaviors for preventing HIV transmission (i.e., increases in safer sex; and decreases in risky sex). However, this category assessed the acquisition or increased frequency of video-instructed behaviors that could impact upon safer sexual behavior. The videos presented all of these behaviors within the context of increasing the erotic qualities of safer sex.

Erotic Barriers

Table 4 lists the two items which assessed erotic barriers to safer sex. Men rated the degree to which each of these barriers interfered with the consistent practice of safer sex at pre- and post-test.

Other Barriers

The ratings of non-erotic barriers to safer sex were also assessed pre- and post-test. Masters et al. (1987) suggest that modeling can affect behavior through disin-

Table 3

Behaviors Associated With Safer Sex

You stimulated your partner's genitals or other sensitive areas as she applied a condom to your penis.

Your partner stimulated your genitals or other sensitive areas as you applied a condom to your penis.

Partners maintained some physical touch while obtaining safer sex supplies.

Read the label of a condom or sexual lubricant.

Ordered a catalog of safer sex supplies.

With a sexual partner, shopped for or ordered safer sex supplies.

Without a sexual partner, shopped for or ordered safer sex supplies.

Asked your partner to engage in a safer sex activity or technique.

Physically guided your partner into trying a safer sex technique.

Viewed a safer sex erotic video with your sexual partner.

Lubricant added inside the tip of a condom before applying it.

Masturbated or experimented alone with safer sex supplies.

You talked positively about the erotic possibilities of safer sex to someone (not necessarily a sex partner).

hibition or vicarious extinction. Although not an intended target of the videos, these ratings assessed any behaviors change inadvertently resulting from watching the videos. In addition, it was possible that the rat-

Table 4

Table of Erotic and Other Barriers to Safer Sex

 Erotic Barriers

I think that safer sex practices interfere with the spontaneity of sex.

I think that using condoms decreases the pleasurable sensations of sex.

 Other Barriers

I am uncomfortable about purchasing condoms or other safer sex supplies.

I do not really believe I will get a sexually transmitted disease.

I believe all sexually transmitted diseases can be easily treated.

I am uncomfortable talking with a sex partner about using condoms or taking other precautions.

I don't have the money to buy condoms or other materials for safer sex.

I am afraid that if I asked a sexual partner to take precautions, he or she would refuse.

I don't really know enough about safer sexual health to be able to make changes.

I don't know how to correctly use a condom.

ings on these barriers might have co-varied with the ratings of the erotic barriers. Therefore, had there been any evidence of treatment effects from the videos, the measurement of these variables would have permitted

interpretation of treatment effects specific to erotic barriers.

Data Collection

To assess changes in the three categories of behavior (i.e., risky sex, safer sex and behaviors associated with safer sex) I calculated mean weekly frequencies pre- and post-test for each behavior category. Mean ratings, pre- and post-test, for the two categories of barriers to the consistent practice of safer sex constituted the remaining two composite category scores. All five composite category scores constituted the primary focus for graphic and statistical analyses.

Participants did not concurrently complete the study. The first participants began the study in June, 1992. Recruitment for participants ended in October, 1993. In December, 1993, the last participants completed the project.

Procedure

Initial Contacts and Screening

Men responded to recruitment either by calling the Behavioral Medicine Lab or by giving a recruiter a first name and telephone number. Researchers contacted men by telephone. Prior to making an appointment for an initial

screening, each man received a brief description of the requirements (i.e., amount of time required; attending sessions; contents of initial screening; etc.). If the man still expressed an interest in participating, a researcher assigned him a code number and set up an initial appointment.

All initial screenings occurred in the Behavioral Medicine Laboratory. Each man read and signed an informed consent (see Appendix D). Then he completed the Screening Form. Men who met the four inclusion criteria in the Screening Form continued with the condom application skills assessment.

Assessment of condom application skills occurred in an analogue setting. Each participant entered the observation room with the one-way mirror and intercom system. Researchers asked participants to vocally respond to four questions about condom application and removal. The researchers also asked the participants to apply a condom to the rubber penis model. (See "Screening Form: Condom Application", Appendix B).

On 7% ($n = 18$) of all condom application assessments ($n = 256$), a second observer independently scored the accuracy of condom application skills. The scores were compared item-by-item on the condom application protocol. The mean percent occurrence agreement (agreements divided by agreements plus disagreements, and multiplied by 100)

equalled 97.1%, and ranged from 82.4% to 100% with a mode score of 100% ($n = 10$).

Following successful completion of the "Screening Form" and "Screening Form: Condom Application", researchers randomly assigned the participant to one of two video groups or a control group. Researchers filled out each checklist with the participant's code number and the date upon which he should complete the checklist. Each participant received approximately five minutes of instruction about completing the checklists. Participants assigned to one of the two video groups received four coded and dated checklists, with instructions to return four weeks later to pick up one of the videos. Control group participants received all eight checklists.

Reminder Telephone Calls

Participants received instructions to mail in behavior checklists every week for either eight (control group) or four weeks (video recipients). Researchers telephoned participants once a week to remind them to complete checklists, and when appropriate, to pick up videos or compensation. Each participant provided verbal and written permission to call him at home, with one exception. One participant, who successfully completed the study, asked that we not provide reminder telephone calls.

Video Pick-Up Sessions

After completing four weeks of pre-test data, video intervention participants picked up their assigned videos and four remaining checklists at the Behavioral Medicine Laboratory. The men also received instructions on completing the video questionnaires and returning the videos. Video cases contained the "Video Questionnaire" on a four inch by six inch index card (see Appendix B). Researchers provided instructions for completing the cards and explained the rationale for the questions (i.e., to ensure contact with the independent variables). Participants were asked to watch the video as soon as possible, ideally within the next week. Participants were instructed to refrain from loaning the video to anyone and to watch the video alone or with a potential sexual partner.

Compensation for Participants

Participant earned \$5.00 for every two consecutive, completed checklists. Participants completing all eight checklists received a total of \$20.00 at the end of their participation. Members of the college organization who wanted to anonymously donate the money to their organization, placed an index card in a locked box. At the end of the study, a representative of the organization re-

ceived a check for an amount equaling the number of cards multiplied by \$20.00.

Research Design and Analysis

A three-group experimental design assessed changes in behavior pre-intervention and post-intervention. Graphic and statistical analyses compared behavior and barrier ratings before and after viewing one of two versions of a video. A third group, which received no videos, served as a control group.

Analyses of covariance (ANCOVA), using the pre-test scores as a covariate, evaluated changes in behavior between groups from pre-intervention to post-intervention on all five dependent variable categories (i.e., safer sex, risky sex, behavior associated with safer sex, erotic barriers, and other barriers). To determine the need to conduct additional ANCOVA on specific types of behavior within a category (e.g., the specific "penis to vagina with a barrier", in the "safer sex" category), I calculated correlational analyses between specific types of behaviors and their composite category scores. For those specific behaviors yielding weak correlations (i.e., $\leq .40$), I calculated additional ANCOVA.

Analysis of homogeneity of regression slopes assessed the validity of ANCOVA F-statistics. For those sets of data showing heterogeneity of regression slopes,

I used the Johnson-Neyman procedure (Huitema, 1980). Additional ANCOVA assessed change between pairwise comparisons showing homogeneity of regression slopes, using Bonferroni F-statistics to correct for a portion of the experiment-wise error. For those pairs of groups with heterogeneous regression slopes, I calculated the regions of nonsignificance as outlined by Huitema (1980).

Appendix F contains Tables which summarize the results of all statistical analyses.

CHAPTER VII

EXPERIMENT TWO: RESULTS

Eighty participants completed the screening instruments and all eight behavior checklists. Of these participants, the control and Instruction Plus Modeling groups had 29 participants each. The Instruction Only group had 22 participants. The results discussed in this chapter include only these complete data sets.

Screening Data

Self-Report of Sexual History

Participants were asked to report the number of opportunities to engage in some form of sexual activity (e.g., kissing, petting, intercourse) during the previous month. They reported a mean of 18.9 opportunities. The number of opportunities ranged from 2 to 100. Table 5 shows that latex barrier use during oral, anal or vaginal intercourse, only 8.75% ($n = 7$) of the participants said that they never used condoms during oral, anal or vaginal intercourse. (Estimates of 100% condom use excluded men from participating in the study. Therefore, Table 5 does not include report of 100% condom use.)

Table 5
Condom or Latex Barrier Use

FREQUENCY	Percent	n
Never use condoms/latex barriers.	8.75%	7
Use condoms/latex barriers less than 50% of the time.	41.25	33
Use condoms/latex barriers more than 50% of the time.	50.00	40

Knowledge About HIV/AIDS

Participants could score a total of 7 correct answers on the knowledge questions. Eighty percent of the participants ($n = 64$) needed to repeat the knowledge questions more than once to achieve a perfect score. The mean score on first completion equalled 6.0 correct answers. Participants most frequently missed the true or false item about the ability of nonoxynol-9 to kill HIV. (Table F-1 in Appendix F summarizes responses of participants completing the questions on the first trial.)

Condom Application Skills

The majority of participants (75%, $n = 60$) needed to repeat the assessment of condom application skills. The mean first score equalled 9.2 correct responses from a possible score of 12. The item most frequently missed on

the assessment asked about applying a condom to an uncircumcised penis (81.3% incorrect responses, $n = 65$). (Tables F-2 and F-3 in Appendix F summarize participants' responses during their first assessment.)

Integrity of the Independent Variables

The majority of participants in both video groups completed and returned the "Video Questionnaire" cards. Of the two questions asking about the content of the videos, only one person from the Instruction Plus Modeling group missed one item. All other participants correctly answered both questions. (Tables F-4 and F-5, in Appendix F summarize these results.) Table 6 shows that, of all participants assigned to a video intervention, only four men in the Instruction Plus Modeling group did not watch the entire video. Table 6 also shows that while none of the participants in the Instruction Only group watched the video more than once, six participants in the Instruction Plus Modeling group did watch the video more than one time. Furthermore, more participants in the Instruction Plus Modeling group watched the video with a sexual partner.

Table 6
Reported Video Viewing Conditions

VIEWING CONDITION	%	n
<u>Instruction Only Video:</u>		
Did not watch entire video.	0.0	0
Watched video one time.	76.5	13
Watched video more than one time.	0.0	0
Watched video with sexual partner.	29.4	5
<u>Instruction Plus Modeling Video:</u>		
Did not watch entire video.	16.0	4
Watched video one time.	56.0	14
Watched video more than one time.	24.0	6
Watched video with sexual partner.	44.0	11

Analysis of Dependent Variables

Safer Sex

Figure 8 depicts the percentage of acts of sexual intercourse in which latex barriers were used, per month. All three groups show slight increases from pre- to post-test. Figure 9 shows monthly frequencies of intercourse with latex barriers, once again with only slight changes from pre- to post-test. Statistical analyses of the mean weekly frequencies of safer sex showed that these

Percent Acts of Intercourse with Latex Barriers

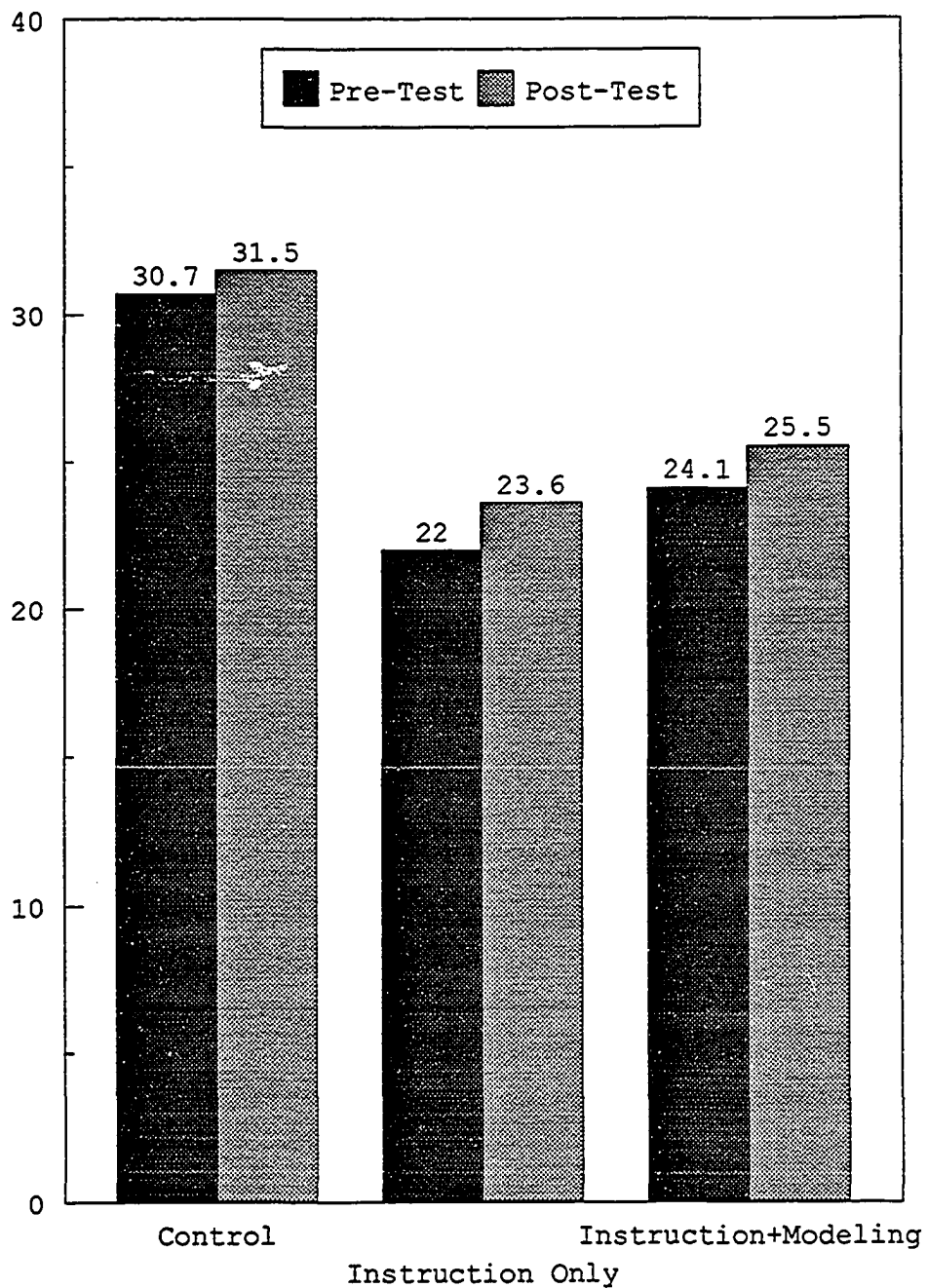


Figure 8. Mean Percent of Acts of Sexual Intercourse in Which Respondents Used Latex Barriers, per Month.

Mean Number of Acts of Intercourse with Latex Barriers

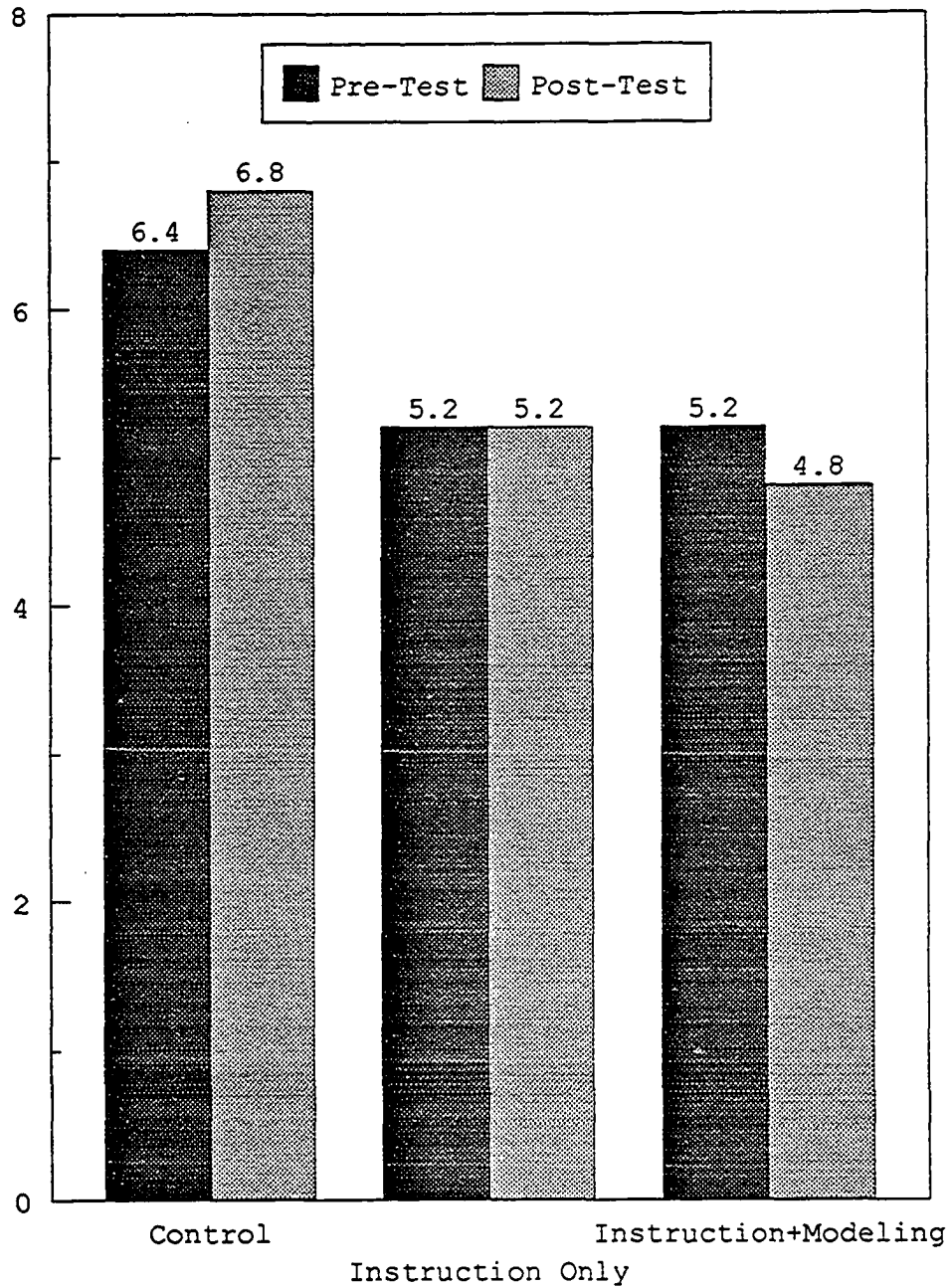


Figure 9. Mean Number of Acts of Sexual Intercourse With Latex Barriers, per Month.

changes did not attain significance. Although colinearity prevented an assessment of heterogeneity of regression slopes for Mouth to Anus, Figure 10 shows minimal change in the control group, for 0 and 0.1 behaviors per month, and 0.0 behaviors per month in both video groups, at pre- and post-test. (See Appendix F for Tables summarizing results of all statistical procedures.)

Risky Sex

Figure 11 depicts minimal change within and between groups for risky behaviors per month. Only the Instruction Plus Modeling group shows a decrease in risky behaviors, from 16.4 behaviors per month at pre-test to 14 behavior per month at post-test. Statistical analyses of risky behaviors per week did not show these changes between groups to be statistically significant. Although colinearity prevented an assessment of heterogeneity of regression slopes for Penis to Anus, Figure 12 shows low-frequencies of this behavior per month, for all three groups, at pre- and post-test.

Behaviors Associated With Safer Sex

Figure 13 shows a slight increase in behaviors associated with safer sex, per month, in the control group, from pre- to post-test. Although Figure 13 also shows decreases in behaviors per month, pre- to post-test for

Mean Number of Behaviors

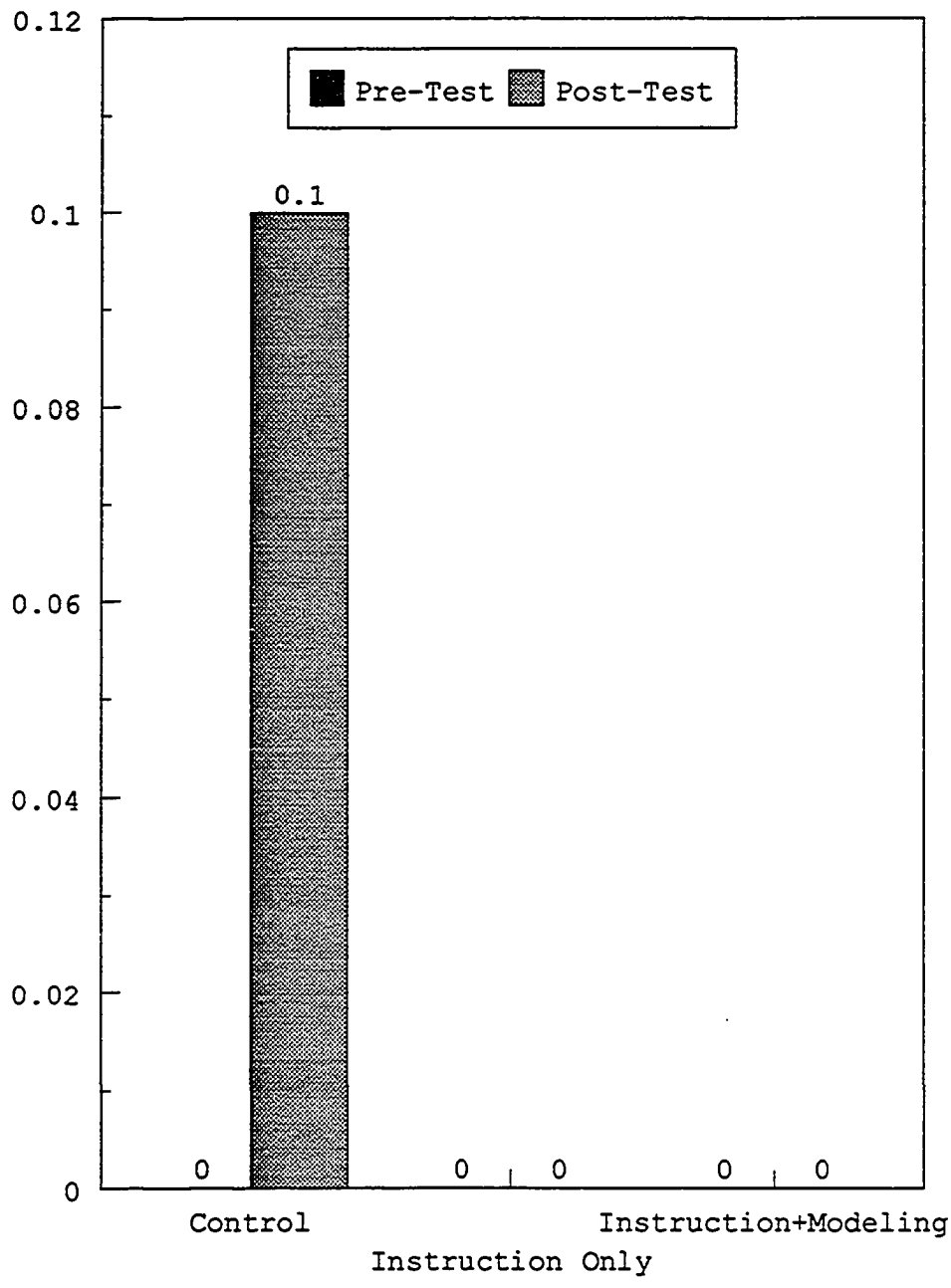


Figure 10. Mean Number of Behaviors With Latex Barriers, Mouth to Anus, per Month.

Mean Number of Behaviors Without Latex Barriers

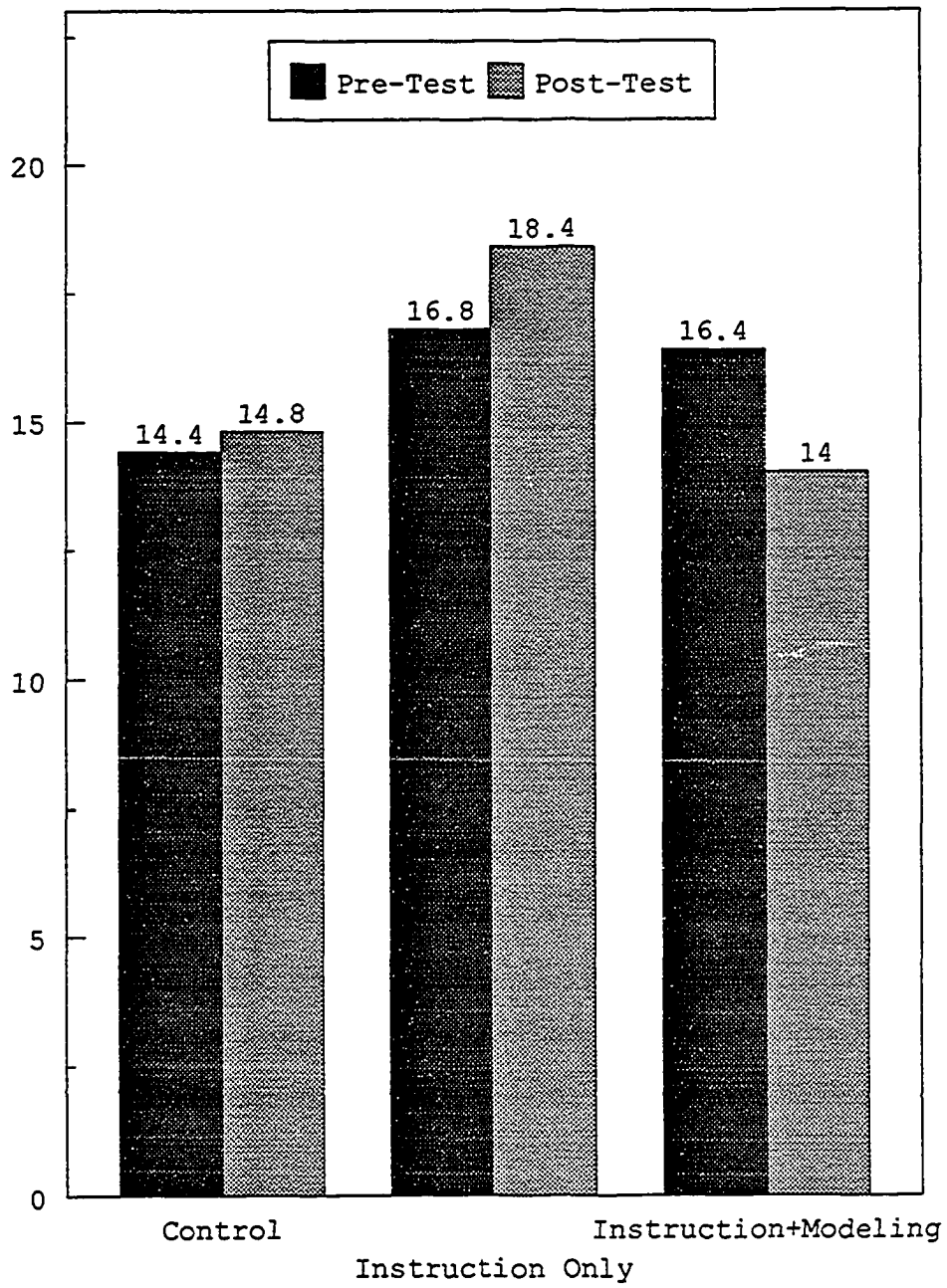


Figure 11. Mean Number of Behaviors Without Latex Barriers, per Month.

Mean Number of Behaviors

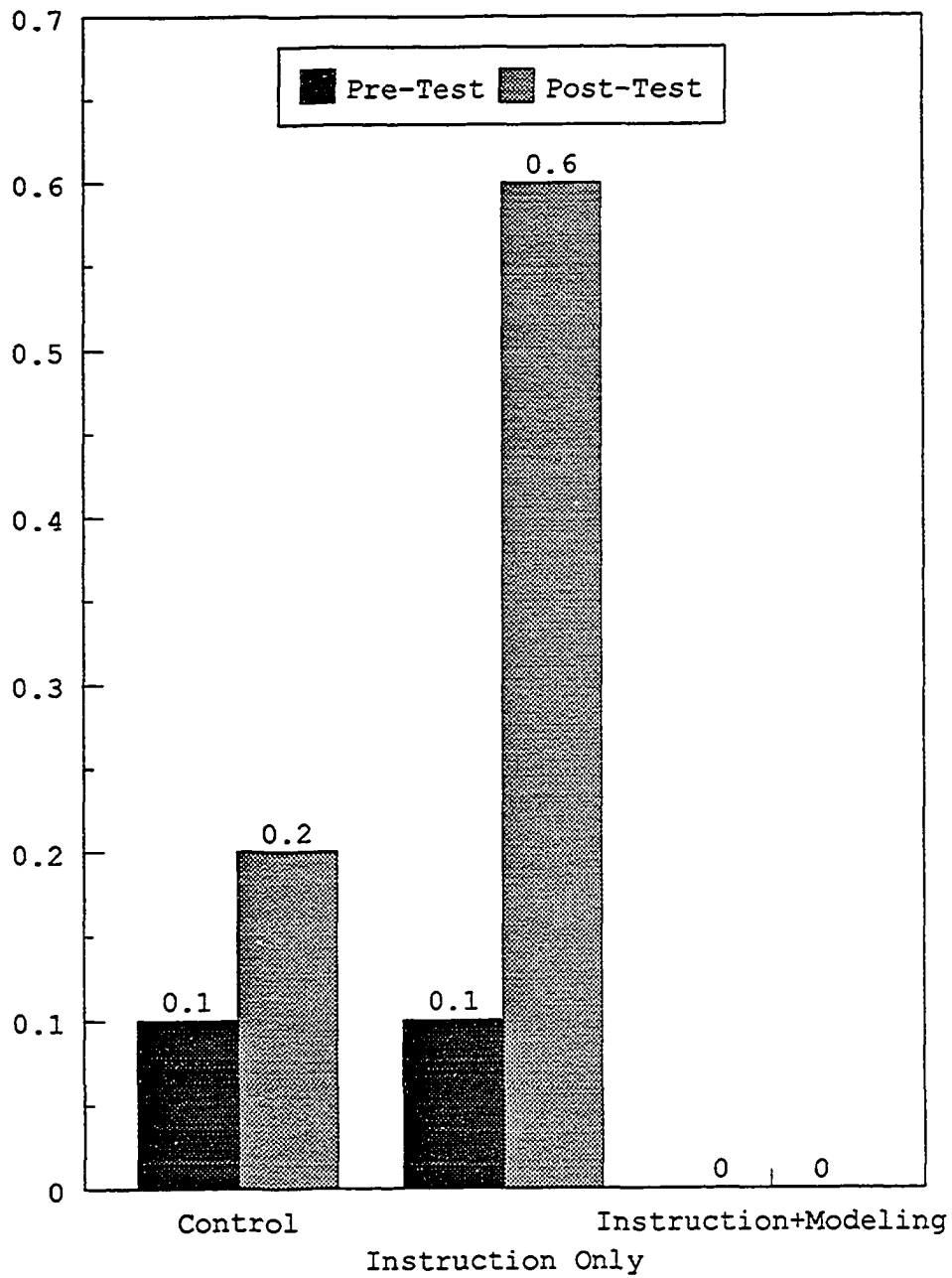


Figure 12. Mean Number of Behaviors Without Latex Barriers, Penis to Anus, Per Month.

Mean Number of Behaviors Associated with Safer Sex

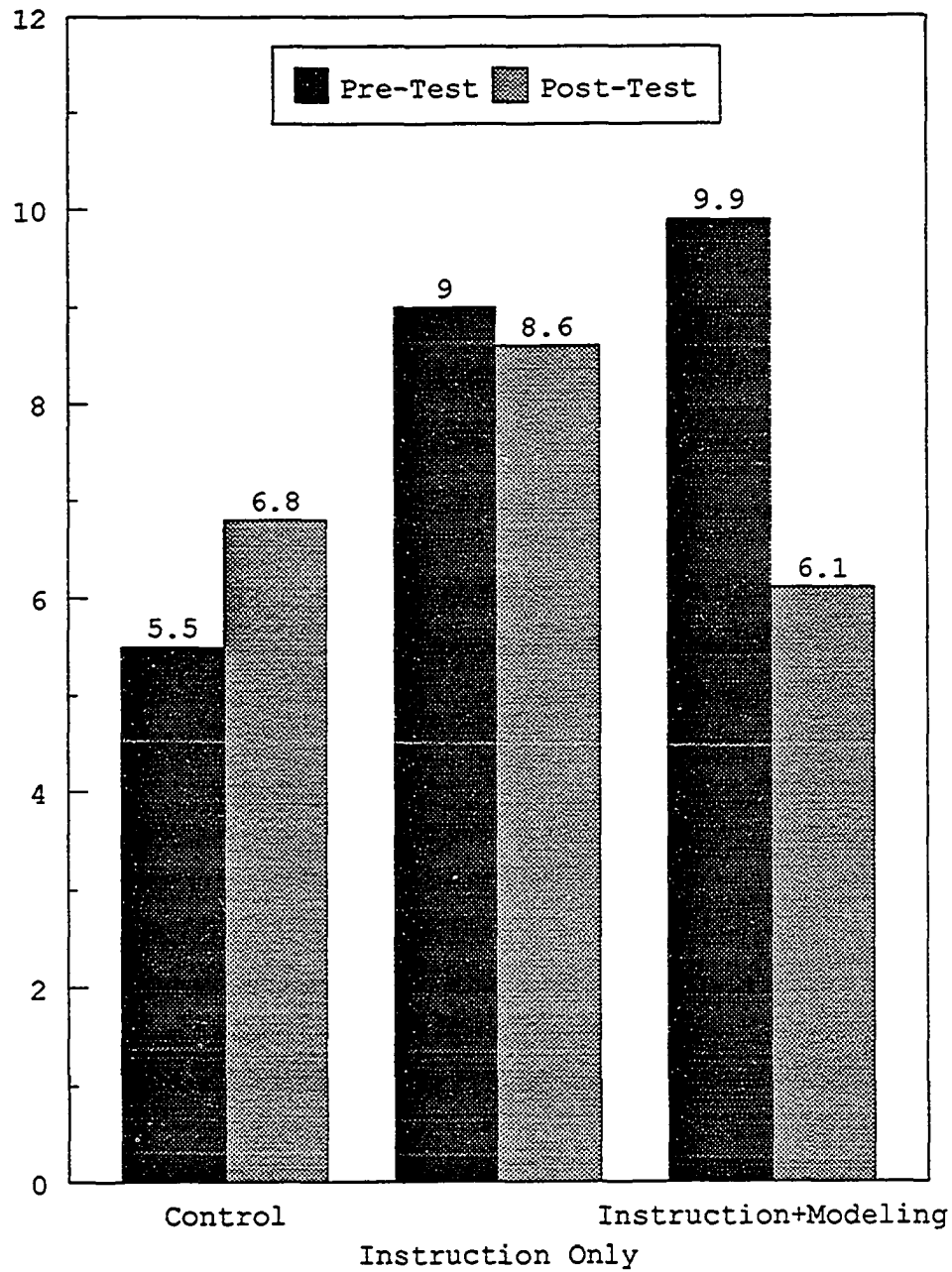


Figure 13. Mean Number of Behaviors Associated With Safer Sex, per Month.

both video groups, the decrease in the Instruction Plus Modeling group represents the greatest amount of change in all five major dependent variable categories. The mean frequency of behaviors associated with safer sex decreased an average of 3.8 behaviors per month, from a pre-test mean of 9.9 behaviors to a post-test mean of 6.1.

Statistical analysis of the composite scores for behaviors associated with safer sex showed heterogeneity of regression slopes, $F(2, 76) = 10.22, p = .00$. Pairwise ANOCVA did not attain statistical significance for two pairs of groups, using a Bonferonni F-statistic, $F(1, 40) = 6.24, p = .05$: (1) Control and Instruction Only ($F = 3.03$), and (2) Instruction Only and Instruction Plus Modeling ($F = 4.61$). Determination of the region of nonsignificance ($1, 54, p = .05$) for the control and Instruction Plus Modeling groups showed a statistically significant difference between groups for participants who reported 2.25 behaviors per week or greater at the pre-test. In general, men in the control group tended to score higher at post-test than men in the Instruction Plus Modeling group.

Due to weak correlations with the composite score, several specific types of behaviors associated with safer sex required separate analyses. ANCOVA attained statistical significance on Ordered a Catalog, $F(2, 76) =$

4.20, $p = .02$, and Watched Video with Partner $F(2, 76) = 4.89$, $p = .01$. Tests for heterogeneity of regression slopes on both categories were not possible due to colinearity. Multiple comparison tests, using Fisher's protected LSD revealed statistically significant differences on Ordered Catalogs in the Control and Instruction Only groups, $t(76) > 1.99$, $p = .05$, and the Instruction Only and Instruction Plus Modeling groups, $t(76) > 1.99$, $p = .05$. Figure 14 shows minimal changes in number of times per month that men ordered catalogs, both between and within groups. Multiple comparisons of Watched Video with Partner showed a statistically significant difference between the control and Instruction Plus Modeling groups, $t(76) > 1.99$, $p = .05$. Figure 15 shows a low frequency of Watched Video with Partner, per month.

Analyses conducted on the weekly frequency of Shopped for Safer Sex Supplies Alone did not attain statistical significance with pairwise ANCOVA, using a Bonferroni F-statistic, on the Instruction Only and Instruction Plus Modeling groups, $F(1, 40) < 6.24$, $p = .05$, nor through plotting the region of nonsignificance (Control and Instruction Only groups, and Control and Instruction Plus Modeling groups).

Talked Positively About Safer Sex did not attain statistical significance with a pairwise ANCOVA, using a Bonferroni F-statistic, on the Control and Instruction

Mean Number of Behaviors

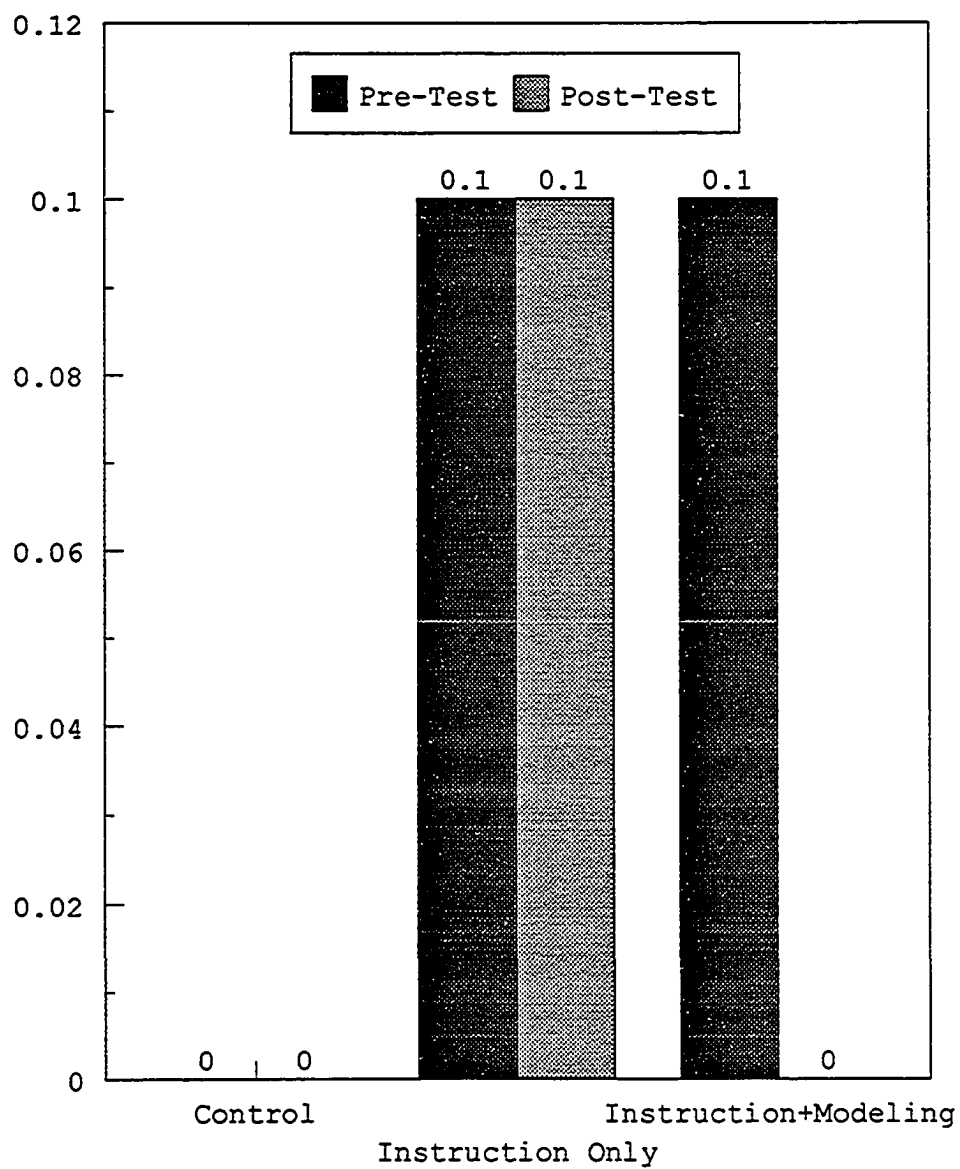


Figure 14. Mean Number of Behaviors Associated With Safer Sex, Ordered a Catalog, per Month.

Mean Number of Behaviors

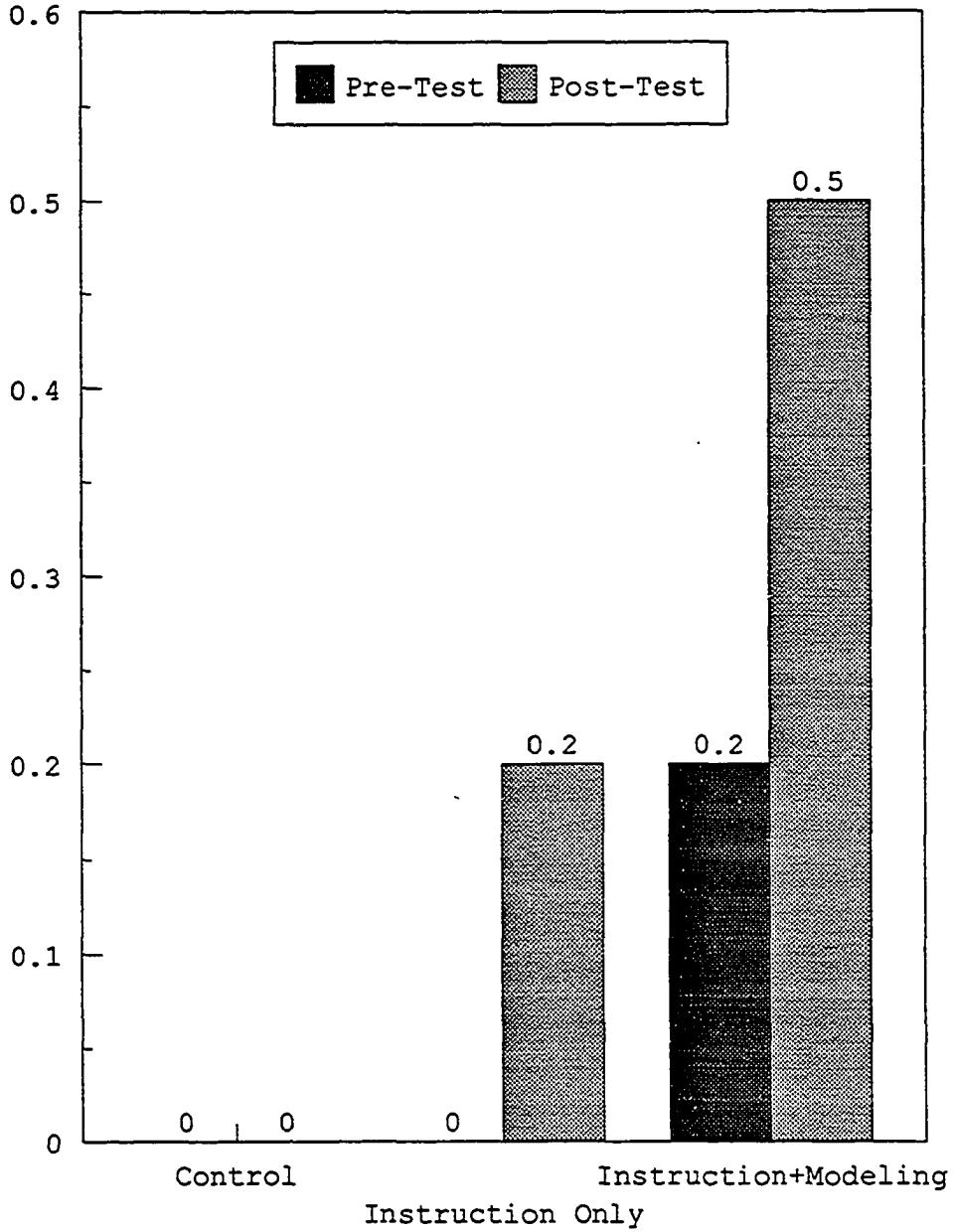


Figure 15. Mean Number of Behaviors Associated With Safer Sex, Watched Video With Partner, per Month.

Only groups, $F(1, 40) < 6.24$, $p = .05$. Calculating the region of nonsignificance for the Control and Instruction Plus Modeling groups revealed no statistical significance, $p = .05$. A plot of the data for scores on Talked Positively About Safer Sex, Instruction Only and Instruction Plus Modeling groups, showed that participants who viewed the Instruction Only video and reported zero behaviors per week on the pre-test (i.e., $< +0.08$) increased their behaviors from pre- to post-test. Participants who viewed the Instruction Plus Modeling video and reported zero behavior per week at the pre-test, did not change their scores. For participants reporting 0.75 behaviors per week or greater at the pre-test, the direction of this statistically significant difference between groups changed. Participants who viewed the Instruction Only video tended to decrease their behaviors at post-test. Those who viewed the Instruction Plus Modeling video tended to increase their behaviors at post-test.

Erotic Barriers

Figure 16 shows that mean ratings on erotic barriers to safer sex decreased for all groups. The greatest degree of decrease from pre- to post-test occurred on erotic barrier ratings in both video groups. Both groups decreased from pre-test mean ratings of 2.6 to post-test mean ratings of 2.2, representing a 0.4 decrease. ANCOVA

Mean Barrier Rating

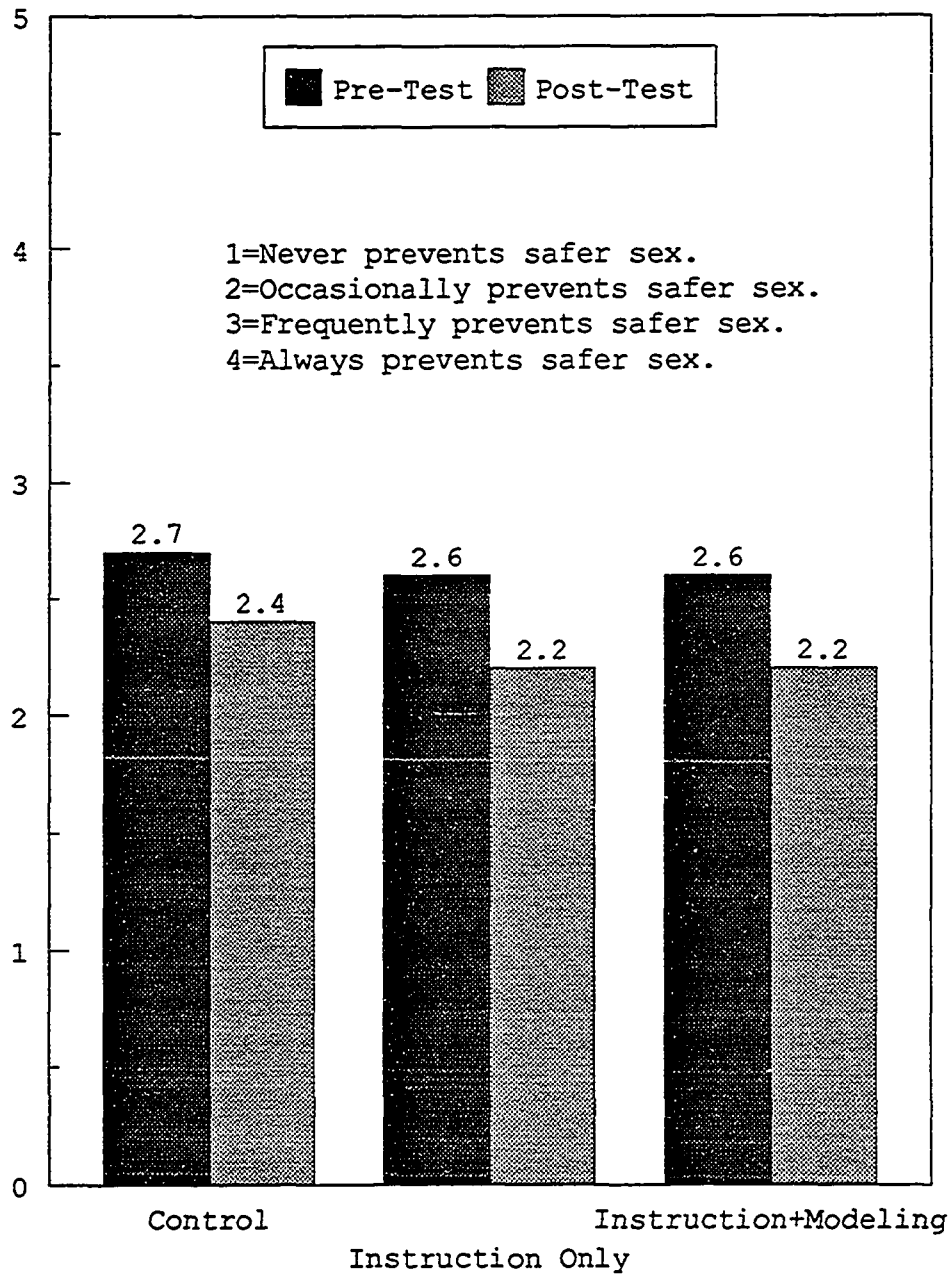


Figure 16. Mean Rating for Erotic Barriers to Safer Sex.

on the erotic barriers did not attain statistical significance, $F(2, 76) = 0.93, p = .40$.

Other Barriers

Figure 17 shows that mean ratings for the eight other barriers decreased slightly from pre- to post-test for all groups. The differences in ratings from pre- to post-test ranged from 0.1 to 0.2 points. ANCOVA did not attain statistical significance, $F(2, 76) = 0.17, p = .85$.

Summary

Statistical and visual analyses of all five dependent variables showed, for the most part, a lack of significance. Table 7 shows the change scores, from pre- to post-test, of groups means for all five dependent variables. The limited amount of change in behaviors per month and ratings of barriers emphasizes the absence of clinical significance in either of the video groups.

Mean Barrier Rating

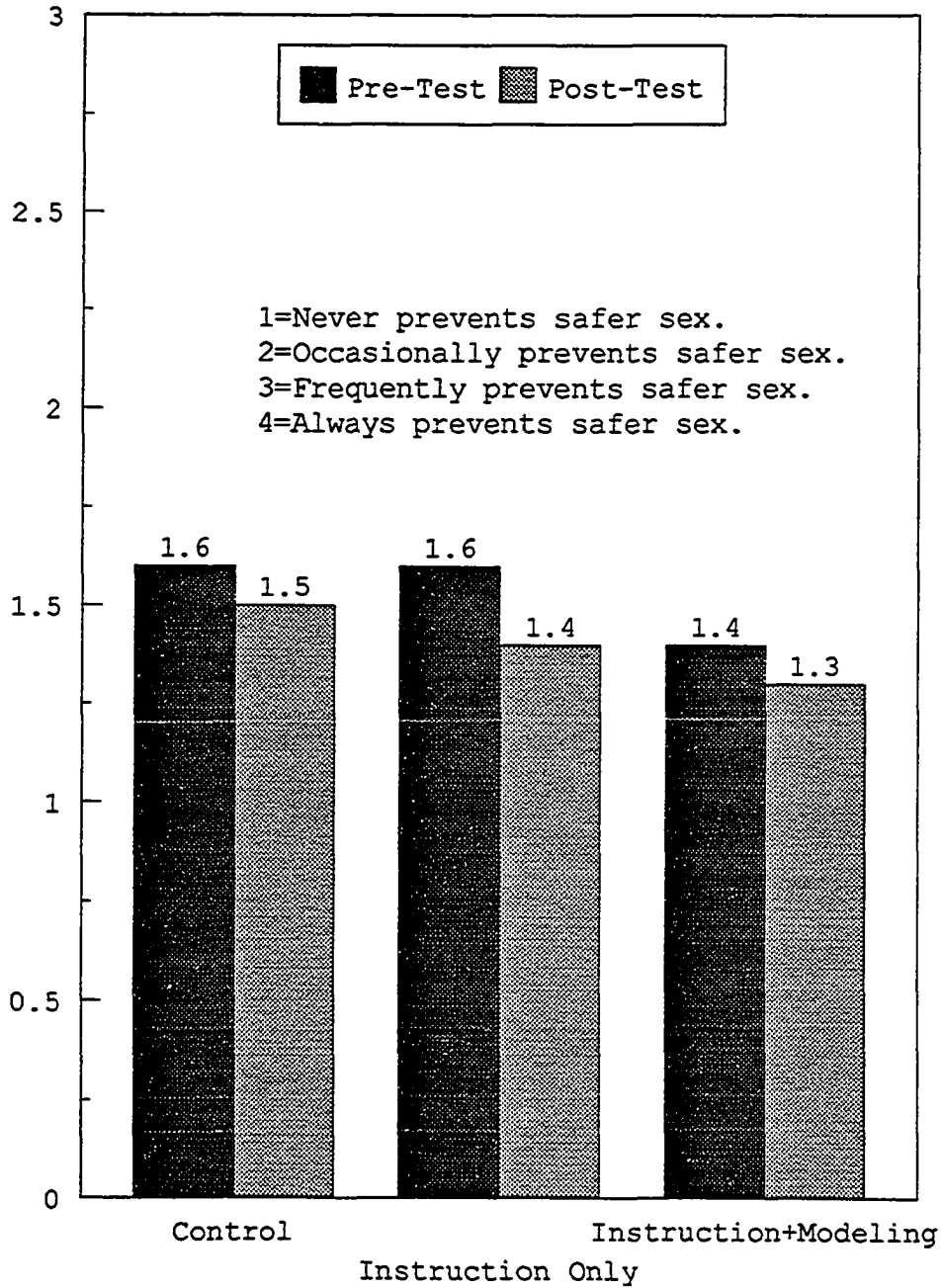


Figure 17. Mean Rating for Other Barriers to Safer Sex.

Table 7
Change Scores (Pre- to Post-Test) on Group Means of
Five Dependent Variable Categories

Group	Safer Sex*	Risky Sex*	Behaviors Associated With Safer Sex*	Erotic Barriers	Other Barriers
Control	0.4	0.4	1.3	-0.3	-0.1
Instruction Only	0.0	-1.6	-0.4	-0.4	-0.2
Instruction Plus Modeling	-0.4	2.4	-3.8	-0.4	-0.1

CHAPTER VIII

EXPERIMENT TWO: DISCUSSION

The descriptive data from Experiment Two show that all participants were at some degree of risk for the sexual transmission of HIV. One of the inclusion criteria required that all participants report inconsistent safer sexual practices. Four weeks of pre-test data on the frequency of risky sex support this self-report from the initial screening. The mean monthly frequencies of risky behaviors at pre-test ranged from 14.4 behaviors per month to 16.8 behaviors per month (see Figure 11). These data on unprotected sexual intercourse indicate that the participants in Experiment Two represent a population which could benefit from HIV prevention programming.

Inclusion criteria also assessed the degree to which the participants in Experiment Two were similar to those from Experiment One. Reports of age and race for both studies show similarities between the two populations (i.e., mode age, Experiment One = 18; mode age, Experiment Two = 19; race, Experiment One = 92% Anglo; race, Experiment Two = 97% Anglo). In addition, one of the inclusion criteria for Experiment Two required that the

participants report decreased sensations and spontaneity as barriers to safer sex. These two barriers reflect those reported by the majority of sexually active men in Experiment One. Since the intervention for Experiment Two was based upon these results from Experiment One, these consistencies in demographics and measurement of self-reported barriers support the validity of the results from Experiment Two.

To further strengthen the methodology of Experiment Two, two inclusion criteria assessed pre-requisite knowledge and skills. As a result, all participants demonstrated a basic knowledge about the sexual transmission of HIV, as measured by correct answers to all seven knowledge items (see Screening Form, Appendix B). In addition, the analogue condom application assessment showed that all participants possessed some basic knowledge about condom application and condom application skills. These pre-treatment measures of knowledge and skills permit more specific interpretation of the role of video instruction and/or modeling on relevant behaviors and attitudes.

Visual and statistical analyses of Safer Sex, Behaviors Associated with Safer Sex and Risky Sex, show little evidence of clinically significant change as a function of viewing either video. Minimal decreases in the ratings of Erotic and Other Barriers to Safer Sex did not

attain statistical significance. These results suggest that viewing either video alone was insufficient to affect clinically significant behavior or attitude change.

Given this relative lack of behavior and attitude change, several methodological issues require consideration. Experiment Two collected data to assess contact with the independent variables. The data from the Video Questionnaire suggest that the majority of participants assigned a video did watch it. Some participants in the Instruction Plus Modeling group watched it more than once, and a number of participants in both groups watched the video with a sexual partner. Anecdotal report from several heterosexual, male college students further suggests that the erotic material in the Experiment Two videos might have appealed to the intended audience.

Data from Experiment Two also discount speculation about previous research which attempted to explain a lack of attitude change among heterosexual men viewing an erotic, safer sex video. Lagana and Hayes (1993) suggested that men might selectively attend to erotic materials, rather than attending to safer sex aspects of a video (Lagana & Hayes, 1993). In Experiment Two, men responded to items about the content of both videos with a high degree of accuracy (i.e., only one person incorrectly answered one question). This suggests that men

viewing the video attended to at least some information provided in the video. Secondly, the Instruction Only video controlled for the effects of sexually explicit materials. Since the Instruction Only video (without the erotic movie clips) did not significantly alter any target behavior, possible distraction from erotic stimuli alone does not explain the lack of change in behavior and attitudes related to HIV transmission.

The methodology of Experiment Two alone can not rule out the possibility of contamination of the independent variables. All participants assigned to a video condition were told to refrain from sharing it with anyone else. Since recruitment occurred on a college campus, and, in at least one case, among fellow members of a campus organization, there remains considerable potential that participants shared the videos. Even though this contamination remains a possibility, the minimal changes in behavior and attitudes within all groups do not suggest any significant treatment effects.

The lack of change in behaviors associated with safer sex, safer sex and risky sex cannot be explained by insufficient knowledge or condom application skills. As determined by the initial screening procedures, participants in this study possessed some good basic knowledge about the sexual transmission of HIV, as well as knowledge and skills about condom application. Despite these

precautions, consideration of additional pre-requisite skills remains relevant. Despite the self-report of erotic barriers to safer sex, participants may not have adequately identified their own barriers, such as fear of rejection, ability to adequately communicate about safer sex or anxiety about purchasing safer sex supplies.

Another potential explanation for a lack of behavior change relates to extra-experimental variables. Certain aspects of college life may have interfered with availability of sexual opportunities. A good portion of recruitment occurred at the beginning of semesters. Anecdotal report from several participants suggests that, as the semester progressed, they became increasingly involved in coursework, leaving less time for social activities. In addition, several participants completed their post-test data sheets during a two week break between semesters. If their primary source of sexual opportunities came from the college campus, then returning home for the holidays may have resulted in fewer available partners. Since data collection occurred over a relatively short period of time within the academic calendar, the measures used in Experiment Two may have been affected by these extra-experimental variables.

Finally, Experiment Two did not collect data about the sexual partners of the participants. Anecdotal report from several participants suggests differing

sexual practices with a steady sexual partner (i.e., "my girlfriend") and new or intermittent sexual partners. Initiating safer sex in a new relationship may be easier than initiating safer sex in a relationship with a history of exclusively risky sex. Measures of the target behaviors with new partners versus steady partners might have revealed whether or not these differences exist.

Overall, the theoretical and empirical literature did not entirely anticipate the results of Experiment Two. As cited earlier, Masters et al. (1987) may represent the exception. Their review of the literature on modeling cautioned that modeling alone was rarely sufficient for the acquisition of new behavior. The videos for Experiment Two were developed from the perspective that the addition of instruction might strengthen a modeling intervention. The results of Experiment Two did not support this hypothesis.

The theoretical analysis of verbal behavior was invoked to support an intervention based on instruction and modeling. From this perspective, the video-based instruction and modeling provided opportunities for viewers to form their own contingency-specifying stimuli. These contingency-specifying stimuli were anticipated to evoke new or infrequent behavior in the presence of relevant antecedent conditions. The novel or infrequent behavior, once evoked, was expected to be maintained by di-

rect-acting contingencies. The lack of behavior change in Experiment Two leads to speculation about mechanisms responsible for these results.

A personal history of following the instructions of a speaker is a pre-requisite for the function-altering effects of contingency-specifying stimuli. Such a history would consist of emitting behavior congruent with those instructions, followed by contact with reinforcing contingencies (Michael, 1993). It is possible that the participants in this study did not have such a history with people similar to the actors in the video. In addition, it is possible that the actors modeling sexual behaviors may not have seemed similar enough to the participants' own sexual activities. Under these circumstances, self-generated verbal descriptions about the erotic possibilities of safer sex seem unlikely.

It is also possible that, as a result of watching the videos, some men did emit novel behavior. Once emitted, a number of other environmental events could have exerted more control over the behavior than the antecedent events addressed by instruction or modeling. For example, a partner might have refused to use a condom, following its introduction into sexual activity. Without sufficient skills to assertively negotiate condom use, it is unlikely that introduction of a condom during sexual activity would be maintained. In addition, com-

peting histories of reinforcement could have exerted more control over practicing risky sex than practicing safer sex. In this situation, a video viewer might covertly rehearse the contingency-specifying stimulus, as discussed earlier. In the presence of sexual stimulation and a consensual partner, a history of sexual intercourse without latex barriers might have exerted more control over behavior than verbal behavior describing the erotic sensations possible when practicing safer sex.

Additional concerns about the lack of behavior change in Experiment Two arise when considering the results of Robinson (cited in Anon & Robinson, 1978). His study with non-orgasmic females and the use of video instruction and modeling, resulted in the acquisition of novel behavior, as well as increases in low-rate behaviors. One difference between the current experiment and Robinson's (cited in Annon & Robinson, 1978) investigation is the motivation of the participants. Nonorgasmic women who self-identify for treatment may have greater motivation to develop or increase sexual behavior that will presumably result in pleasure. Experiment Two focused upon heterosexual male college students who reported inconsistent safer sex behavior because they believe it detracts from the erotic experience. These men may be less motivated to engage in behavior that they believe will result in less pleasure. In addition, the

men in Experiment Two may have been motivated to participate in this study due to financial compensation. This provides a unique source of motivation based upon variables that are not even related to the content of the study.

Experiment Two did not provide any compelling evidence of change in attitudes toward condoms. This contrasts with Lagana and Hayes (1993), who reported that improved attitudes about condom use resulted from interventions incorporating erotica. Several possible, but unsupported, explanations remain. First, the instruments used to assess change in attitudes about condoms differ between Experiment Two and other investigations. Whereas Experiment Two used only two items to ask about the erotic issues in condom use and safer sex practices, other studies used more extensive measures of attitudes about condoms (e.g., The Attitudes Toward Condoms Scale, Tanner & Pollack, 1988). Therefore, the instruments in these other studies may have been more sensitive to attitude change.

A second potential explanation for the lack of attitude change concerns the amount of time that passed between the intervention and the post-test measure of attitudes. In previous research (Lagana and Hayes, 1993) measures of attitude change occurred immediately after

the intervention. Experiment Two measured attitudes four weeks after the intervention.

Despite these considerations, this discrepancy between the results of Lagana and Hayes (1993) and Experiment Two may be of limited significance until additional research establishes the existence of any relationship and/or causality between altering attitudes and effecting covert behavior change. Despite a considerable body of HIV literature examining relationships between attitudes and behavior, no research to date clearly demonstrates that attitude change results in overt behavior change. Until research adequately addresses the role (if any) of causality between attitudes and overt behavior, report of attitude change seems best interpreted with caution.

Chapter V presented several investigations which seemingly supported the development of the videos evaluated in Experiment Two. The most direct support of Experiment Two came from Quadland et al. (1988), who reported increases in safer sex behaviors, following the use of erotic visuals in safer sex education for homosexual males. Surprisingly, Experiment Two failed to support the results of Quadland et al. (1988). The relative paucity of information about the Quadland et al. (1988) research methodology limits any detailed discussion of the incongruities between these studies. However, one possible explanation includes the fact that Quadland et

al. (1988) did not control for the inadvertent effects of basic knowledge and skills development. Another potential source for this seeming discrepancy relates to motivational variables. The participants in the Quadland et al. (1988) study were homosexual men living in New York City. Since the urban gay communities account for the majority of early cases of HIV infection, the participants in Quadland et al. (1988) may have been more strongly affected by motivational variables promoting the practice of safer sex than heterosexual college males. In fact, research shows that the majority of HIV-related behavior change in this country has occurred in gay communities (Becker & Joseph, 1988; Catania et al., 1991). Given the disproportionately high number of HIV-infected urban, gay men, it is possible that the Quadland et al. (1988) interventions were due, in part, to the effects of HIV-infection on the gay community.

In terms of motivational variables, the participants in Experiment Two may well reflect the average heterosexual male college student. It is possible that, unlike the participants in the Quadland et al. (1988) or Robinson (cited in Anon & Robinson, 1978) studies, the majority of students are not under the control of multiple environmental contingencies that set the stage for the change of sexual behaviors. An inclusion criterion assessing such motivation for change (i.e., risk percep-

tion; knowing someone with HIV; previous STD diagnosis; etc.) might help assess the validity of HIV-interventions with participants more similar to those in the Quadland et al. (1988) study. However, prior to assessing such motivational variables, descriptive research must more clearly establish a relationship between these variables and long-term change in sexual behavior in the college student population.

The relative lack of behavior and attitude change in Experiment Two suggests re-evaluation of earlier recommendations for the use of sexually explicit material in HIV-prevention programs. The barriers reported by heterosexual males in Experiment One, however, do not necessarily suggest that treatment components similar to the videos developed for Experiment Two, be abandoned. Authors (e.g., Kelly et al., 1993) have begun to cite the need for multi-component interventions. The videos used in Experiment Two could potentially play a role in such a multi-component treatment package.

Experiments One and Two provide a number of suggestions for future research. The self-report of barriers to safer sex suggest a profitable avenue of investigation. Research could assess the existence of additional barriers. As suggested earlier, focus groups, especially those representing various sub-cultures, might result in an extension of the list of ten barriers assessed in

Experiment One. With the addition of psychometric improvements, an instrument sensitive to individual needs could result in the prescription of tailored treatment packages. Such an assessment device could also provide a measure of treatment efficacy.

Due to the epidemic proportions of HIV infection (Kelly et al., 1993), individualized HIV-prevention programming does not currently appear feasible. Given this state of affairs, the report of barriers by the majority of students then becomes a potentially important element in a multi-component treatment package. Videos, such as the ones developed for Experiment Two, may play a role as one part of a prevention program. Interventions targeting barriers to safer sex, in combination with skills development, will then require validation. Some of this work has already begun (Fisher & Fisher, 1992). When a substantial body of research establishes the efficacy of these multi-component interventions, with a variety of populations, researchers may then investigate the relative contributions of various program components. Until the literature establishes this degree of sophistication, linear approaches to HIV-prevention appear premature.

Appendix A
Western Michigan University Sexual Health Survey

WMU STUDENT SEXUAL HEALTH SURVEY

112

DO NOT WRITE YOUR NAME, SOCIAL SECURITY NUMBER, OR ANY OTHER IDENTIFYING INFORMATION ON THIS QUESTIONNAIRE NOR ON THE RETURN ENVELOPE.

Complete the enclosed questionnaire and return it by **MONDAY, NOVEMBER 5, 1990.**

Your responses are completely anonymous so please answer each of the following questions completely and honestly.

-
1. Sex: Male Female

 2. Age: Under 18 20-21 24 or over
 18-19 22-23

 3. Which of the following best describes your race/ethnic group?
 Black, African American Asian
 White, Caucasian Hispanic
 Other: (Describe: _____)

 4. Academic status:
 Freshman Junior Graduate Student
 Sophomore Senior

 5. Which of the following best describes your current living arrangement?
 On-campus housing: residence hall
 On-campus housing: apartment
 Living with parents or relatives in the community
 Living off campus in an apartment or rented house
 Living in a fraternity or sorority house

 6. Primary sexual orientation:
 Heterosexual (sexually attracted to persons of opposite sex)
 Homosexual (sexually attracted to persons of same sex)
 Bisexual (sexually attracted to persons of both sexes)
 Asexual (not sexually attracted to persons of either sex)

 7. Current relationship status:
 Not seeing/dating anyone Living with partner, not married
 Seeing/dating one person only Married
 Seeing/dating more than one person

 8. This item asks about sexual activity **DURING YOUR LIFETIME** -- not just about a current relationship. Which of the following best describes your sexual history?
 No sexual intercourse ever (oral, anal or genital).
 Sexual intercourse with only one partner; partner has/had sexual intercourse only with you.
 Sexual intercourse with one partner; partner has/had sexual intercourse with more than one partner.
 Sexual intercourse with more than one partner.

BESIDE EACH OF THE FOLLOWING STATEMENTS, WRITE:

"T" if you believe the statement is generally or basically TRUE;
 "F" if you believe the statement is generally or basically FALSE.

9. _____ About 95% of the students at W.M.U. engage in some form of sexual intercourse by the time they are seniors.
10. _____ There is rarely any sexual activity between persons of the same sex on a university campus, such as Western's.
11. _____ If a person has one sexual experience with someone of the same sex, this means that he or she is gay or lesbian.
-
12. Have you ever been diagnosed with a sexually transmitted disease?
 Yes: Go to Question #12a.
 No: Go to Question #13.
- 12a. Check which diseases you have now or have had in the past.
 Gonorrhea
 Genital Herpes (Herpes Simplex)
 Chlamydia
 Venereal Warts (HPV, Human Papilloma Virus)
 Syphilis
 Other (Please describe: _____)
13. Have you been tested for AIDS?
 Yes: Go to Question #13a.
 No: Go to Question #14.
- 13a. What were the results?
 I tested positive for AIDS.
 I tested negative for AIDS.
14. Please estimate the chances that you ARE INFECTED by HIV, the AIDS virus.
 0% 26 - 50% 76 - 100%
 1 - 25% 51 - 75%
15. Please estimate the chances that you will be infected (or additionally exposed to) HIV, the AIDS virus IN THE FUTURE.
 0% 26 - 50% 76 - 100%
 1 - 25% 51 - 75%
16. Check the appropriate category to complete this sentence:
 "I know or have known _____ person(s) with AIDS or AIDS-related conditions."
 Zero Two Four or More
 One Three

BESIDE EACH OF THE FOLLOWING STATEMENTS, WRITE:

"T" if you believe the statement is generally or basically TRUE;
"F" if you believe the statement is generally or basically FALSE.

17. _____ According to some studies, AIDS is likely to be one of the leading causes of death for American women of childbearing age by 1991.
18. _____ Some sexually transmitted diseases other than AIDS may affect an individual for life.
19. _____ Chlamydia is one of the most common sexually transmitted diseases among college students.
20. _____ When a person is infected with HIV (the virus responsible for AIDS), s/he may not show symptoms of the infection for several years.
21. _____ In the U.S., the majority of people infected with HIV show symptoms of AIDS.
22. _____ HIV may be present in the blood, vaginal secretions, and semen of infected persons.
23. _____ People with AIDS can transmit the virus ONLY when they are sick with AIDS symptoms.
24. _____ Proper use of condoms with spermicide during anal or genital intercourse decreases the possibility of being infected with HIV.
25. _____ Anonymous tests are available free of charge in the Kalamazoo area to determine if a person has been exposed to HIV.
26. _____ If a person has his or her blood tested and it shows no evidence of HIV, this means that the person could not be infected and that he or she would be a safe sexual partner.
27. _____ In laboratory tests, the active ingredient in spermicide does not kill HIV.
28. _____ Applying a condom to an uncircumcised penis is just the same as applying one to a circumcised penis.

THE FOLLOWING QUESTIONS ASK ABOUT THE TRANSMISSION OF HIV/AIDS.**BESIDE EACH OF THE FOLLOWING STATEMENTS, WRITE:**

"Y" Yes, there is a good possibility that one could be infected;
"N" No, there is very little possibility that one could be infected.

29. _____ Sexual intercourse, without a condom, with an infected female who is on birth control pills.
30. _____ Sitting on a toilet seat in a public bathroom.
31. _____ Being abstinent (no sexual intercourse) and not sharing needles to shoot drugs.
32. _____ Being abstinent and sharing needles to shoot drugs.

33. _____ Sexual intercourse with a person infected with HIV without a condom.
34. _____ Casual contact (talking, kissing, hugging) with someone infected with HIV.
35. _____ Being sneezed or coughed on by someone infected with HIV.
36. _____ A long-term, mutually faithful sexual relationship where both partners are infected.
37. _____ Unprotected anal intercourse with someone who does not have HIV.

THE FOLLOWING QUESTIONS ASK ABOUT YOUR SEXUAL LIFE.

If you've never had sexual partners, have never engaged in sexual activity of any kind, including kissing and masturbation, and have never shared needles to inject drugs, GO TO Question #54.

ALTHOUGH THIS IS PERSONAL INFORMATION, PLEASE ANSWER THESE QUESTIONS HONESTLY AND COMPLETELY. REMEMBER THAT YOUR ANSWERS ARE COMPLETELY ANONYMOUS.

In each blank, write your best estimate for the items listed. Use NUMBERS - including ZERO - to estimate your activities during the PAST MONTH.

38. _____ Number of sex partners during the past month.
39. _____ Number of times during the past month you shared a needle with someone to inject drugs.
40. _____ Kissing/petting (during the past month).
41. _____ Solitary masturbation (you masturbating alone).
42. _____ Mutual masturbation (you and a partner(s) masturbate each other).
43. _____ Massage that is primarily sexual (during the past month).
44. _____ Genital sex (penis in or around vagina) with a condom.
45. _____ Genital sex without a condom.
46. _____ Oral sex (mouth to penis, vagina, or anus) with a condom or other barrier made of latex.
47. _____ Oral sex without a condom or other barrier made of latex.
48. _____ Anal sex (penis in anus) with a condom.
49. _____ Anal sex without a condom.
50. _____ Genital, oral or anal sex following the use of alcohol or other drugs..
51. _____ Genital, oral or anal sex with someone who may be sharing needles to inject drugs.

IF YOU HAVE NEVER ENGAGED IN INTERCOURSE OF ANY KIND, GO TO QUESTION #54. ¹¹⁶

52. About how often do you use a condom when you have sexual intercourse (i.e., genital, oral, or anal sex)?
- Engage in sexual intercourse but NEVER with a condom.
 - Some of the time (less than 50% of the time).
 - Most of the time (more than 50% of the time).
 - All of the time (i.e., 100% of the time).
53. About how often do you use BOTH a condom AND spermicide (or other lubricant to inhibit HIV) when you have sexual intercourse (i.e., anal or genital sex)?
- Engage in sexual intercourse but NEVER with a condom AND spermicide.
 - Some of the time (less than 50% of the time).
 - Most of the time (more than 50% of the time).
 - All of the time (i.e., 100% of the time).
54. Are you taking any precautions with SEXUAL ACTIVITIES to protect yourself from sexually transmitted diseases?
- I am not sexually active mainly because I'm afraid of sexually transmitted diseases. (GO TO QUESTION #68)
 - I am not sexually active but it is not because I'm afraid of sexually transmitted diseases, it's for other reasons (i.e., waiting for the "right person"; moral or religious convictions; etc.). (GO TO QUESTION # 68)
 - I am sexually active and I am taking precautions. (GO TO QUESTION #55)
 - No, I am sexually active and I am not taking precautions. (GO TO QUESTION #57)
55. In order to reduce the risk of sexually transmitted disease, I currently:
- Have reduced the number of people that I have sex with.
 - Participate in sexual activities such as massage or masturbation, instead of sexual intercourse.
 - Talk with potential partners about their sexual histories.
 - Use condoms and/or spermicide.
56. If you take any additional precautions, please list them: _____

BEGIN HERE FOR QUESTION 57

People may not always act to protect themselves sexually transmitted diseases.

What -- if anything -- prevents YOU from adopting safer sexual behaviors?

Using the following number system, circle the appropriate number to rate each of the following:

1 = This never prevents me from practicing safer sex.

2 = This occasionally prevents me from practicing safer sex.

3 = This frequently prevents me from practicing safer sex.

4 = This always prevents me from practicing safer sex.

- | | Never | | Always |
|--|-------|---|--------|
| | 1 | 2 | 3 4 |
| 57. I do not <u>really</u> believe I will get a sexually transmitted disease. | 1 | 2 | 3 4 |
| 58. I believe all sexually transmitted diseases can be easily treated. | 1 | 2 | 3 4 |
| 59. I am uncomfortable talking with a sex partner about using condoms or taking other precautions. | 1 | 2 | 3 4 |
| 60. I am uncomfortable about purchasing condoms or other supplies. | 1 | 2 | 3 4 |
| 61. I don't have the money to buy condoms or other materials for safer sex.. | 1 | 2 | 3 4 |
| 62. I don't know how to correctly use a condom. | 1 | 2 | 3 4 |
| 63. I am afraid that if I asked a sexual partner to take precautions/ he or she would refuse. | 1 | 2 | 3 4 |
| 64. I don't really know enough about safer sexual health to be able to make changes. | 1 | 2 | 3 4 |
| 65. I think that safer sex practices interfere with the spontaneity of sex. | 1 | 2 | 3 4 |
| 66. I think that using condoms decreases the pleasurable sensations of sex. | 1 | 2 | 3 4 |
| 67. If there are additional issues which prevent you from practicing safer sex, list them: | | | |

Please indicate how important each of the following sources of sexual health information is/has been for you.

- 1 = Extremely important
- 2 = Somewhat important
- 3 = Somewhat unimportant
- 4 = Extremely unimportant
- 5 = I never use information from this source

	Extremely Important			Extremely Unimportant	
68. Newspapers	1	2	3	4	5
69. Magazines	1	2	3	4	5
70. High school classes	1	2	3	4	5
71. Lectures	1	2	3	4	5
72. A presentation at a community agency such as Planned Parenthood.	1	2	3	4	5
73. Television programs	1	2	3	4	5
74. Watching videos or films not presented on television	1	2	3	4	5
75. Talking to friends my own age	1	2	3	4	5
76. Talking with parents, other family members or adult friends	1	2	3	4	5
Other: Fill in the blanks below and then rate.					
77. _____	1	2	3	4	5
78. _____	1	2	3	4	5

If you were designing a program to inform college students about sexual health, which of the following methods would you want to include in your program? Rate the importance of the following methods with this number scale:

- 1 = Extremely important
- 2 = Somewhat important
- 3 = Somewhat unimportant
- 4 = Extremely unimportant

	Extremely Important			Extremely Unimportant
79. Articles in student newspapers.	1	2	3	4
80. Posters displayed on campus.	1	2	3	4
81. Student volunteers distributing pamphlets on campus.	1	2	3	4

Extremely Important Extremely Unimportant

- | | 1 | 2 | 3 | 4 |
|--|---|---|---|---|
| 82. Mail information to all enrolled students. | 1 | 2 | 3 | 4 |
| 83. Student volunteers distribute condoms and spermicide on campus, along with information on how to use them. | 1 | 2 | 3 | 4 |
| 84. Provide free brochures at the student health center where students can pick them up anonymously. | 1 | 2 | 3 | 4 |
| 85. Provide free condoms and spermicide at the student health center where students can pick them up anonymously. | 1 | 2 | 3 | 4 |
| 86. Provide free sterile needles at the student health center where students can pick them up anonymously. | 1 | 2 | 3 | 4 |
| 87. Provide a 24-hour hotline which students can call with questions about sexual health. | 1 | 2 | 3 | 4 |
| 88. Provide vending machines for condoms on campus where students have 24-hour access to them. | 1 | 2 | 3 | 4 |
| 89. Provide condoms and spermicide for sale at the university bookstore. | 1 | 2 | 3 | 4 |
| 90. Provide condoms and spermicide for sale at convenience stores on or near campus. | 1 | 2 | 3 | 4 |
| 91. Require mandatory attendance at workshops where students learn and practice skills required for safe sexual health. | 1 | 2 | 3 | 4 |
| 92. Provide students the opportunity to voluntarily attend workshops where students learn and practice skills required for safe sexual health. | 1 | 2 | 3 | 4 |
| 93. Regularly schedule lectures on campus related to sexual health. | 1 | 2 | 3 | 4 |
| 94. Require students to attend a class in general health education which incorporates a unit on sexual health. | 1 | 2 | 3 | 4 |
| 95. Provide an elective course on general health education which incorporates a unit on sexual health. | 1 | 2 | 3 | 4 |
| 96. In the space below, please describe any other components you would include in your sexual health education program: | | | | |

97. Since enrolling at WMU, did you receive a brochure in the mail about AIDS from the ¹²⁰ university? (The brochure was black, red, and white and entitled "AIDS: Protecting Each Other".)
- Yes No: GO TO QUESTION #103
 I don't remember: GO TO QUESTION #103
98. About how much of the brochure did you read?
- 0%: GO TO QUESTION #103
 25% 75%
 50% 100%
99. How helpful did you find the brochure?
- Extremely helpful Not helpful at all
 Somewhat helpful
100. As a result of reading the brochure, do you intend to make changes in your behavior to protect yourself from HIV?
- Yes No
101. As a result of reading the brochure, have you already made any changes in your behavior to protect yourself from HIV?
- Yes No
102. Do you think mailings of this brochure should be continued?
- Yes No
103. Check any of the following activities you have participated in since enrolling at WMU.
- The short presentation on sexual health at the Sindecuse Health Center given by Chris Zimmer during Freshmen Orientation.
 - The Sindecuse Health Center workshop entitled, "Healthy Sexual Choices" presented at the Health Center.
 - The workshops entitled, "Sex on the College Campus: Myths and Facts" sponsored by the Health Center, and presented in residence halls.
 - Academic classes in which Chris Zimmer or a peer educator gave a special presentation about AIDS and/or sexual health issues.
 - Participated in Psychology Department video study on AIDS.
 - Academic classes in which professor/instructor provided information about AIDS and/or sexual health issues.

IF YOU'VE ATTENDED NONE OF THE ABOVE, GO TO QUESTION #107.

104. As a result of any of these activities, do you intend to make changes in your behavior to protect yourself from HIV or other sexually transmitted diseases?
- Yes No
105. As a result of any of these activities, have you already made changes in your behavior to protect yourself from HIV or other sexually transmitted diseases?
- Yes No
106. Do you think these activities should be continued?
- Yes No

107. Write what, if anything, you found HELPFUL in any WMU brochures or workshops. Be certain to identify the source of the information (i.e., the brochure; "Healthy Sexual Choices", "Sex on the College Campus"; etc.).

108. Write what, if anything, you found OFFENSIVE in any WMU brochures or workshops.

THIS COMPLETES THE QUESTIONNAIRE.

Thank you for your time. Using the envelope provided, please mail this by **MONDAY, NOVEMBER 5, 1990**. If you plan to enter the prize drawing for \$50.00, complete and mail the postcard by **MONDAY, NOVEMBER 5, 1990**.

Appendix B
Instruments From Experiment Two

SCREENING FORM

Code Number: _____

Age: _____

Date: _____

Race: _____

BESIDE EACH OF THE FOLLOWING STATEMENTS, WRITE:

"T" if you believe the statement is generally or basically TRUE;

"F" if you believe the statement is generally or basically FALSE.

1. ___ In the U.S., the majority of people infected with HIV show symptoms of AIDS.
2. ___ A person who tested negative for HIV antibodies 5 years ago cannot transmit HIV now.
3. ___ The active ingredient in spermicide cannot kill HIV.
4. ___ When two people who do not have HIV engage in unprotected anal intercourse, there is a GOOD probability of HIV transmission.
5. ___ Condoms and other latex barriers, when used properly, reduce the risk of HIV transmission.
6. ___ Unprotected intercourse of ANY kind (i.e., oral, anal or vaginal) with someone infected with HIV can result in the transmission of HIV.

CIRCLE THE LETTER NEXT TO THE CORRECT RESPONSE:

7. Condoms or lubricants that provide the maximum protection from HIV contain:
 - A. propylene glycol
 - B. nonoxynol-9
 - C. methylparaben
 - D. propylparaben
 - E. quaternium-15

8. About how often do you use a condom or other latex barrier when you have sexual intercourse (i.e., vaginal, oral or anal sex)?

A. I NEVER engage in any form of sexual intercourse.

B. I engage in sexual intercourse but NEVER with a condom because I have been in a mutually monogamous relationship for more than 10 years.

C. I engage in sexual intercourse but NEVER with a condom because my partner and I have been mutually monogamous since at least one year before both of us tested negative for HIV.

D. I engage in sexual intercourse but NEVER with a condom.

E. I use a condom some of the time (less than 50% of the time).

F. I use a condom most of the time (more than 50% of the time).

G. I use a condom all of the time (100% of the time).

8a. In a typical month, I usually encounter _____ opportunities during which I could engage in some form of sexual activity, such as kissing, petting and oral, genital or anal intercourse.

People may not always act to protect themselves from sexually transmitted diseases.

I'd like to know the degree to which the following obstacles prevent YOU from consistently adopting safer sexual behavior.

Using the following number system, circle the appropriate number to rate each of the following obstacles:

- 1=This never prevents me from practicing safer sex.
- 2=This occasionally prevents me from practicing safer sex.
- 3=This frequently prevents me from practicing safer sex.
- 4=This always prevents me from practicing safer sex.

	1	2	3	4
I am uncomfortable about purchasing condoms or other safer sex supplies.	1	2	3	4
I do not really believe I will get a sexually transmitted disease.	1	2	3	4
I believe all sexually transmitted diseases can be easily treated.	1	2	3	4
I am uncomfortable talking with a sex partner about using condoms or taking other precautions.	1	2	3	4
I don't have the money to buy condoms or other materials for safer sex.	1	2	3	4
I don't know how to correctly use a condom.	1	2	3	4
I am afraid that if I asked a sexual partner to take precautions, he or she would refuse.	1	2	3	4
I don't really know enough about safer sexual sexual health to be able to make changes.	1	2	3	4
I think that safer sex practices interfere with the spontaneity of sex.	1	2	3	4
I think that using condoms decreases the pleasurable sensations of sex.	1	2	3	4

SCREENING FORM: Condom Application
Code Number: _____
Date: _____

THE PURPOSE OF THIS PART OF THE ASSESSMENT IS TO SEE HOW WELL YOU CAN APPLY A CONDOM TO THIS MODEL OF A PENIS.

I'LL START WITH A QUESTION: WHEN IS THE PENIS READY FOR CONDOM APPLICATION?

Yes No 1. Correct answer? (penis is erect, hard)

AND NOW A SECOND QUESTIONS: IS THERE ANYTHING A PERSON SHOULD DO DIFFERENTLY WHEN APPLYING A CONDOM TO AN UNCIRCUMCISED PENIS?

Yes No 2. Correct answer? (pull back foreskin)

AS YOU CAN SEE, THERE ARE A VARIETY OF ITEMS HERE THAT MIGHT BE USED IN APPLYING A CONDOM TO A PENIS. SELECT THOSE YOU THINK ARE NEEDED FOR AIDS PREVENTION AND USE THEM TO APPLY A CONDOM TO THIS MODEL OF A PENIS. TELL ME WHEN YOU ARE FINISHED.

CONDOM AND LUBRICANT CHECKLIST: PART 1

CONDOM SELECTION:

FIRST ATTEMPT	SECOND ATTEMPT
Green (unlubricated)	(unlubricated)Green
LightBlue(lubricated no N-9)	(lubricated no N-9)LightBlue
DarkBlue(lubricated with N-9)	(lubricated with N-9)DarkBlue
Black(sheep)	(sheep)Black

YES NO Adds lubrication INSIDE TIP of condom YES NO
or on model?

INSIDE LUBRICANT SELECTION:

FIRST ATTEMPT	SECOND ATTEMPT
Baby Oil	Baby Oil
Vaseline	Vaseline
K-Y	K-Y
Lubricant with N-9	Lubricant with N-9
None	None

Yes No 3. Lightly pinch tip of condom Yes No
before application?

- Yes No 4. Rolls over model, fingers sliding down shaft? Yes No
 Yes No 5. Condom unrolls in proper direction? Yes No
 Yes No 6. Condom unrolled to incline at base of model? Yes No

CONDOM AND LUBRICANT CHECKLIST: PART 2

- YES NO Adds lubrication OUTSIDE condom? YES NO

OUTSIDE LUBRICANT SELECTION:

FIRST ATTEMPT

- Baby Oil
 Vaseline
 K-Y
 Lubricant with N-9
 None

SECOND ATTEMPT

- Baby Oil
 Vaseline
 K-Y
 Lubricant with N-9
 None

- Yes No 7. Best condom and lubricant selection? (Dark Blue+N-9 inside, ± n-9 outside) Yes No
 Yes No 8. Rips or tears? Yes No
 Yes No 9. Tip inflated with air, like a balloon? Yes No
 Yes No 10. Distance between bottom of tip and head of penis appropriate? Yes No

NOW LET'S ASSUME THAT THE MALE PARTNER HAS JUST EJACULATED OR CUM. WHEN SHOULD THE CONDOM BE WITHDRAWN?

- Yes No 11. Correct answer? (immediately after orgasm OR before erection is lost)
 Yes No 12. Correct answer? (hold condom at base AND pull BOTH out)

SEXUAL BEHAVIOR AND ATTITUDE CHECKLIST

CODE NUMBER: _____ DATE: _____

Beside each activity, give your best estimate of the number of times you participated in the activity during THE PAST WEEK. (If you did not engage in an activity, write a "0" in the blank.)

WITH a latex condom or other latex barrier:

- penis in vagina mouth on or around vaginal opening
 penis in mouth mouth on or around anal opening
 penis in anus
 you stimulated your partner's genitals or other sensitive areas as she applied a condom to your penis
 your partner stimulated your genitals or other sensitive areas as you applied a condom to your penis
 partners maintained some physical touch while obtaining safer sex supplies
-

WITHOUT a latex condom or other latex barrier:

- penis in vagina mouth on or around vaginal opening
 penis in mouth mouth on or around anal opening
 penis in anus
-

OTHER activities:

- read the label of a condom or sexual lubricant
 ordered a catalogue of safer sex supplies
 with a sexual partner, shopped for or ordered safer sex supplies
 without a sexual partner, shopped for or ordered safer sex supplies
 asked your partner to engage in a safer sex activity or technique
 physically guided your partner into trying a safer sex technique
 viewed a safer sex erotic video with your sexual partner
 lubricant added inside the tip of a condom before applying it
 masturbated or experimented alone with safer sex supplies
 you talked positively about the erotic possibilities of safer sex to someone (not necessarily a sex partner)

OVER PLEASE

People may not always act to protect themselves from sexually transmitted diseases.

I'd like to know the degree to which the following obstacles prevent YOU from consistently adopting safer sexual behavior.

Using the following number system, circle the appropriate number to rate each of the following obstacles:

- 1=This never prevents me from practicing safer sex.
- 2=This occasionally prevents me from practicing safer sex.
- 3=This frequently prevents me from practicing safer sex.
- 4=This always prevents me from practicing safer sex.

	Never	Always		
I am uncomfortable about purchasing condoms or other safer sex supplies.	1	2	3	4
I do not really believe I will get a sexually transmitted disease.	1	2	3	4
I believe all sexually transmitted diseases can be easily treated.	1	2	3	4
I am uncomfortable talking with a sex partner about using condoms or taking other precautions.	1	2	3	4
I don't have the money to buy condoms or other materials for safer sex.	1	2	3	4
I don't know how to correctly use a condom.	1	2	3	4
I am afraid that if I asked a sexual partner to take precautions, he or she would refuse.	1	2	3	4
I don't really know enough about safer sexual sexual health to be able to make changes.	1	2	3	4
I think that safer sex practices interfere with the spontaneity of sex.	1	2	3	4
I think that using condoms decreases the pleasurable sensations of sex.	1	2	3	4

VIDEO QUESTIONNAIRE

CODE: _____
VIDEO #: _____

DATE OUT: _____
DATE IN: _____

IF YOU KNOW SOMEONE WHO IS IN THIS STUDY, DO NOT SHARE OR DISCUSS THIS VIDEO WITH HIM UNTIL BOTH OF YOU HAVE COMPLETED ALL 8 CHECKLISTS.

1. Briefly describe one suggestion made in the video for making the application of condoms more erotic.

2. According to the video, where can you buy safer sex supplies other than in pharmacies and grocery stores?

3. Check any that apply to you:

- I did not watch the entire video.
- I watched the video 1 time in private.
- I watched the video more than 1 time in private.
- I watched the video with a current or potential sex partner.

Appendix C
Recruitment Materials From Experiment Two

I am a doctoral student conducting research that requires 60 heterosexual males who are sexually active, and who want to protect themselves more consistently than they are now.

You can earn \$20.00 by participating in this study.

I will pay you \$5.00 each time you mail in two, consecutive checklists asking about your sexual behavior during the previous week. The checklist will take about 15 minutes to complete. I will ask you to fill out eight checklists.

Some participants will be asked to watch a video about using condoms. The video will be sexually explicit, and may contain scenes from an "adult" film. Therefore, you must be 18 or older to participate. You will be asked to take the video home with you, to view in private.

Any information you provide during the study will be kept strictly confidential.

If you are interested and would like more information, please call

Cheryl Knight at 387-4492

in the Behavioral Medicine Lab in
W.M.U.'s Department of
Psychology.



SAFER SEX

I am a doctoral student conducting research that requires 60 heterosexual males who are sexually active, and who want to protect themselves more consistently than they are now.

You can earn \$20.00 by participating in this study.

I will pay you \$5.00 each time you mail in two, consecutive checklists asking about your sexual behavior during the previous week. Each checklist will take about 15 minutes to complete. I will ask you to fill out 8 checklists.

Some participants will be asked to watch a video about using condoms. The video will be sexually explicit and may contain scenes from an "adult" film. Therefore, you must be 18 or older to participate. You will be asked to take the video home with you, to view in private.

Any information you provide during the study will be kept strictly confidentially.

**If you are interested and would like more information, please call
Cheryl Knight at 387-4492
in the Behavioral Medicine Lab in W.M.U.'s Department of Psychology.**

CLASSROOM/FRATERNITY MEETING ANNOUNCEMENT

I am a doctoral student who has conducted research in AIDS prevention. In my current study, I am investigating the safer sex behaviors of heterosexual males who would like to be more consistent in their practice of safer sex behaviors. Participants could earn up to \$20.00 for mailing in a total of eight, weekly checklists and for attending an hour-long assessment session in Wood Hall. Therefore, (my research colleague and) I will be standing outside the door of your classroom/meeting room as you leave today, distributing flyers. If you or a friend might be interested in this study, please take a flyer. I want to let you know, however, that some participants in the study would be asked to watch a sexually explicit video in the privacy of their own homes. I will be available for questions at the end of class. Thank you.

Appendix D

Informed Consent and Assistant Confidentiality Forms
From Experiment Two

INFORMED CONSENT AND INFORMATION ABOUT PARTICIPATION IN A
RESEARCH STUDY

You are invited to participate in a research study that will serve as a doctoral dissertation for Cheryl L. Knight, under the direction of her advisor, R. Wayne Fugua, Ph.D. The study will provide information about how to help heterosexual males who wish to make lasting reductions in sexual behaviors which put them at risk of transmission of HIV--the virus responsible for AIDS.

As a participant, you will complete eight checklists asking about your sexual behaviors during the previous week. One of these checklists will also ask you to rate the degree to which certain barriers prevent you from consistently practicing safer sex. The checklists should take about 15 minutes to complete. You will never place your name on these surveys. They will be coded with a number. When you complete a checklist, you will place it in the stamped, addressed envelopes given to you along with the checklists. When you have mailed two consecutive checklists, you can arrange a time to come to the Psychology Clinic, room 286B, Wood Hall to pick up \$5.00. Since you will be eligible for \$5.00 every time you complete two checklists, you can earn a total of \$20.00 as a result of participating in this research.

Before you begin the study, however, you will attend a session lasting about one hour. If you agree to participate in the study, you will complete a screening form to assess a good understanding about HIV transmission and condom application skills. In addition, you will be asked to answer questions about your sexual activity and rate some barriers to the practice of safer sexual behaviors. To assess condom application skills, I will ask you to apply a condom to a model of a penis. I will observe, on an individual basis, as you apply the condom from behind a one-way mirror. If, as a result of your performance, you require further instruction on how to properly apply a condom, or have misconceptions about HIV transmission, I will provide that information. When you can demonstrate the correct condom application procedures and/or demonstrate a basic knowledge about HIV transmission, the study will then begin. You will be given a packet of four checklists to take home and complete on a weekly basis.

After you complete all four checklists, you will again come to the clinic. You will be given four more checklists and envelopes. Some subjects will be given a videotape to take home and view. If you are given one of

these videos, it is important that you realize it will contain some very explicit talk about using condoms during genital, anal and oral sex. Some of the videos will contain sexually explicit scenes of heterosexuals engaging in genital and oral sex. These scenes are taken from a video that many people would describe as "pornographic."

Because information about AIDS-related sexual behaviors may be rather sensitive, I will ask for only your first name and a phone number. Index cards with first names and phone numbers will be kept in a locked cabinet, separate from your completed questionnaires. To maintain a record of how many checklists you have completed, along with the amount of money you are eligible to receive, a second set of index cards will be kept in yet another locked file cabinet. These cards will include your first name, your code number, a record of completed checklists and the amount of money you have received from the study. Only two undergraduate assistants, two graduate researchers, and I will have access to both sets of index cards. They will call you to remind you when checklists are due, and to remind you about clinic appointments. When you have completed the study and received all your money, I will destroy both index cards that refer to you within 48 hours. The screening forms (in which I ask for your race and age) and completed checklists will all be coded by number only, and will be stored in a separate locked file cabinet. After you complete the study, they will be stored in a separate locked file cabinet. After you complete the study, they will be stored as anonymous data, identified by code number only. They will be destroyed within one year after the researcher's death.

Participation in this study is voluntary. Your decision to participate can not in any way prejudice your relations with W.M.U. Although I would greatly prefer that you complete all of the study, you will be free to discontinue your participation at any time. If any of the checklists or the videos offend you, you may simply refrain from reading the checklists or turn off the video.

Questions or complaints regarding this research may be directed to R. Wayne Fuqua, Ph.D., at 387-4474.

If you participate in this study, you give permission for the data to be used in scientific presentations and publications provided that the data are presented in such a manner that it is impossible to identify the responses of any individual.

My signature below indicates that I have read and understood all the information on this sheet, and that I agree to participate under the conditions that have been explained to me. My signature further indicates that I am 18 years of age or older.

Participant Signature

Date

Primary Researcher Signature

Date

Witness

Date

Please keep your copy of this document for future reference.

STATEMENT OF CONFIDENTIALITY

As a research assistant, I will not divulge any information which comes to me through the carrying out of my assigned duties.

This shall include:

not discussing any subject or any information pertaining to any subject with anyone (including my own family) who is not directly working with said subject.

not discussing any subject or any information pertaining to any subject in a place where it can be overheard by anyone not directly working with said subject.

not mentioning any subject's name, nor acknowledging directly or indirectly, any person named is a subject except to those authorized to have this information.

not describing any behaviors which I have observed or disclosing any information learned through my relationship as an assistant of this research, except to those authorized to have this information.

I have read and I understand the Michigan Mental Health Code on "Confidentiality (330.1748 Section 784)" and "Privileged Communication (330.1750)."

Date: _____ Signature: _____

Appendix E
Videotape Copyright Releases



Western Michigan University
College of Arts and Sciences
Department of Psychology
Kalamazoo, MI 49008

April 9, 1992

Dear Ms. Knight:

Regarding your request to use a small clip from our copyrighted feature film, "Behind the Green Door - the Sequel", for your doctoral dissertation. As we discussed on the telephone, March 10, 1992, you must agree to adhere to the following conditions:

1. All presentations of the dissertation, in any format, (film, audio, written, video, etc.) must include the following notice:

"'Behind the Green Door - the Sequel', copyright 1986 by Cinema 7, Inc., is used by permission of The Mitchell Brothers Film Group, San Francisco, California."

2. The clip(s) in question, in whatever format chosen, shall total no more than ten (10) minutes.

3. You may not publicly publish or broadcast any part of the clip in exchange for revenues of any kind (i.e., profit or non-profit).

4. By letting you "use" a small clip of said film/video, Mitchell Brothers Film Group, the exclusive distributor of this copyrighted material, relinquishes to you no ownership rights. In other words, you may not sell, trade, give or in anyway transfer this "use" to any other person or party.

5. We will not provide, ship, or sell you any supplementary materials.

I hope these terms will clear up any further confusion about our generosity in this matter. We will not consider your use of the clip sanctioned until we have received a signed copy of this letter.

Sincerely,

Jeff Armstrong
Mitchell Brothers Film Group.


approved: Cheryl L. Knight, M.A.



WESTERN MICHIGAN UNIVERSITY

April 22, 1992

Candida Royale
Femme Productions
Suite 1110
588 Broadway
New York, New York 10012

Dear Ms. Royale:

In a phone conversation of 4-21-92, we discussed the possibility of my use of several short clips from your copyrighted films, "The Pick-Up", "Fortune Smiles", and "In Search of the Ultimate Sexual Experience", for my doctoral dissertation. In that conversation, you granted permission. Below are several points that may serve as an agreement for my use of your films.

1. All presentations of the dissertation, in any format (film, audio, written, video, etc.) will include the following notice:
"(Name of Film), copyright (year) by Femme Productions, is used by permission of Femme Productions, New York, New York."
2. The clips I use, in whatever format chosen, shall total no more than ten (10) minutes per film.
3. I will not publicly publish or broadcast any part of the clip in exchange for revenues of any kind (i.e., profit or non-profit).
4. By letting me use these clips of the above mentioned videos, Femme Productions, the exclusive distributor of this copyrighted material, relinquishes to me no ownership rights. In other words, I may not sell, trade, give or in any way transfer this "use" to any other person or party.
5. You will not provide, ship, or sell any supplementary materials.

If these terms are agreeable to you, please sign both copies of this letter, keeping one copy for your records. Please return the other copy to me in the enclosed, self-addressed, stamped envelope. My signature on this letter indicates my agreement to adhere to these conditions.

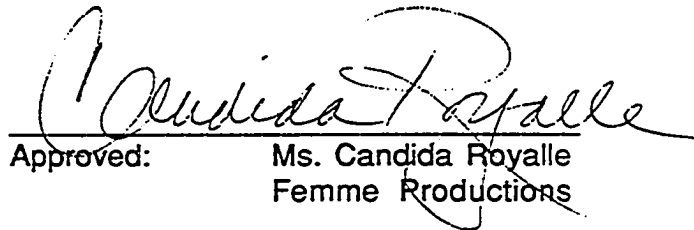
If you have any questions about the research or this agreement, please call me at my lab (616)387-4492, or at my home (616)372-3788. When the research is completed, I will send you information about the results.

Thank you very much for your most generous assistance.

Sincerely,



Cheryl L. Knight



Approved: Ms. Candida Royalle
Femme Productions

1

MAY-28-1992 15:58 FROM ARID .

College of Arts and Sciences
Department of Psychology



Phone
616 387-4495

WESTERN MICHIGAN UNIVERSITY

May 28, 1992

Mitchell Spinelli
Plum Productions
18758 #5 Bryant St.
Northridge, CA 91324

Dear Mr. Spinelli:

In phone conversations on April 21, 1992 and May 28, 1992, we discussed the possibility of my use of several short clips from your copyrighted film, "The Last Condom", for my doctoral dissertation promoting the erotic use of condoms with heterosexual males. Please review the following points which, if they meet your approval, could serve as an agreement for using those clips.

1. All presentation of the dissertation, in any format (film, audio, written, video, etc.) will include the following notice:
"The Last Condom", copyright 1988 by Plum Productions, is used by permission of Plum Productions, Northridge, California."
2. The clips I use, in whatever format chosen, shall total no more than ten minutes.
3. I will NOT publicly publish or broadcast any part of the clip in exchange for revenues of any kind (i.e., profit or non-profit).
4. By letting me use these clips from the above mentioned video, Plum Productions, the exclusive distributor of this copyrighted material relinquishes NO ownership rights. In other

'92 05/29 00:47

2 818 360 1644

PLUM PRODUCTION

e

MAY-28-1992 15:58 FROM ARTS AND SCIENCES TO 918183601644#125280

words, I may not sell, trade, give or in any way transfer this use to any other person or party.

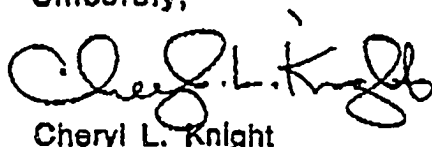
5. You will NOT provide, ship, or sell any supplementary materials.

If these terms are agreeable to you, please sign this copy and FAX the document to "Attention Cheryl Knight; Department of Psychology" at (616) 387-3999. My signature on this document indicates my agreement to adhere to these conditions.


If you have any questions about the research or this agreement, please call me at my lab (616) 387-4492, or at my home (616) 372-3788.

I anticipate that at least 40 heterosexual males will view my instructional video, including the segments from your video. I hope that my endorsement and acknowledgement of your video in my instructional video will in some small way reciprocate your generosity.

Sincerely,



Cheryl L. Knight



Approved: Mitchell Spinelli
Plum Productions

Appendix F
Supplementary Analyses From Experiment Two:
Statistics and Graphs

Table F-1

Initial Responses to Knowledge Questions

QUESTION	Correct		Incorrect	
	%	n	%	n
Condoms and other latex barriers, when used properly, reduce the risk of HIV transmission.	100.0	80	0.0	0
Unprotected intercourse of ANY kind, with someone infected with HIV, can result in the transmission of HIV.	100.0	80	0.0	0
A person who tested negative for HIV anti-bodies five years ago cannot transmit HIV now.	93.8	75	6.3	5
When two people who do not have HIV engage in unprotected anal intercourse, there is a GOOD probability of HIV transmission.	92.5	74	7.5	6
In the U.S., the majority of people infected with HIV show symptoms of AIDS.	90.0	72	10.0	8
Condom or lubricants that provide the maximum protection from HIV contain: Nonoxynol-9 Propylene glycol Propylparaben Quaternium-15 Methylparaben	87.5	70	3.8	3
			3.8	3
			3.8	3
			1.3	1
The active ingredient in spermicide cannot kill HIV.	27.5	22	72.5	58

Table F-2

Initial Responses to Condom Application Assessment Questions

QUESTION	Correct		Incorrect	
	%	n=	%	n=
When is the penis ready for condom application?	98.8	79	1.3	1
When should the condom and penis be withdrawn?	81.3	65	18.8	15
Exactly how would the penis and condom be withdrawn?	76.3	61	23.8	15
Is there anything a person should do differently when applying a condom to an uncircumcised penis?	18.8	15	81.3	65

Table F-3

Performance and Scoring of Condom Application Skills

STEP	Correct % n=	Incorrect % n=
Condom Selection: Latex, Lubricated with nonoxynol-9	88.8 71	
Latex, Lubricated, without nonoxynol-9		8.8 7 2.5 2
Latex, Unlubricated		0.0 0
Lambskin		
Added lubrication inside condom.	22.5 18	77.5 62
Inside Lubricant Selection: Lubricant with nonoxynol-9		
Petroleum Jelly	20.0 16	
Water-based lubricant, no nonoxynol-9		1.3 1 1.3 1
Baby oil		0.0 0
Pinch tip of condom before ap- plication.	47.5 38	52.5 42
Unrolled condom over penis mod- el.	100.0 80	0.0 0
Unrolled condom in proper direc- tion.	96.3 77	3.8 3
Unrolled condom to base of penis model.	100.0 80	0.0 0
Added lubricant outside condom.	22.5 18	77.5 62
Outside Lubricant Selection: Lubricant with nonoxynol-9.		
Water-based lubricant, no nonoxynol-9.	20.0 16 2.5 2	
Petroleum jelly.	0.0 0	
Baby oil.	0.0 0	
*Best condom and lubricant se- lection.	28.8 23	71.3 57
No rips or tears in the condom.	100.0 80	0.0 0

STEP	Correct		Incorrect	
	%	n	%	n
Tip of condom not inflated with air.	92.5	74	7.5	6
Appropriate distance between head of penis and bottom of tip of condom.	98.8	79	1.3	1

*For purposes of this research, we defined the best condom and lubricant selection as a latex condom lubricated with nonoxynol-9 plus the use of a lubricant with nonoxynol-9 applied inside the tip of the condom. We did not include the use of lubricant outside of the condom in consideration for the "best" response, unless the participant used one of the oil-based lubricants (i.e., petroleum jelly or baby oil).

Table F-4

Video Recipients' Completion of the Video Questionnaire Card

VIDEO/GROUP	COMPLETED		NOT COMPLETED	
	%	n=	%	n=
Instruction Only	77.3	17	22.7	5
Instruction Plus Modelling	86.2	25	13.8	4

Table F-5

Summary of Responses to Video Questionnaire Content Questions

QUESTION	Correct		Incorrect	
	%	n=	%	n=
<u>Instruction Only Group:</u>				
Describe a video suggestion for erotic application of condoms.	100.0	17	0.0	0
According to the video, where can you buy safer sex supplies besides pharmacies and grocery stores?	100.0	17	0.0	0
<u>Instruction Plus Modeling Group:</u>				
Describe a video suggestion for erotic application of condoms.	100.0	25	0.0	0
According to the video, where can you buy safer sex supplies besides pharmacies and grocery stores?	96.0	24	4.0	1

Table F-6

Summary of Correlational Analyses

	Pre-test r	Post-test r
Safer Sex:		
Penis to Vagina	.77	.89
Penis to Mouth	.87	.79
Penis to Anus	.80	.57
Mouth to Vagina	.89	.72
Mouth to Anus	-.03	.78
Risky Sex:		
Penis to Vagina	.80	.82
Penis to Mouth	.83	.73
Penis to Anus	.15	.29
Mouth to Vagina	.83	.73
Mouth to Anus	.19	.30
Behaviors Associated with Safer Sex:		
You stimulated partner.	.60	.77
Partner stimulated you.	.61	.72
Maintained touch.	.75	.79
Read label.	.49	.20
Ordered catalog.	-.03	.13
Shopped with partner.	.45	.22
Shopped alone.	.37	.56
Asked partner.	.53	.46
Guided partner.	.56	.58
Video with partner.	.03	-.00
Added lubrication.	.39	.70
Masturbated or experimented.	.40	.40
Talked positively.	.58	.17
Erotic Barriers:		
Interferes with spontaneity.	.83	.83
Decreases sensations.	.86	.88

	Pre-test r	Post-test r
Other Barriers:		
Uncomfortable purchasing sup plies.	.62	.49
Do not believe will get STD.	.64	.52
All STD's easily treated.	.62	.47
Uncomfortable talking with partner.	.70	.57
Do not have money.	.56	.57
Do not know how to use condom.	.62	.61
Afraid partner would refuse.	.70	.66
Do not know enough about safer sex.	.62	.76

Table F-7

Summary of Initial Statistical Analyses

VARIABLE	ANCOVA		Homogeneity of Regression Slopes	
	F (2,76)	p	F (2, 76)	p
<u>Safer Sex:</u>				
Composite Score	0.48	.62	1.15	.32
Mouth to Anus	1.30	.28	**	**
<u>Risky Sex:</u>				
Composite Score	0.49	.61	0.67	.52
Penis to Anus	1.03	.28	**	**
Mouth to Anus	1.07	.35	1.10	.34
<u>Behavior Associated with Safer Sex:</u>				
Composite Score	3.20	.05*	10.22	.00*
Ordered catalog.	4.20	.02*	**	**
Shopped with partner.	0.47	.62	0.21	.81
Shopped alone.	0.31	.74	14.47	.00*
Watched video with partner.	4.89	.01*	**	**
Added lubrication in tip of condom.	0.71	.49	**	**
Talked positively about safer sex.	0.09	.91	7.63	.00*
<u>Erotic Barriers:</u>				
Composite Score	0.93	.40	0.30	.75

VARIABLE	ANCOVA F (2,76) p	Homogeneity of Regression Slopes F (2, 76) p
<u>Other Barriers:</u> Composite Score	0.17 .85	2.26 .11

* $p \leq .05$.

**Unable to assess homogeneity of regression slopes due to colinearity.

TABLE F-8

Summary of Multiple Comparisons for Significant ANCOVA's

VARIABLE	t (76)
Ordered Catalog of Safer Sex Supplies:	
Control & Instruction Only groups.	2.15*
Control & Instruction Plus Modeling groups.	0.30
Instruction Only & Instruction Plus Modeling groups.	2.71*
Watched an Erotic Safer Sex Video with a Sexual Partner:	
Control & Instruction Only groups.	1.82
Control & Instruction Plus Modeling groups.	3.09*
Instruction Only & Instruction Plus Modeling groups.	1.07

* $p \leq .05$.

Table F-9

Pairwise Analyses of Variables for
Homogeneity of Regression Slopes

BEHAVIORS ASSOCIATED WITH SAFER SEX	Homogeneity of Regression Slopes	
	F	p
<u>Composite Score:</u>		
Control & Instruction Only	3.03	.09
Control & Instruction Plus Modeling	4.34	.04*
Instruction Only & Instruction Plus Modeling	0.02	.89
<u>Shop for Safer Sex Supplies Alone:</u>		
Control & Instruction Only	17.04	.00*
Control & Instruction Plus Modeling	24.91	.00*
Instruction Only & Instruction Plus Modeling	0.01	.94
<u>Talk Positively About Safer Sex:</u>		
Control & Instruction Only	1.23	.27
Control & Instruction Plus Modeling	5.02	.03*
Instruction Only & Instruction Plus Modeling	15.31	.00*

*p ≤ .05.

Table F-10

ANCOVA on Pairs of Groups with Homogenous Variance

BEHAVIORS ASSOCIATED WITH SAFER SEX	ANCOVA F (1,40) p
<u>Composite Score:</u>	
Control & Instruction Only	3.03 .09
Instruction Only & Instruction Plus Modeling	4.61 .04
<u>Shop Alone For Safer Sex Supplies:</u>	
Instruction Only & Instruction Plus Modeling	0.72 .40
<u>Talked Positively About Safer Sex:</u>	
Control & Instruction Only	0.81 .37

*p ≤ .05.

Table F-11

Regions of Nonsignificance

BEHAVIORS ASSOCIATED WITH SAFER SEX	PRE-TEST SCORE	
	Low Score	High Score
<u>Composite Score:</u>		
Control & Instruction Plus Modeling	-34.13	+2.03
<u>Shopped For Safer Sex Supplies Alone:</u>		
Control & Instruction Only	-40.93	+8.19
Control & Instruction Plus Modeling	-0.03	+0.09
<u>Talked Positively About Safer Sex:</u>		
Control & Instruction Plus Modeling	-0.42	+0.93
Instruction Only & Instruction Plus Modeling	+0.08	+0.63

Mean Number of Behaviors

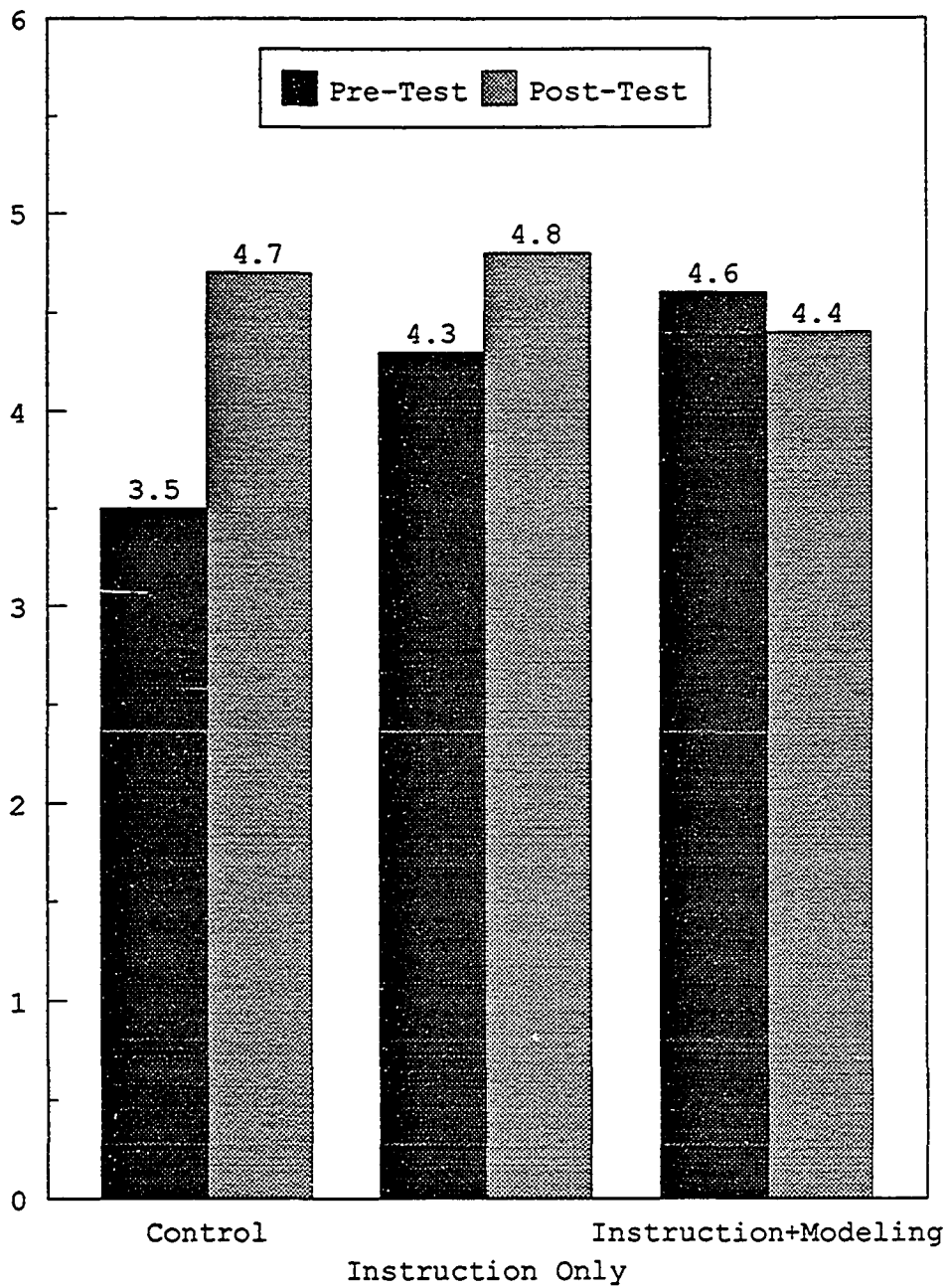


Figure F-1. Mean Number of Behaviors With Latex Barriers, Penis to Vagina, per Month.

Mean Number of Behaviors

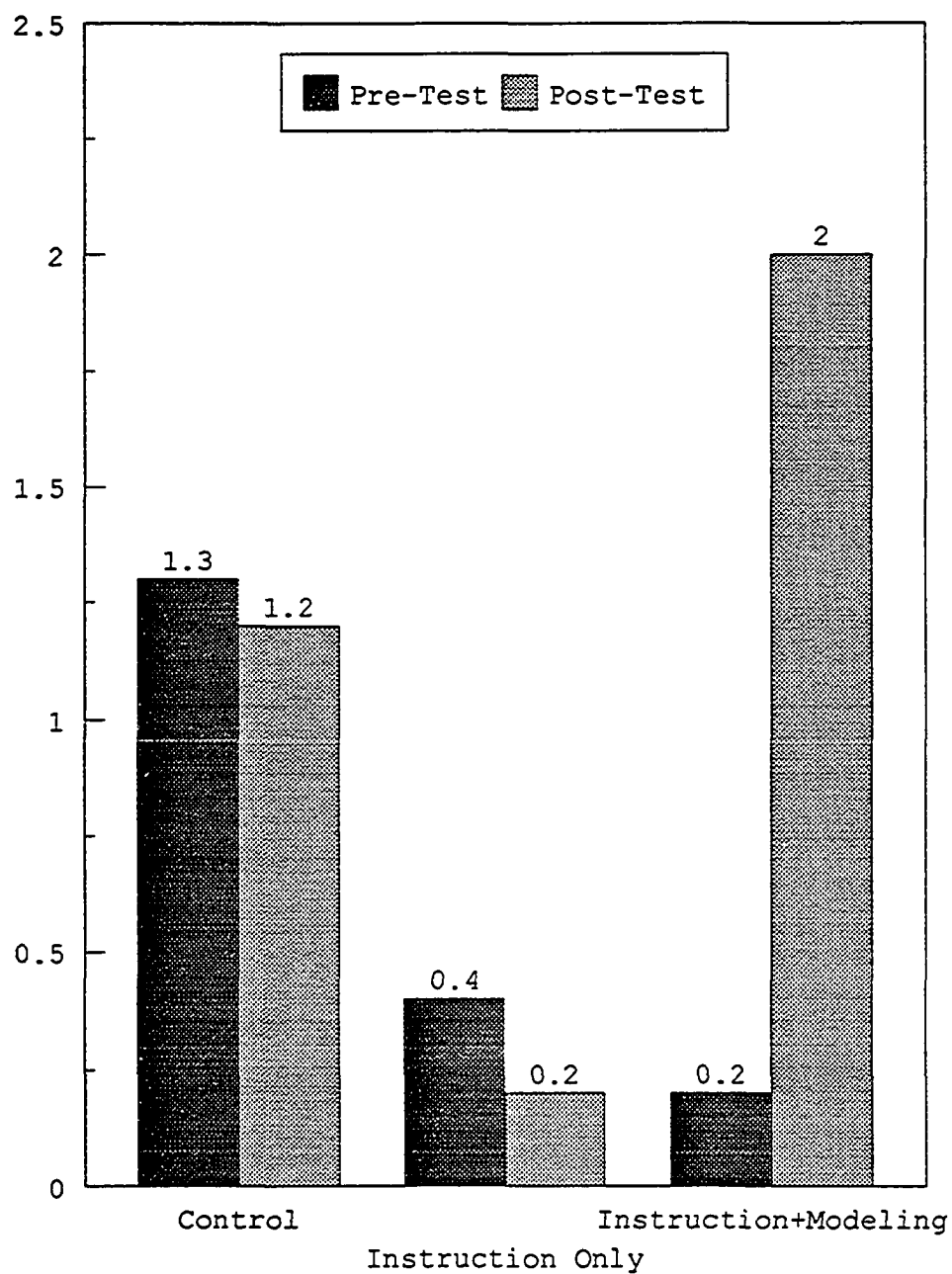


Figure F-2. Mean Number of Behaviors With Latex Barriers, Penis to Mouth, per Month.

Mean Number of Behaviors

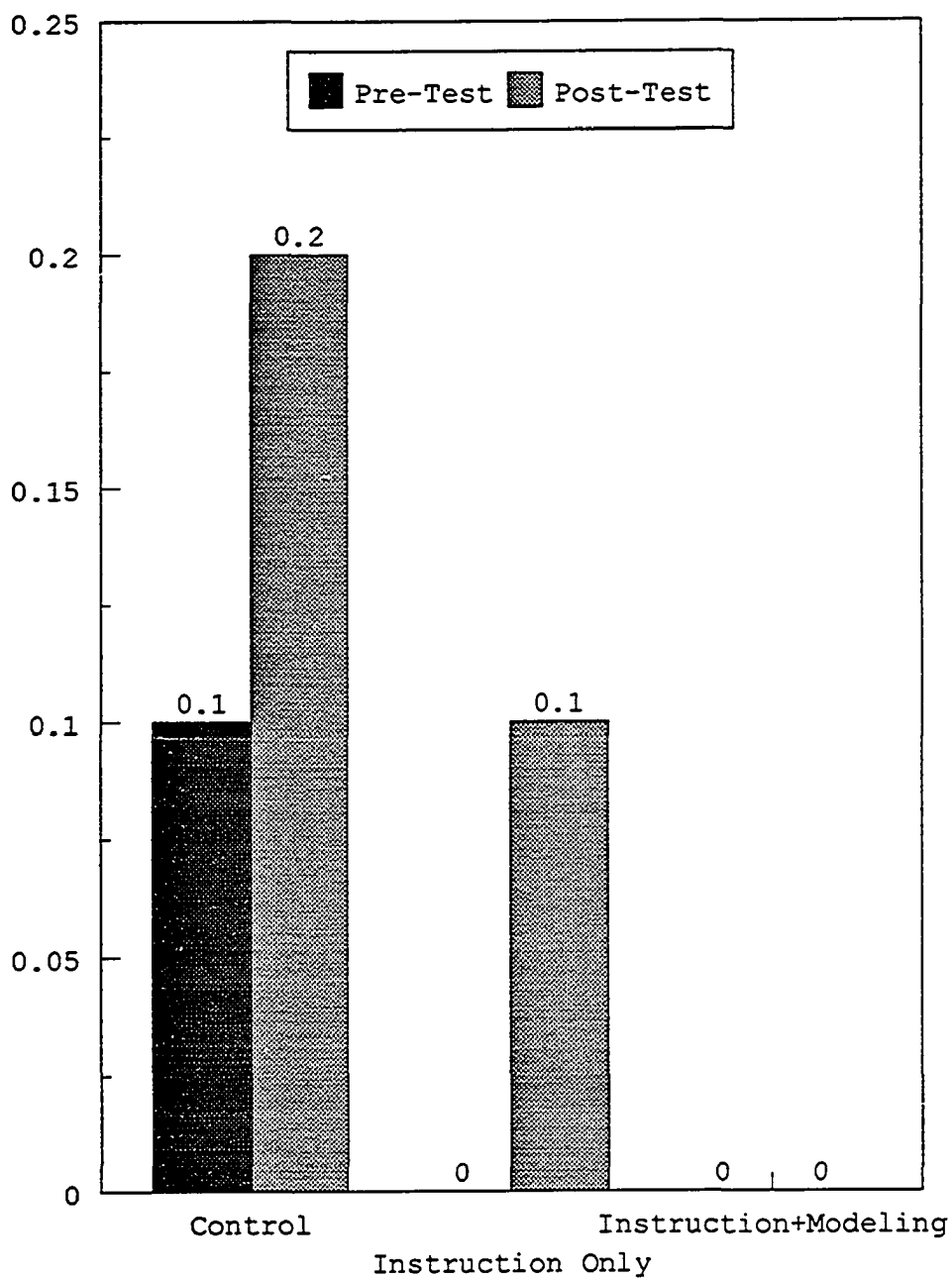


Figure F-3. Mean Number of Behaviors With Latex Barriers, Penis to Anus, per Month.

Mean Number of Behaviors

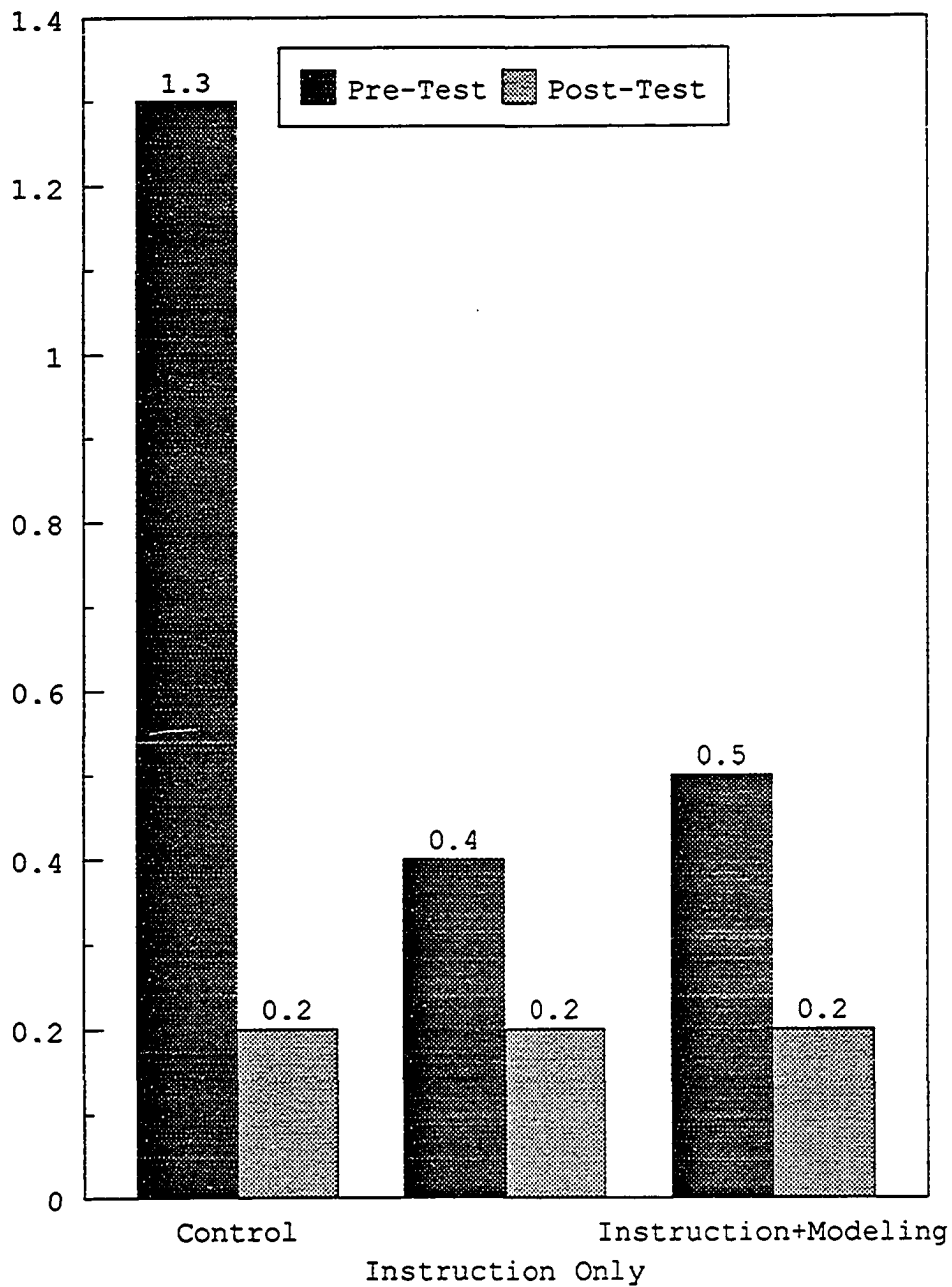


Figure F-4. Mean Number of Behaviors With Latex Barriers, Mouth to Vagina, per Month.

Mean Number of Behaviors

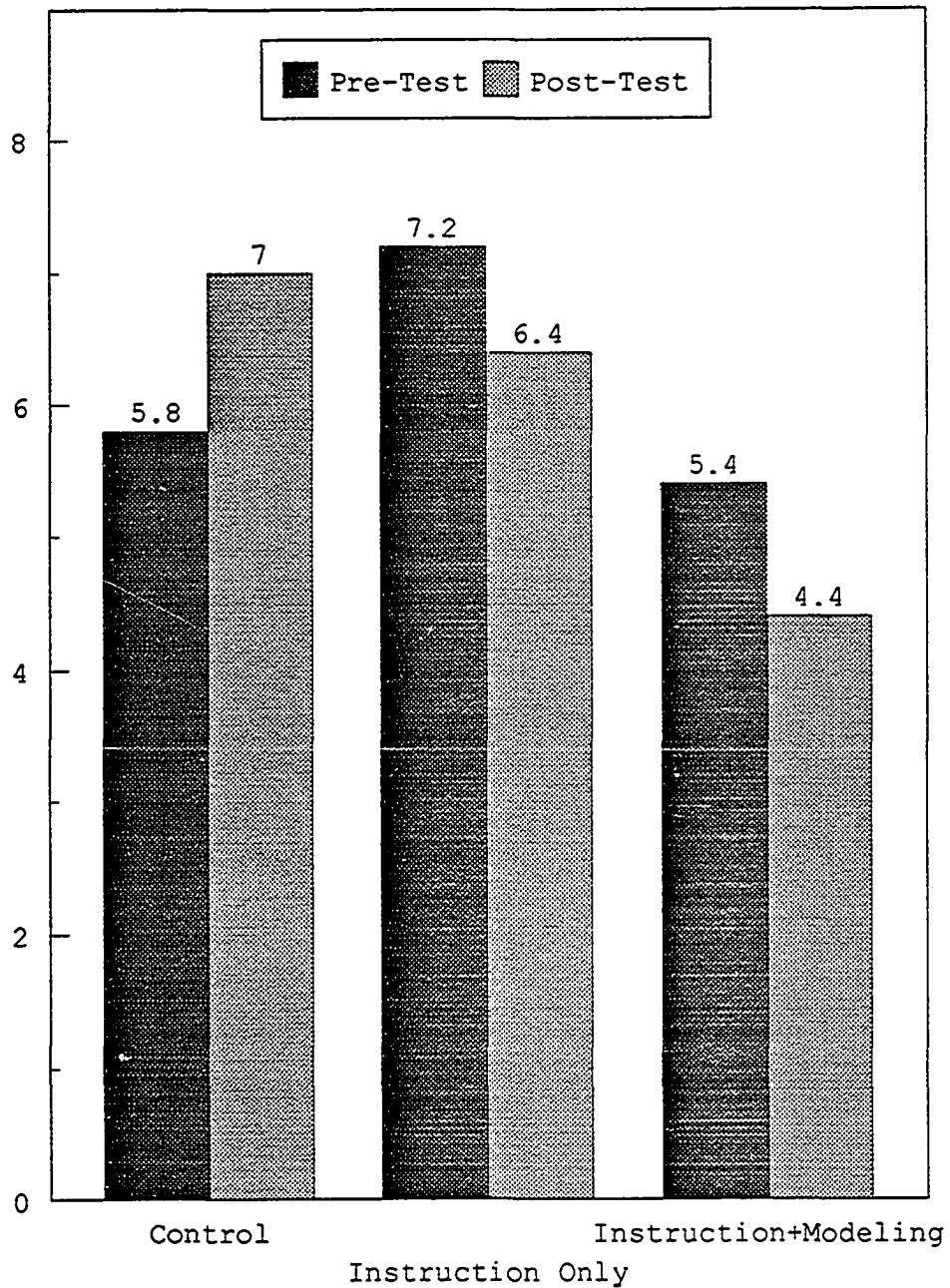


Figure F-5. Mean Number of Behaviors Without Latex Barriers, Penis to Vagina, per Month.

Mean Number of Behaviors

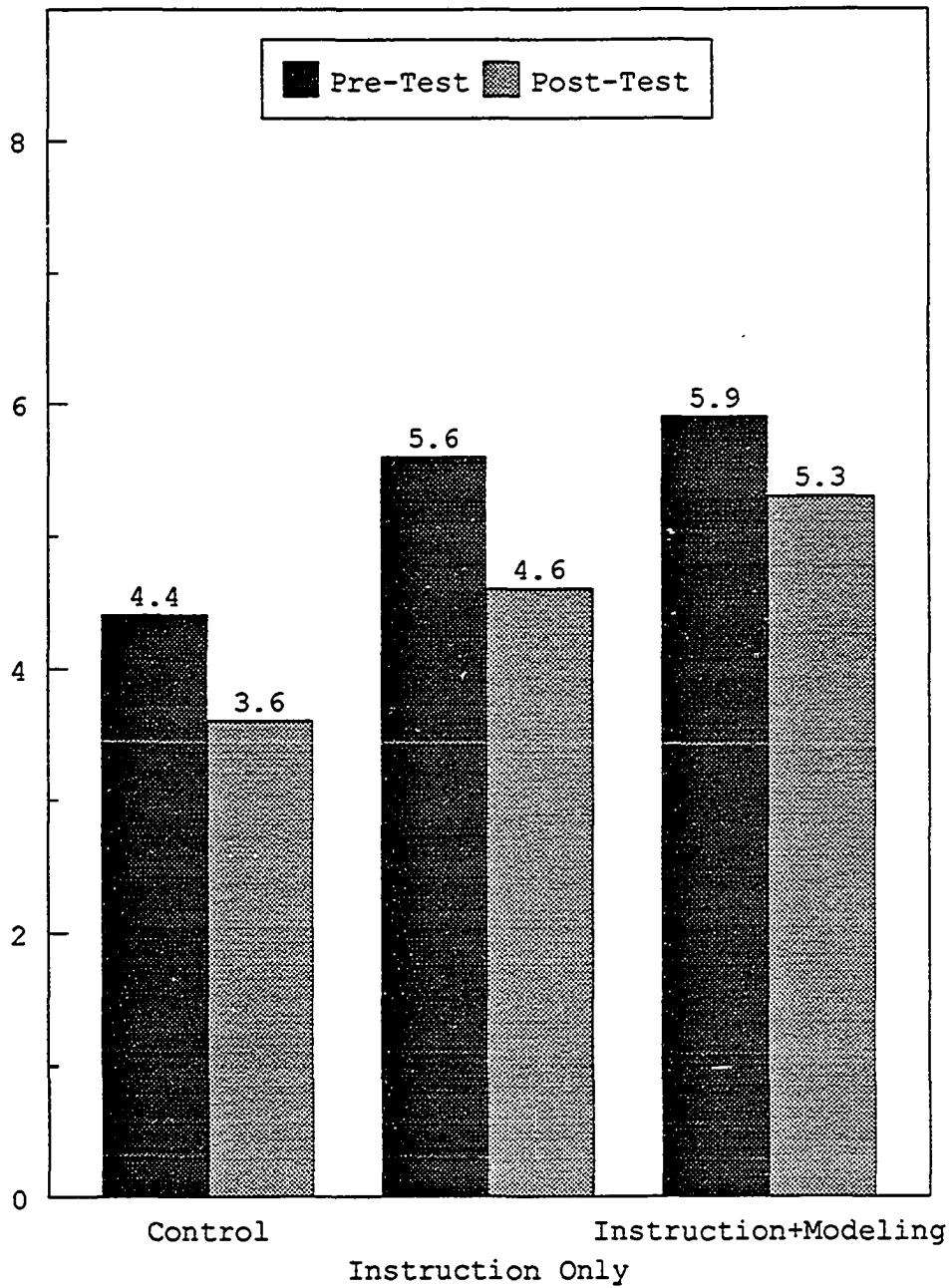


Figure F-6. Mean Number of Behaviors Without Latex Barriers, Penis to Mouth, per Month.

Mean Number of Behaviors

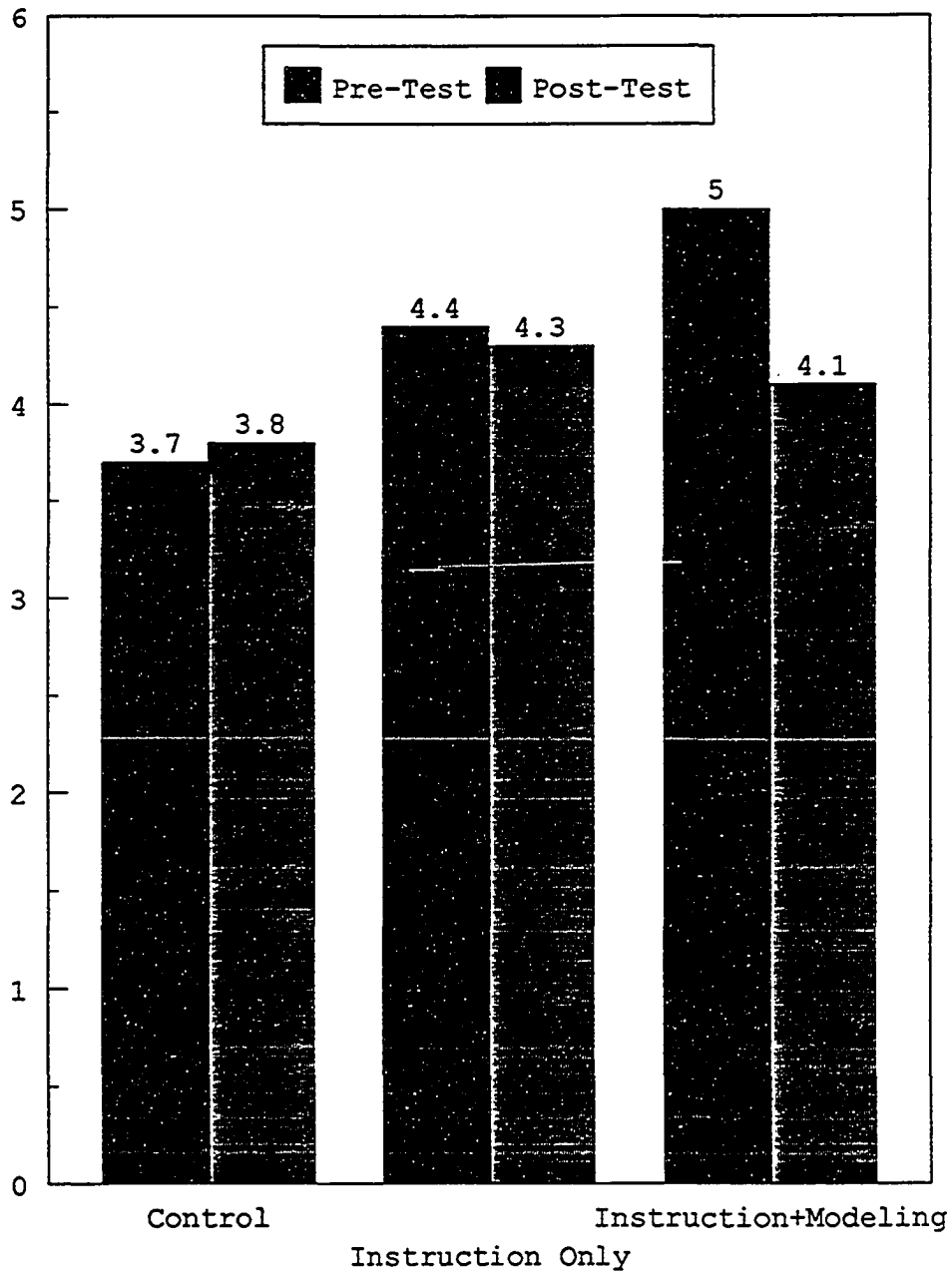


Figure F-7. Mean Number of Behaviors Without Latex Barriers, Mouth to Vagina, per Month.

Mean Number of Behaviors

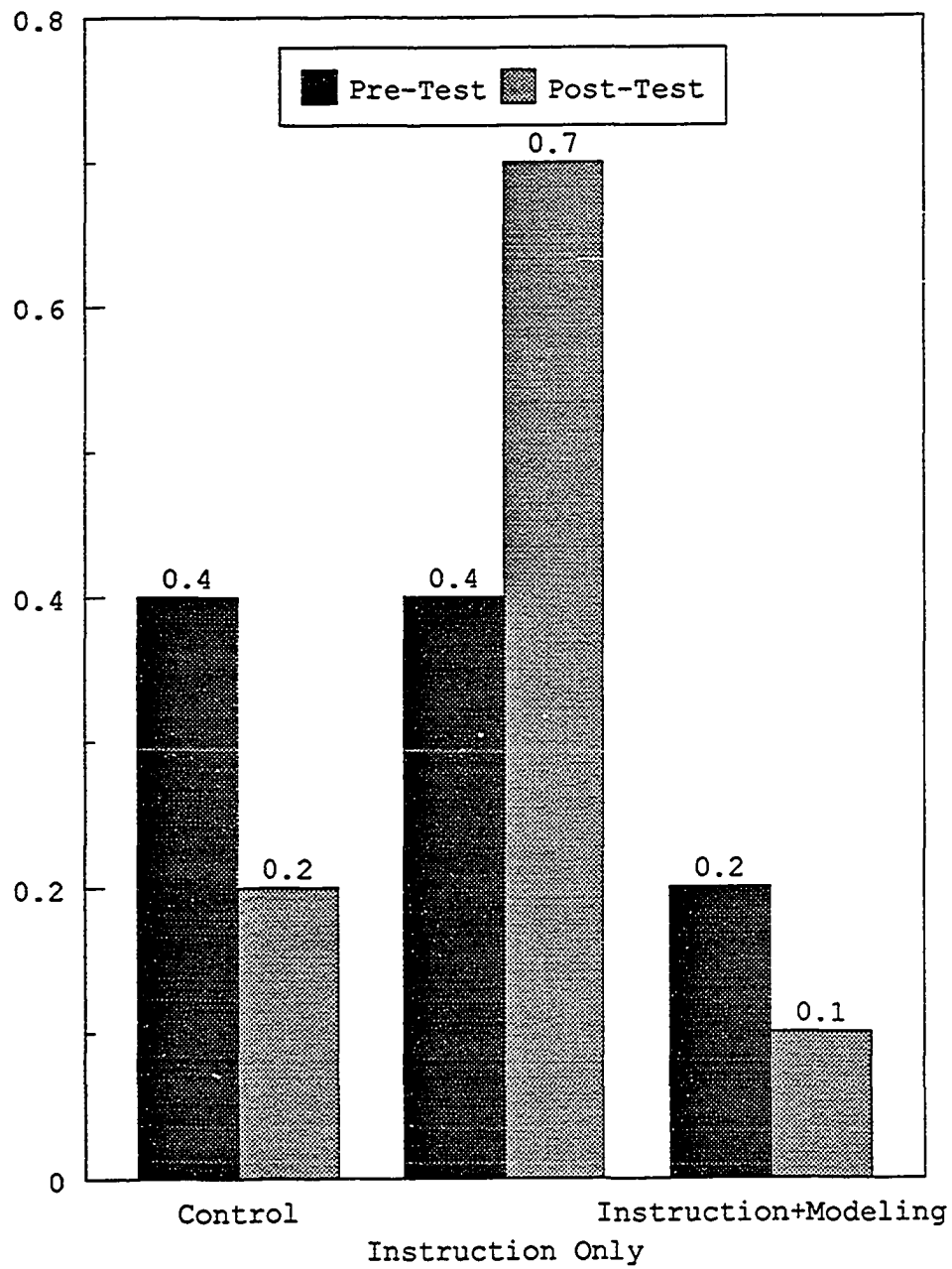


Figure F-8. Mean Number of Behaviors Without Latex Barriers, Mouth to Anus, per Month.

Mean Number of Behaviors

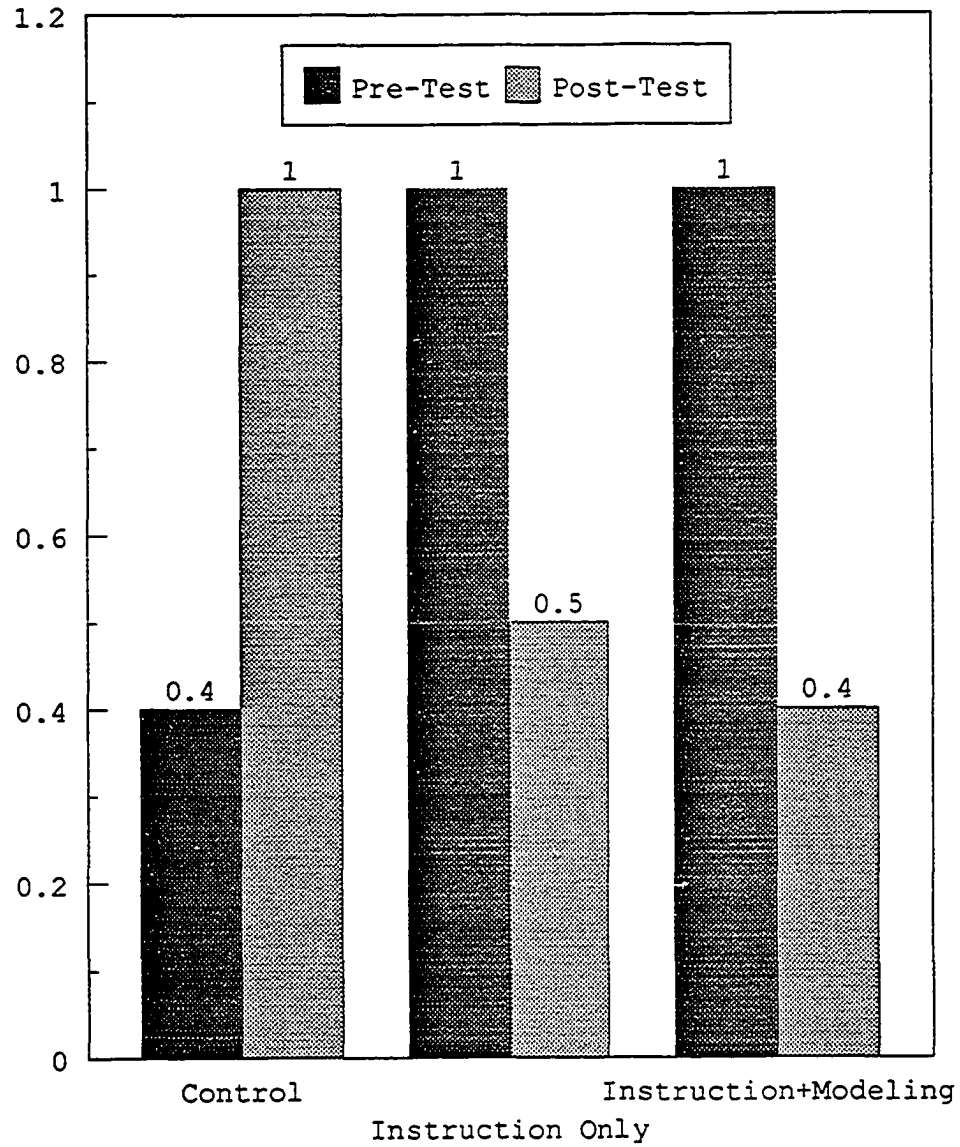


Figure F-9. Mean Number of Behaviors Associated With Safer Sex, Participant Stimulated Partner, per Month.

Mean Number of Behaviors

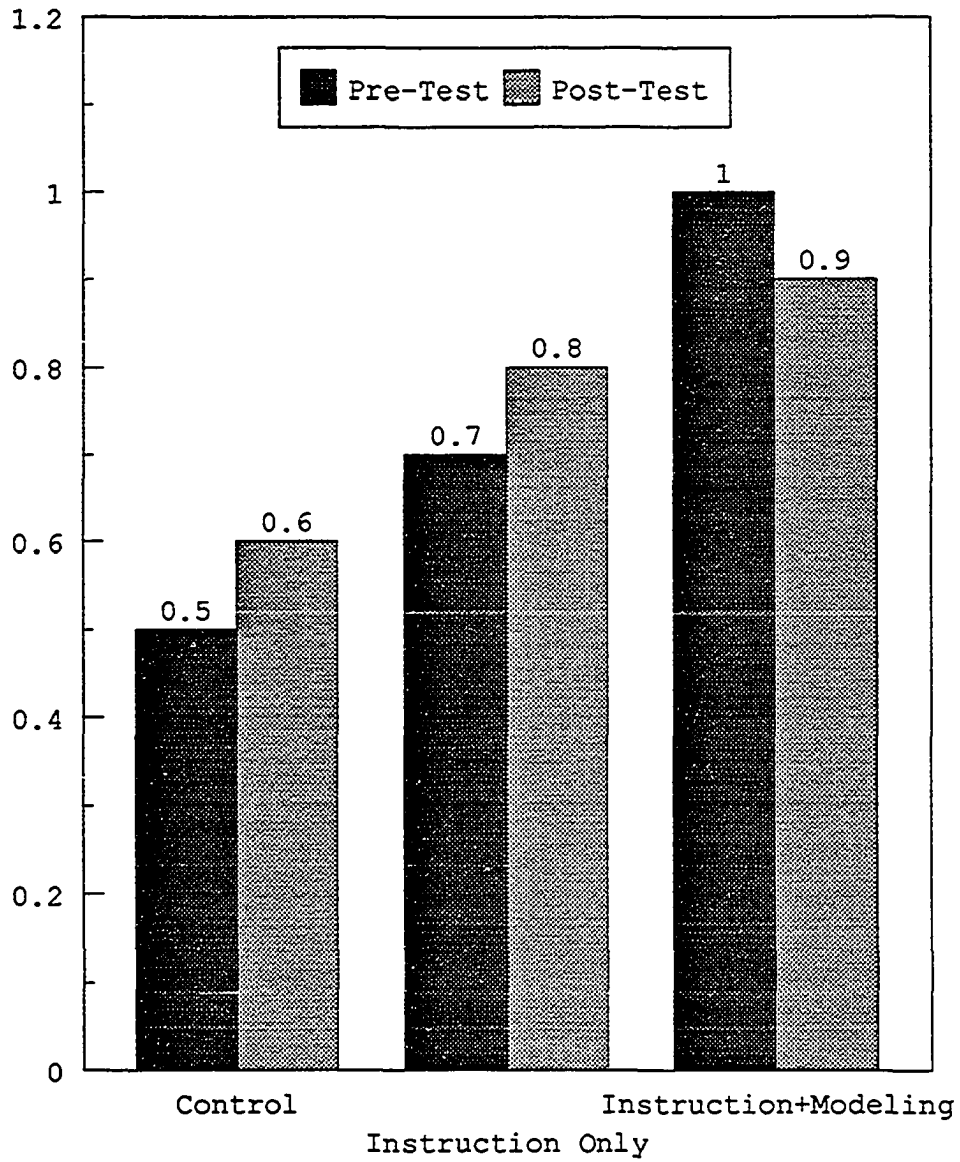


Figure F-10. Mean Number of Behaviors Associated With Safer Sex, Partner Stimulated Participant, per Month.

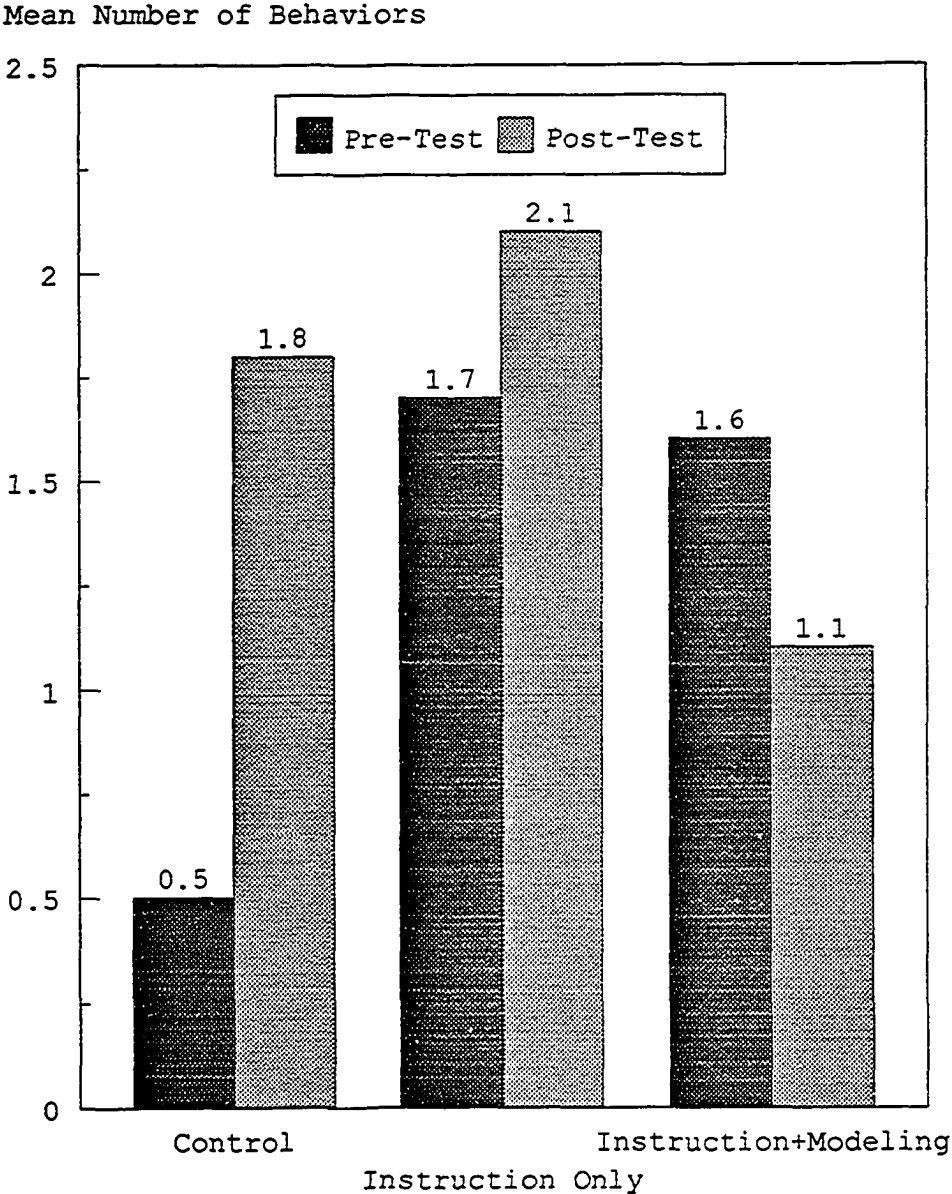


Figure F-11. Mean Number of Behaviors Associated With Safer Sex, Partners Maintained Physical Touch, per Month.

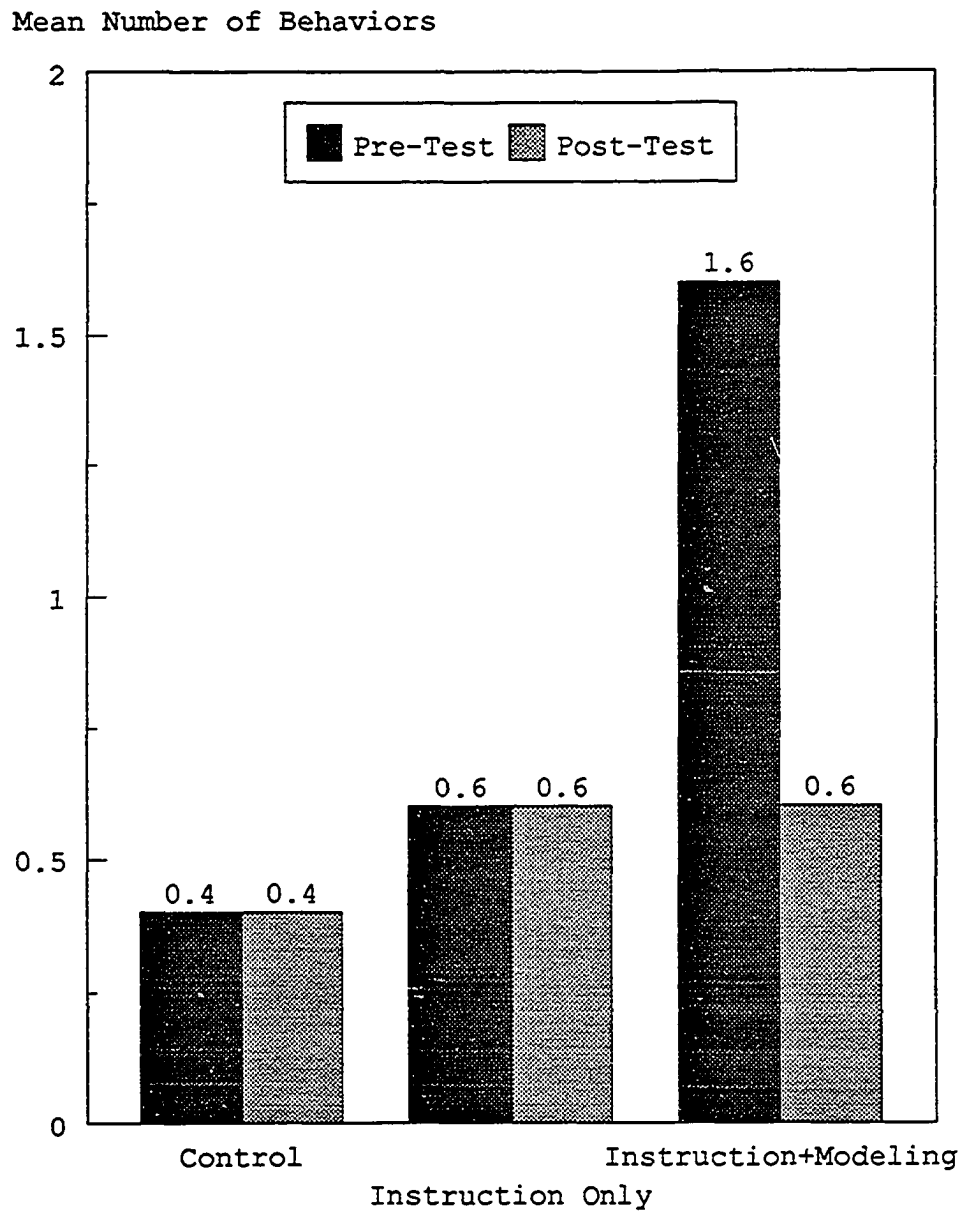


Figure F-12. Mean Number of Behaviors Associated With Safer Sex, Read Label on Safer Sex Supplies, per Month.

Mean Number of Behaviors

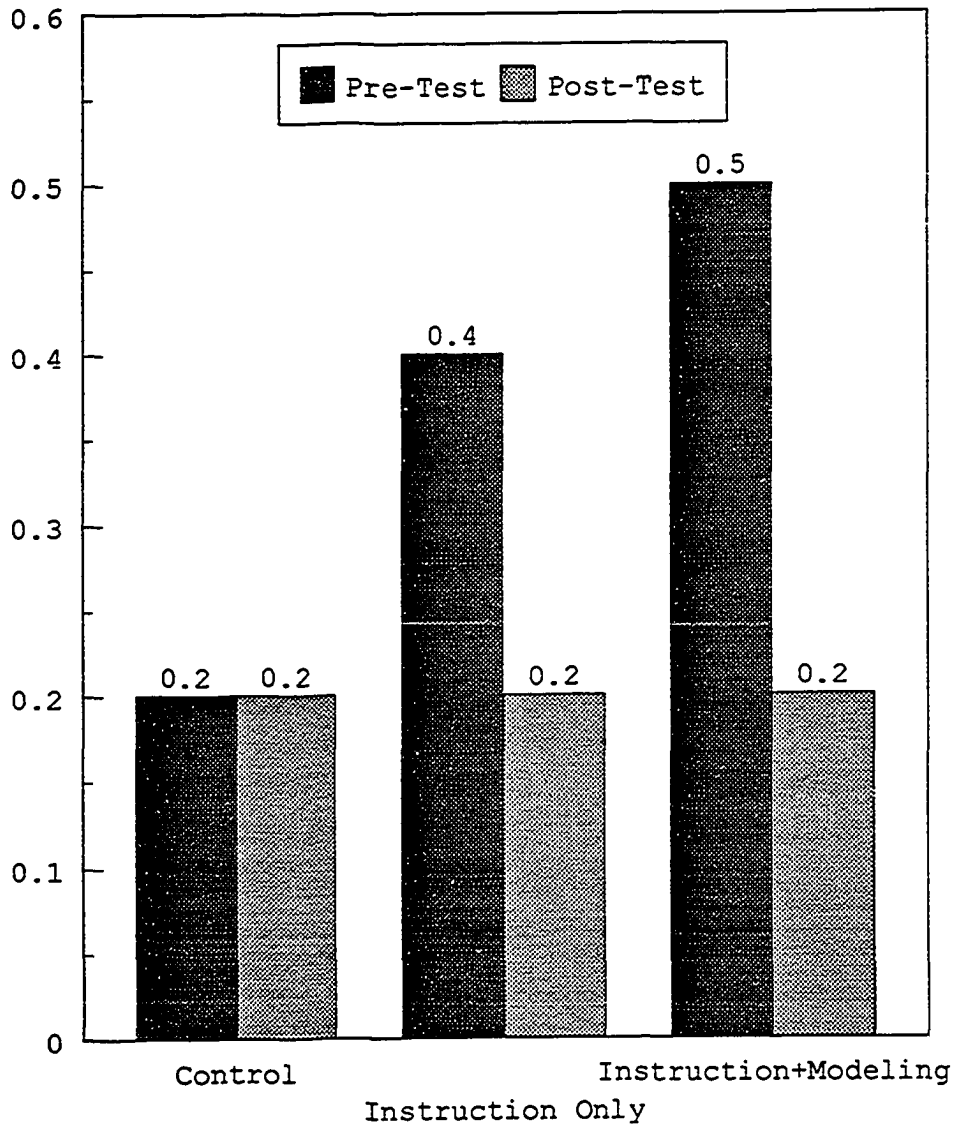


Figure F-13. Mean Number of Behaviors Associated With Safer Sex, Shopped for Supplies With Partner, per Month.

Mean Number of Behaviors

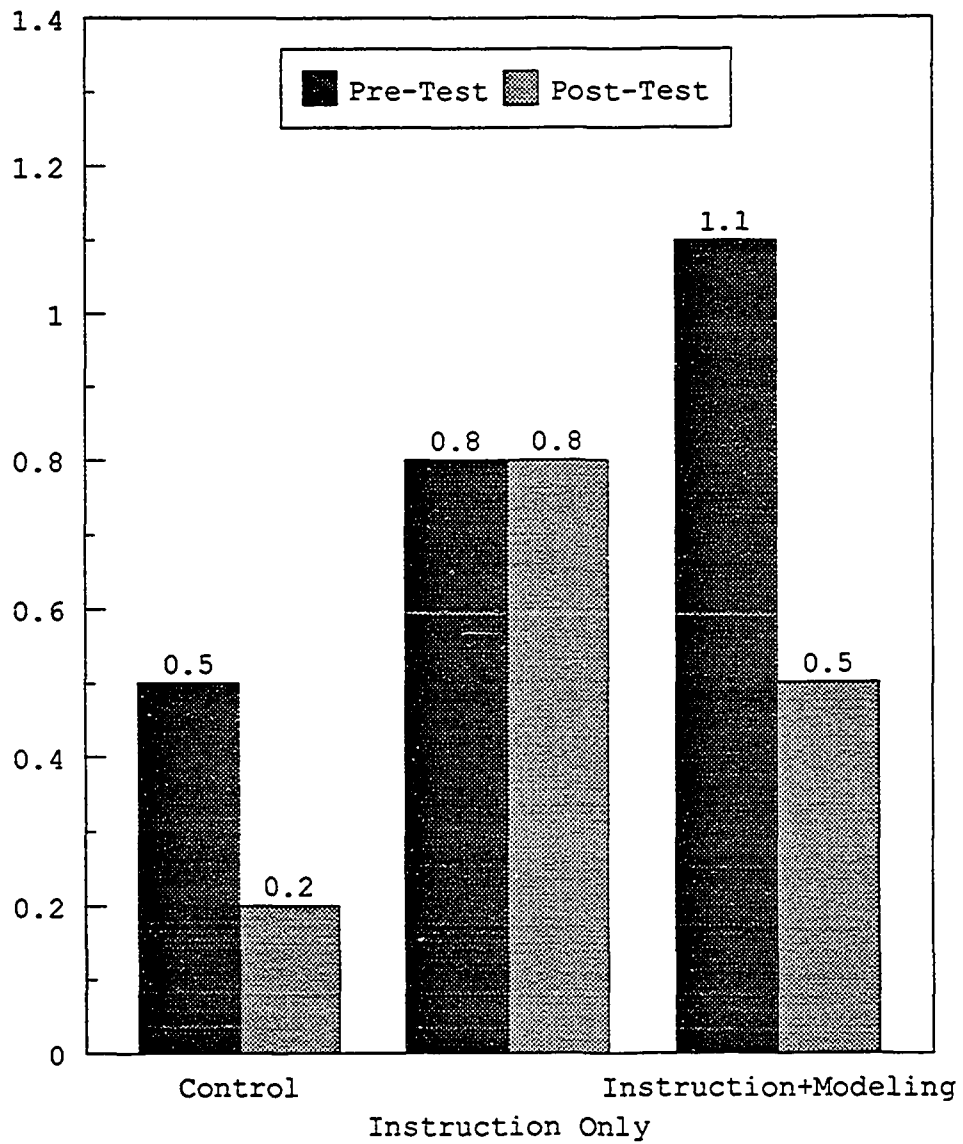


Figure F-14. Mean Number of Behaviors Associated With Safer Sex, Shopped for Safer Sex Supplies Alone, per Month.

Mean Number of Behaviors

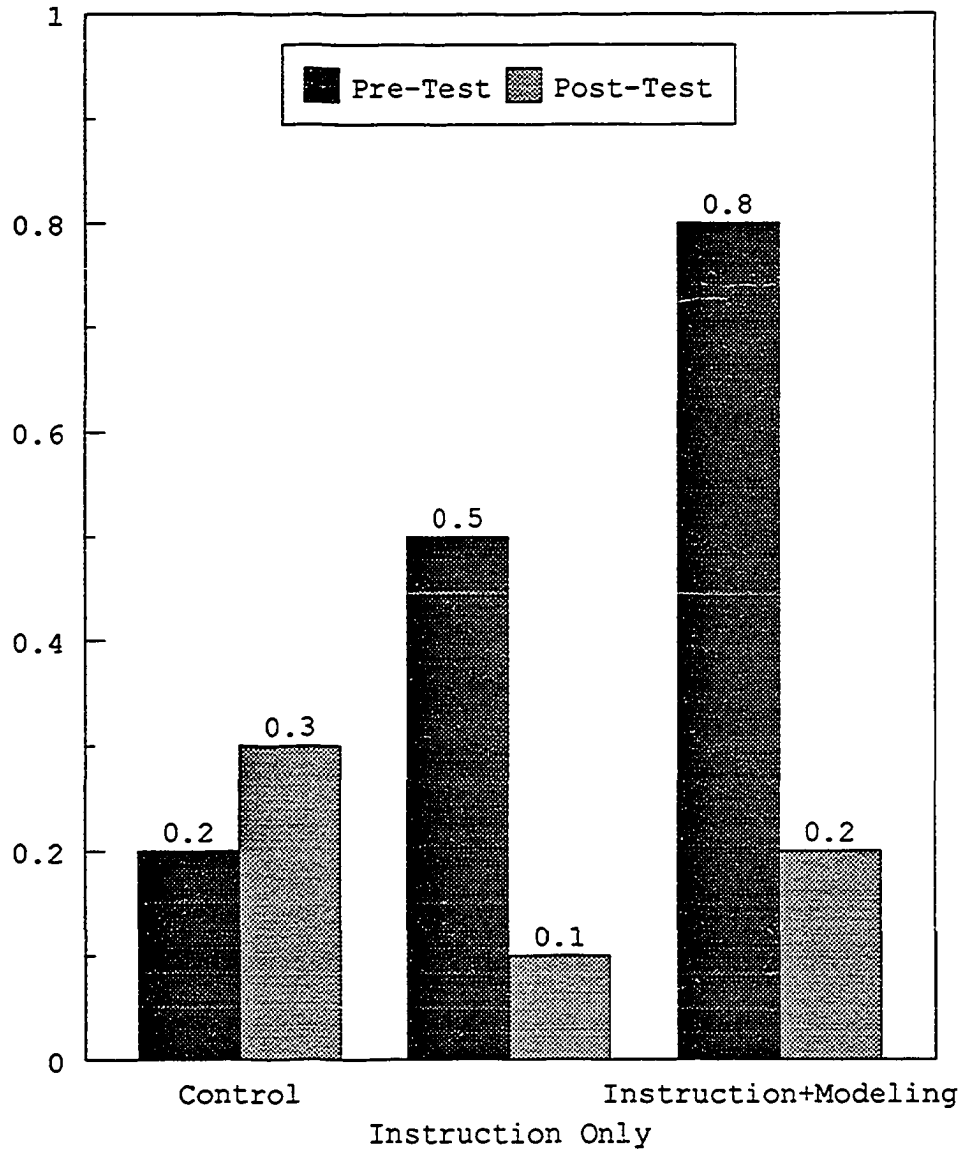


Figure F-15. Mean Number of Behaviors Associated With Safer Sex, Asked Partner to Engage in Safer Sex Technique, per Month.

Mean Number of Behaviors

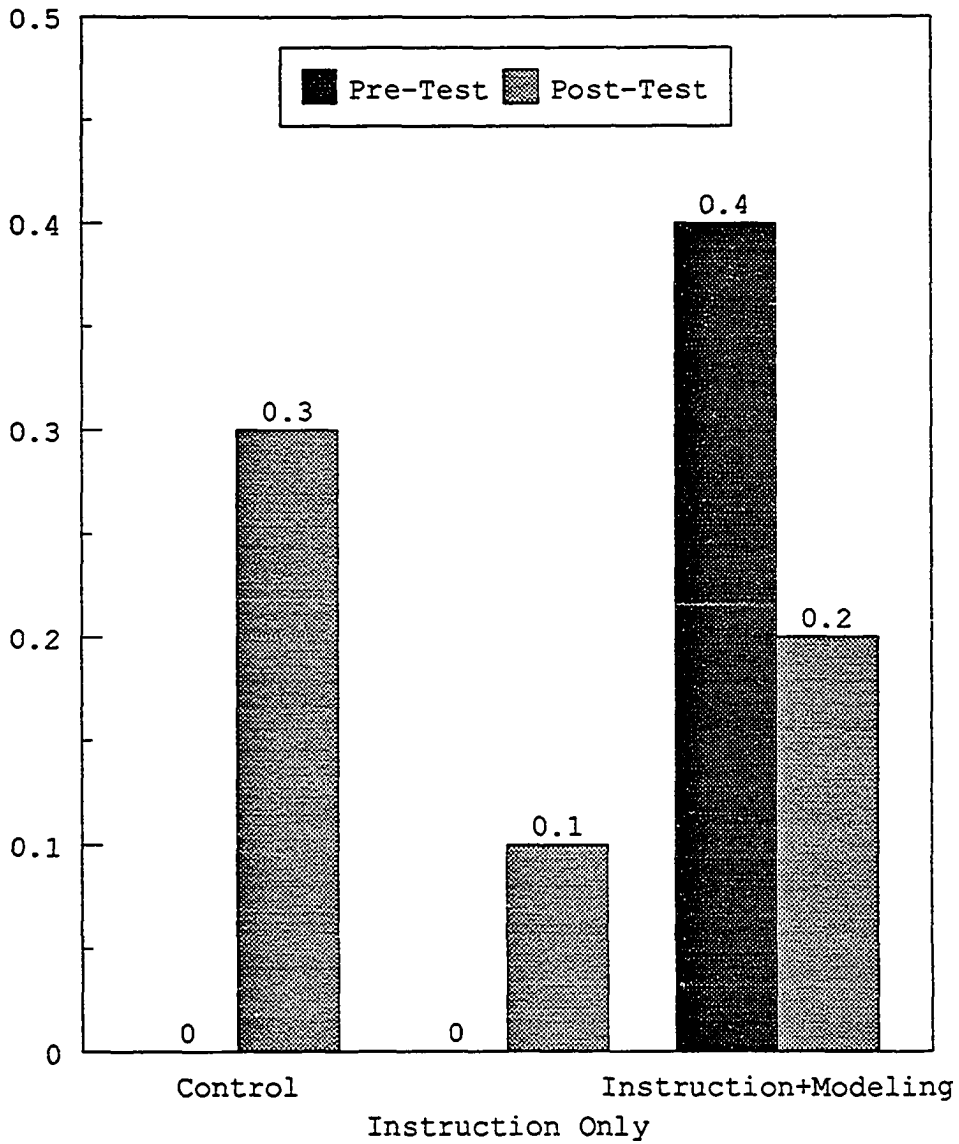


Figure F-16. Mean Number of Behaviors Associated With Safer Sex, Guided Partner in Safer Sex Technique, per Month.

Mean Number of Behaviors

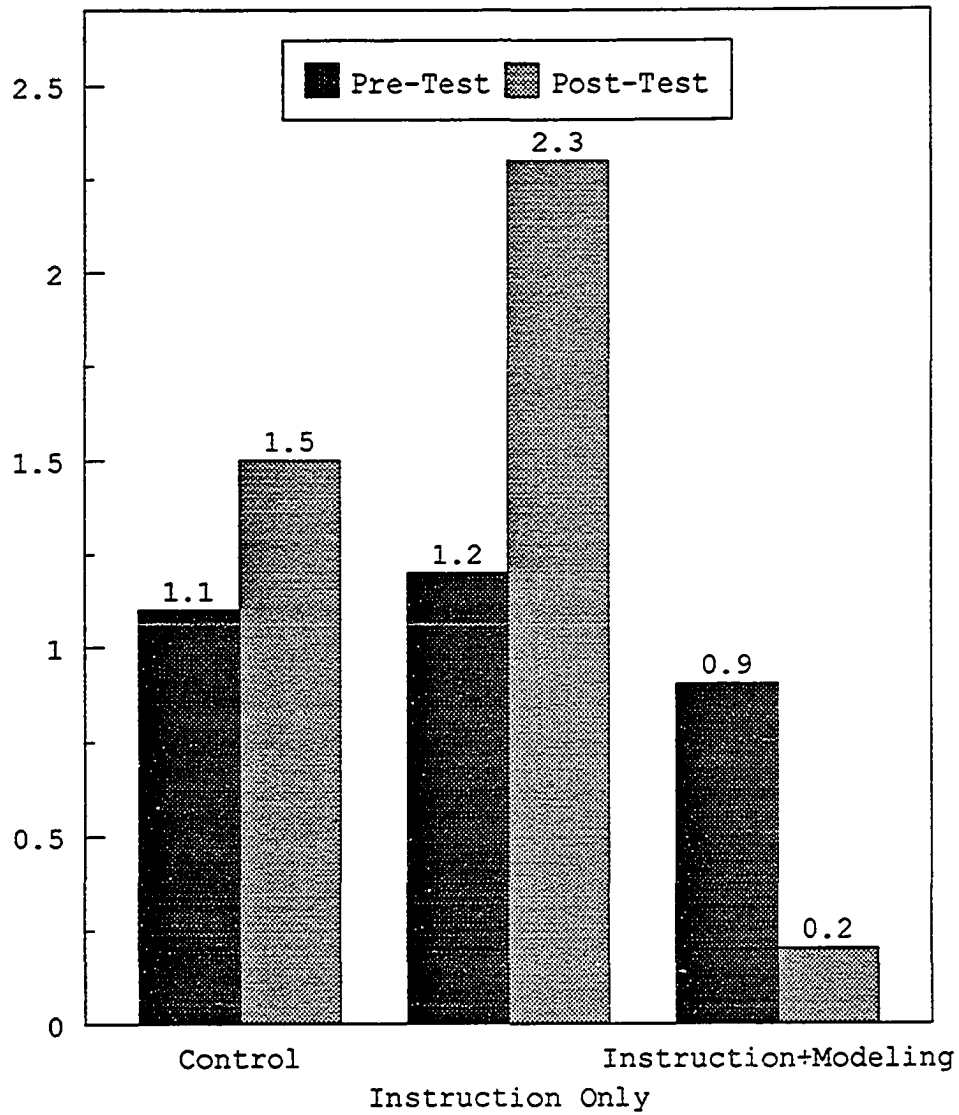


Figure F-17. Mean Number of Behaviors Associated With Safer Sex, Added Lubrication Inside Condom, per Month.

Mean Number of Behaviors

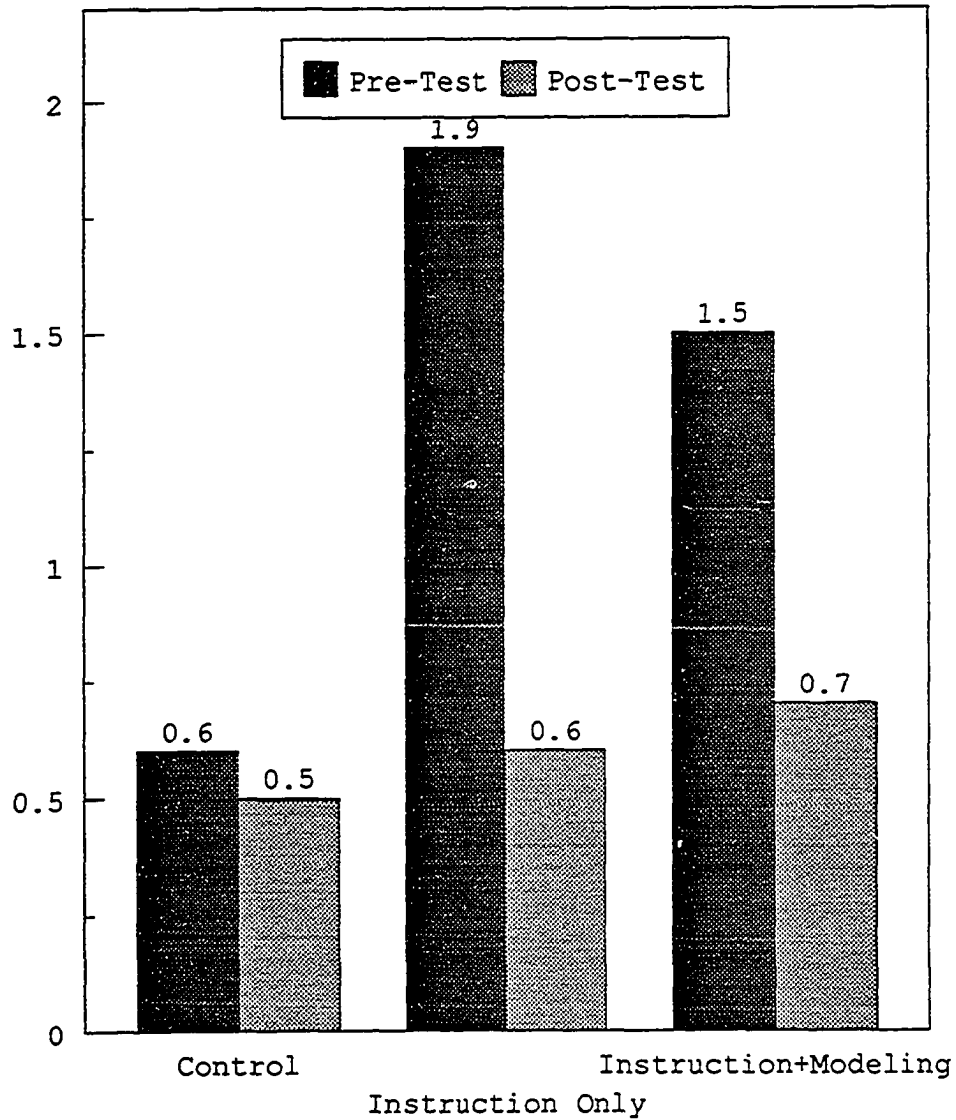


Figure F-18. Mean Number of Behaviors Associated With Safer Sex, Masturbated or Experimented Alone With Safer Sex Supplies, per Month.

Mean Number of Behaviors

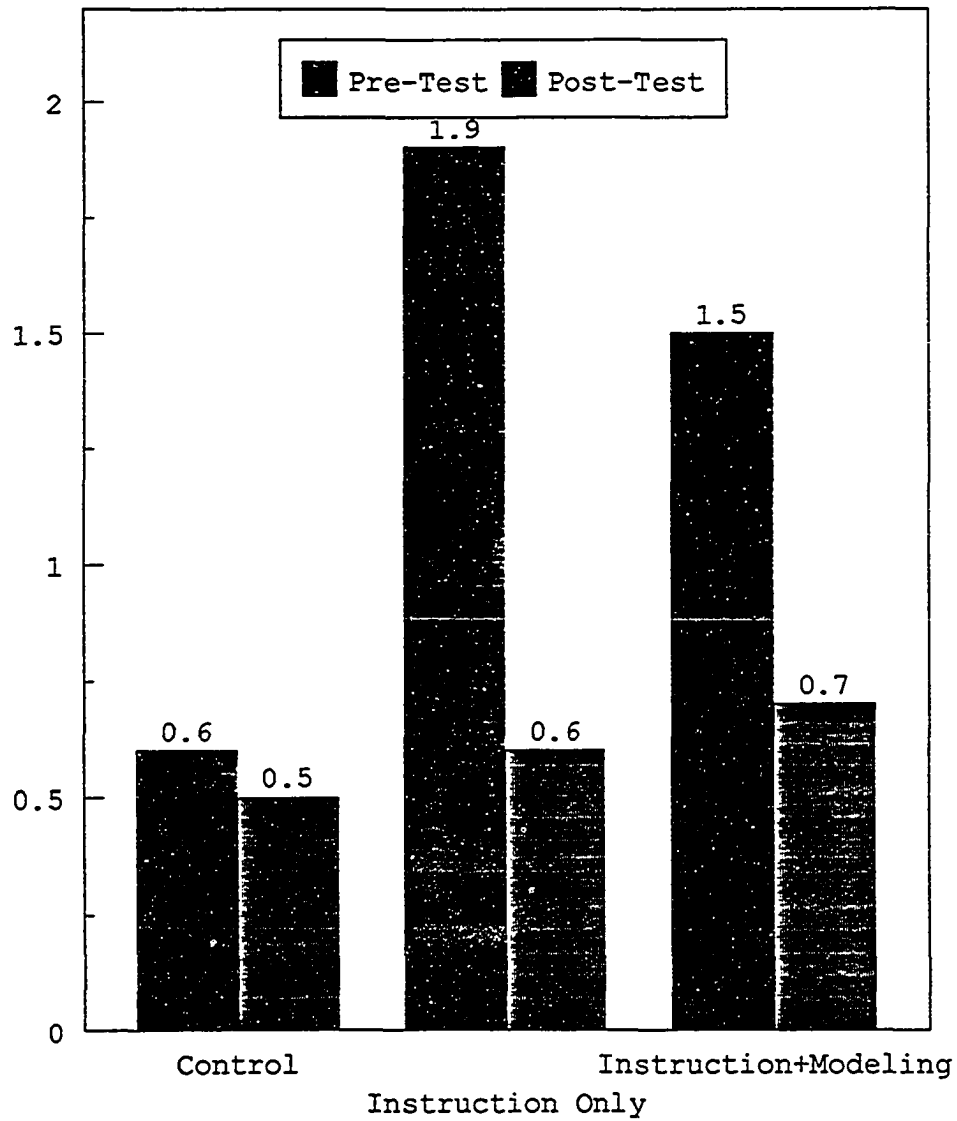


Figure F-19. Mean Number of Behaviors Associated With Safer Sex, Talked Positively to Someone About Safer Sex, per Month.

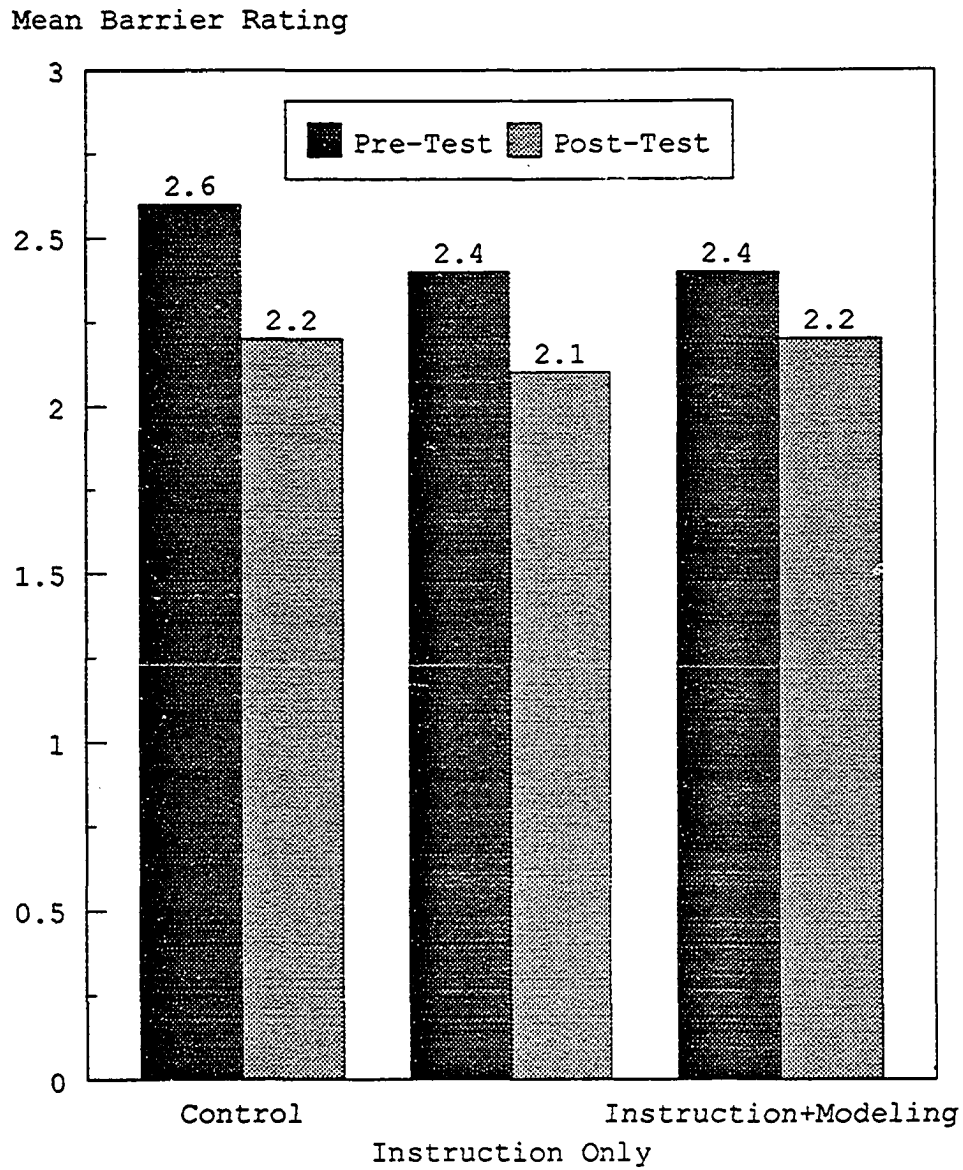


Figure F-20. Mean Ratings of Erotic Barriers to Safer Sex, Safer Sex Practices Interfere With Spontaneity.

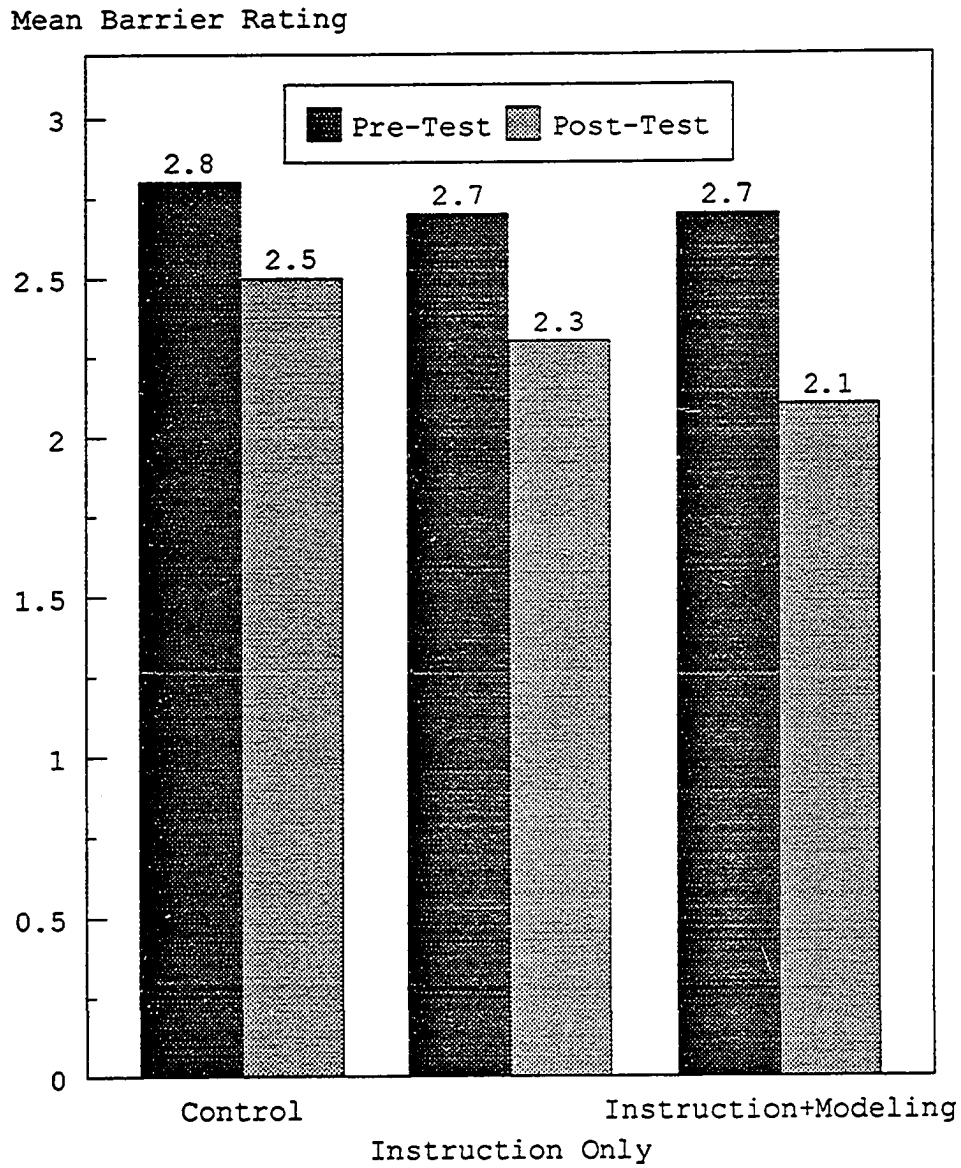


Figure F-21. Mean Ratings of Erotic Barriers to Safer Sex, Condoms Decrease the Pleasurable Sensations of Sex.

Mean Barrier Rating

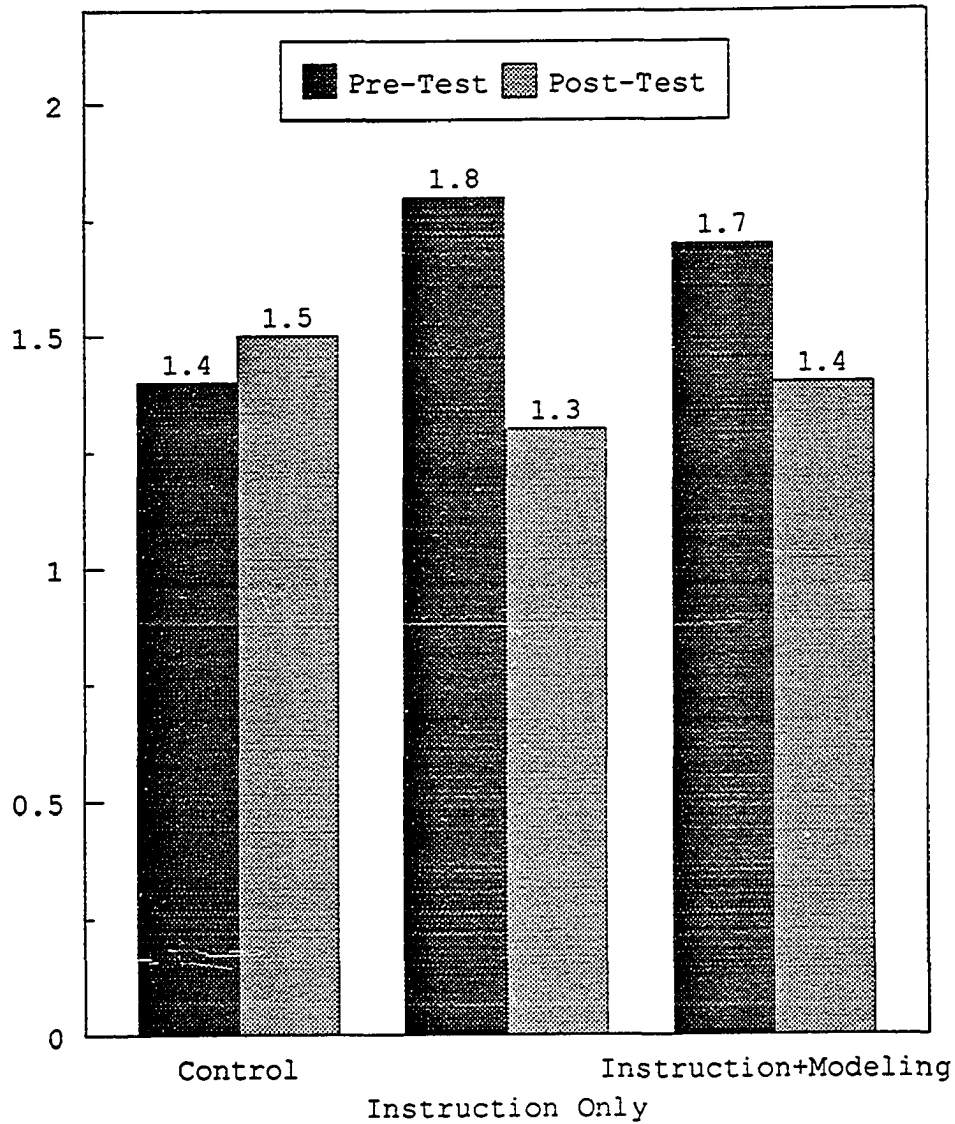


Figure F-22. Mean Ratings of Other Barriers to Safer Sex, I Am Uncomfortable Purchasing Condoms and Safer Sex Supplies.

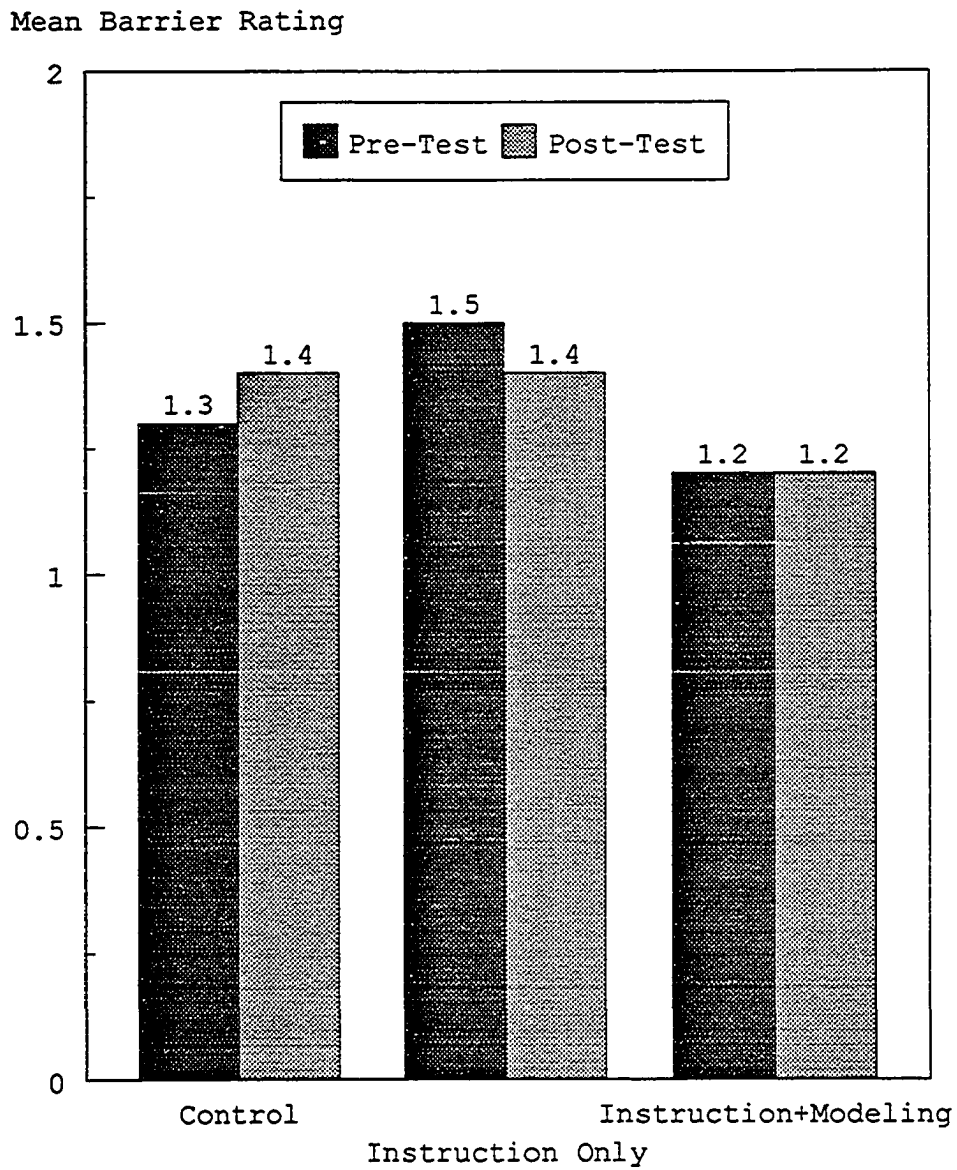


Figure F-23. Mean Ratings of Other Barriers to Safer Sex, I Do Not Believe I Will Get An STD.

Mean Barrier Rating

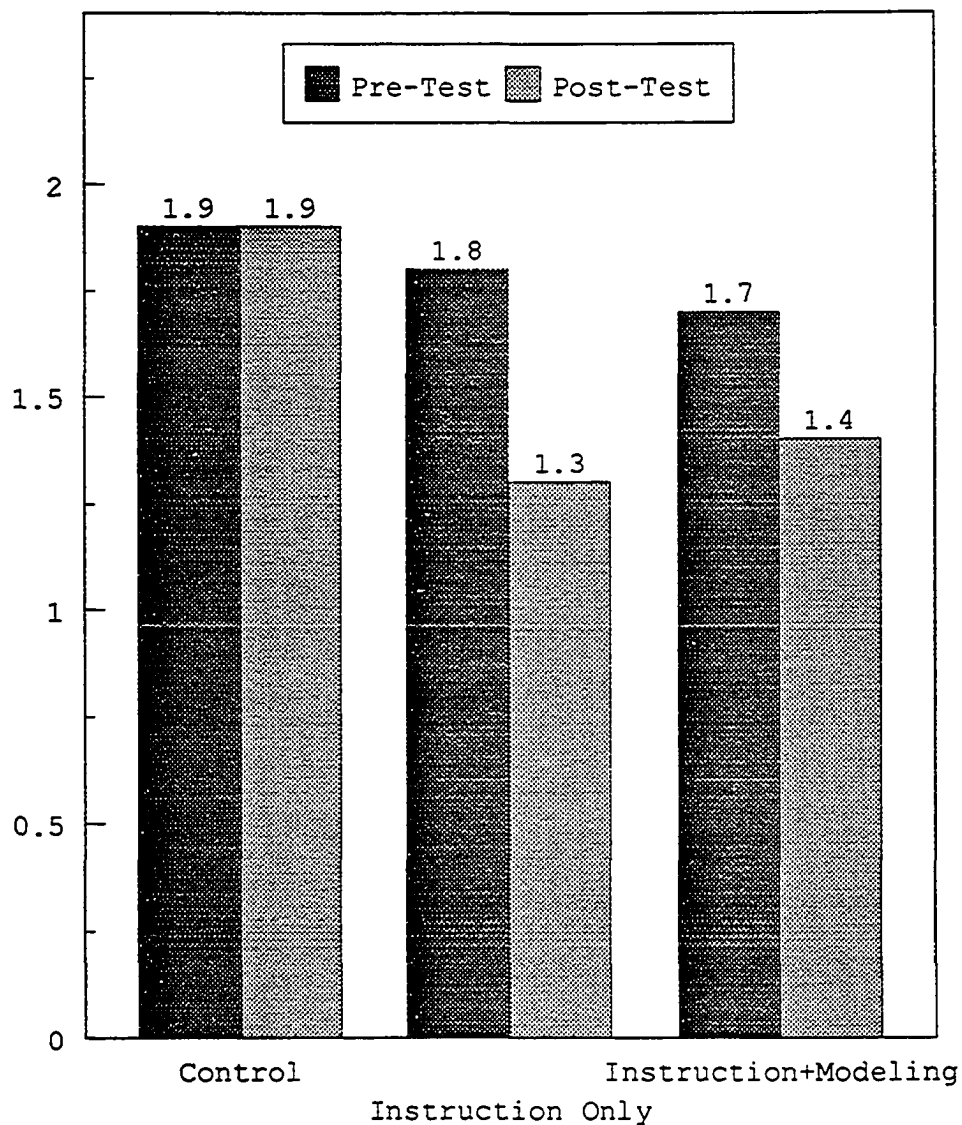


Figure F-24. Mean Ratings of Other Barriers to Safer Sex, I Believe All STD's Can Be Easily Treated.

Mean Barrier Rating

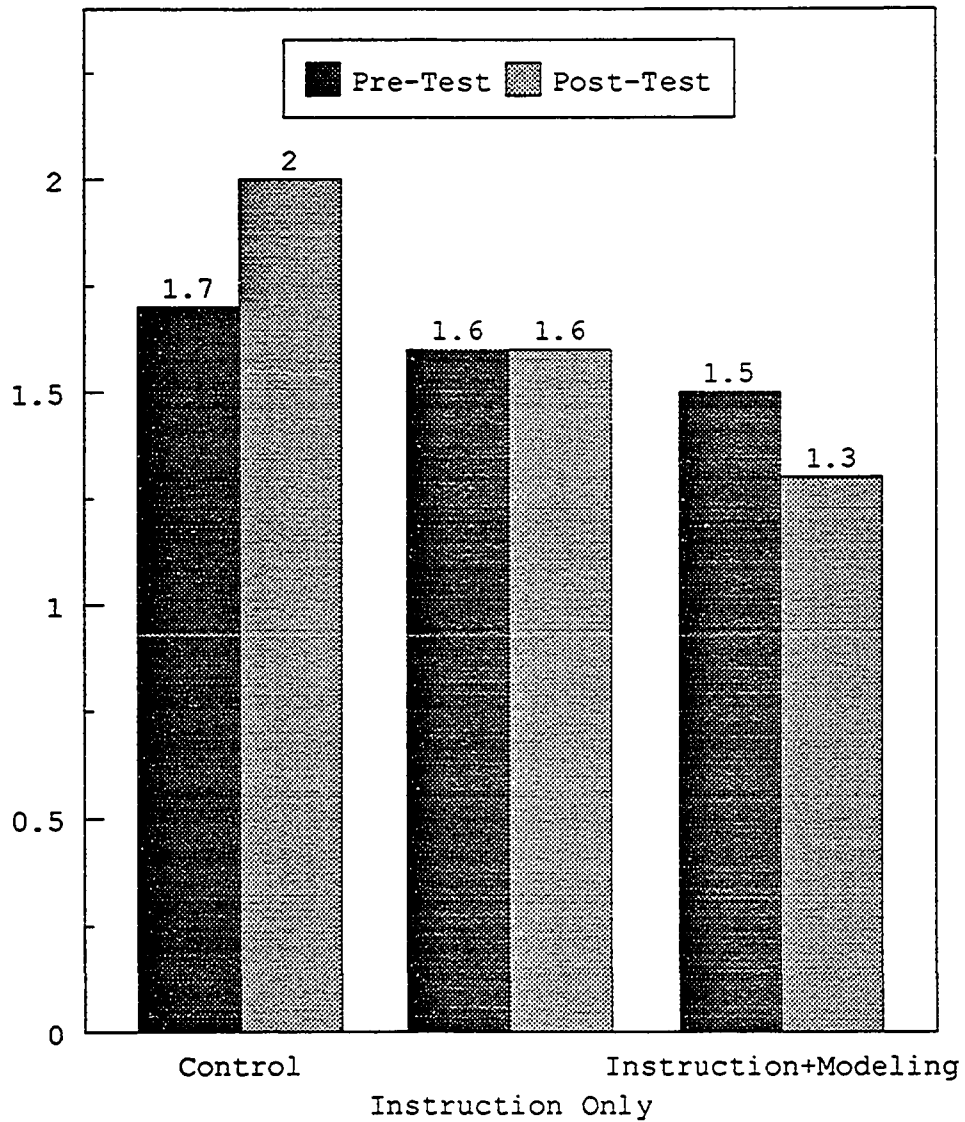


Figure F-25. Mean Ratings of Other Barriers to Safer Sex, I Am Uncomfortable Talking to a Partner About Safer Sex.

Mean Barrier Rating

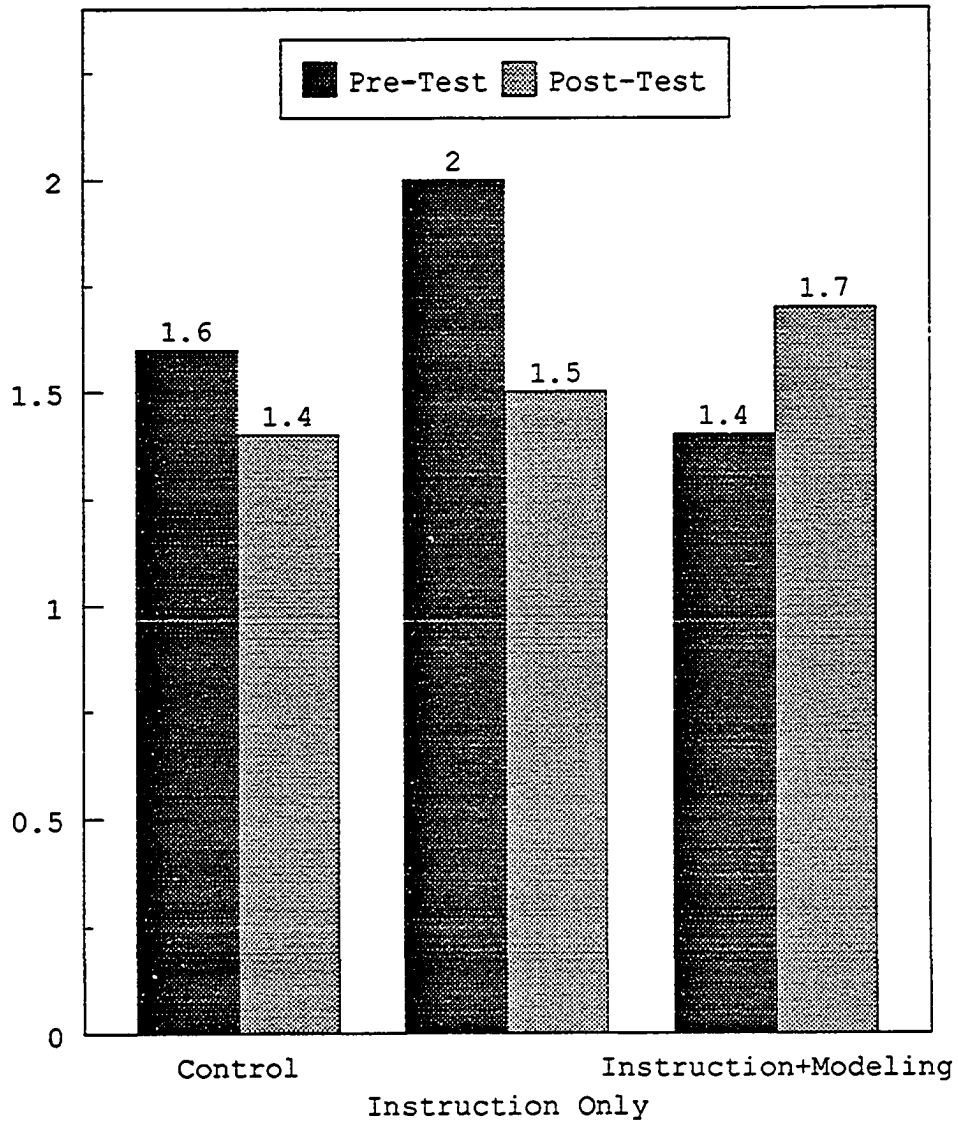


Figure F-26. Mean Ratings of Other Barriers to Safer Sex, I Do Not Have the Money to Purchase Condoms and Safer Sex Supplies.

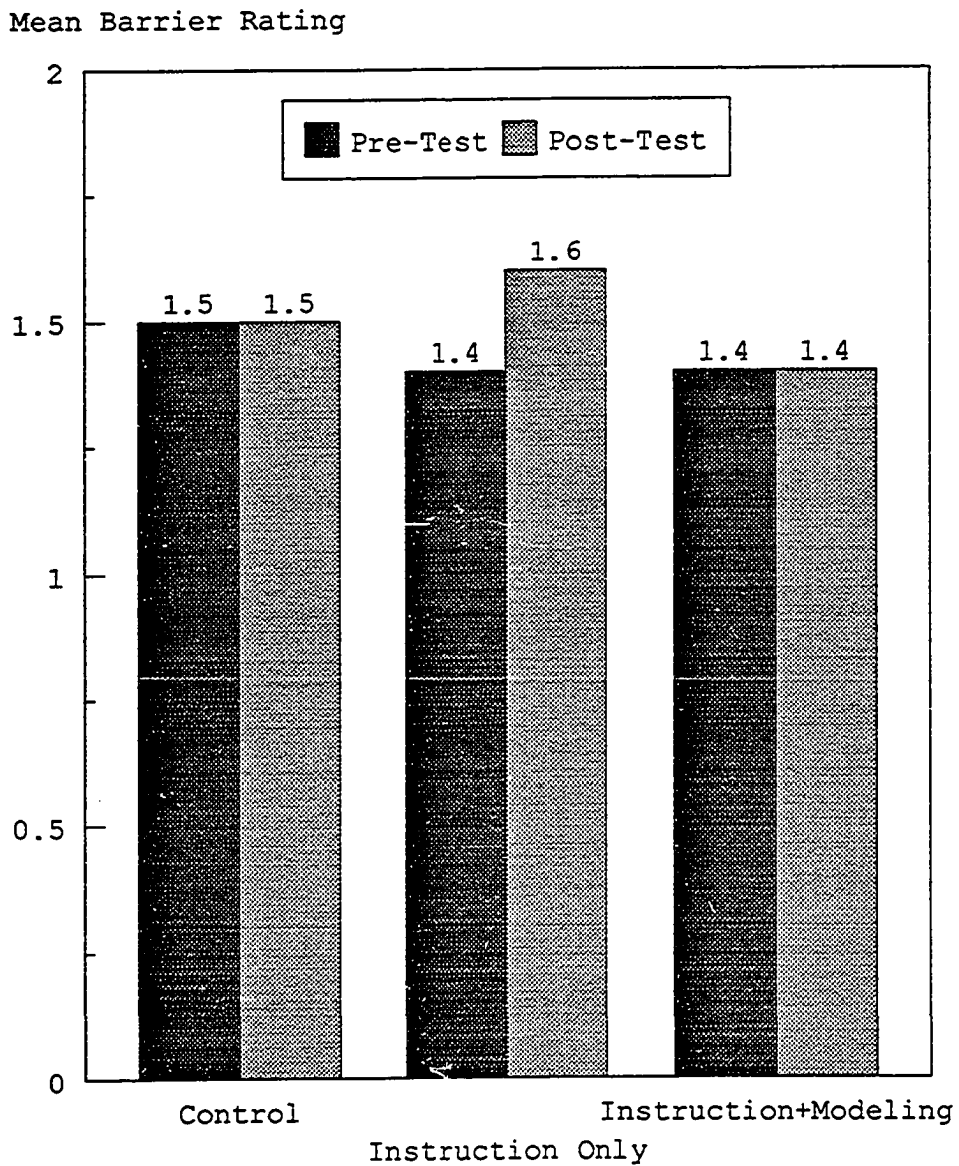


Figure F-27. Mean Ratings of Other Barriers to Safer Sex, I Do Not Know How to Correctly Use a Condom.

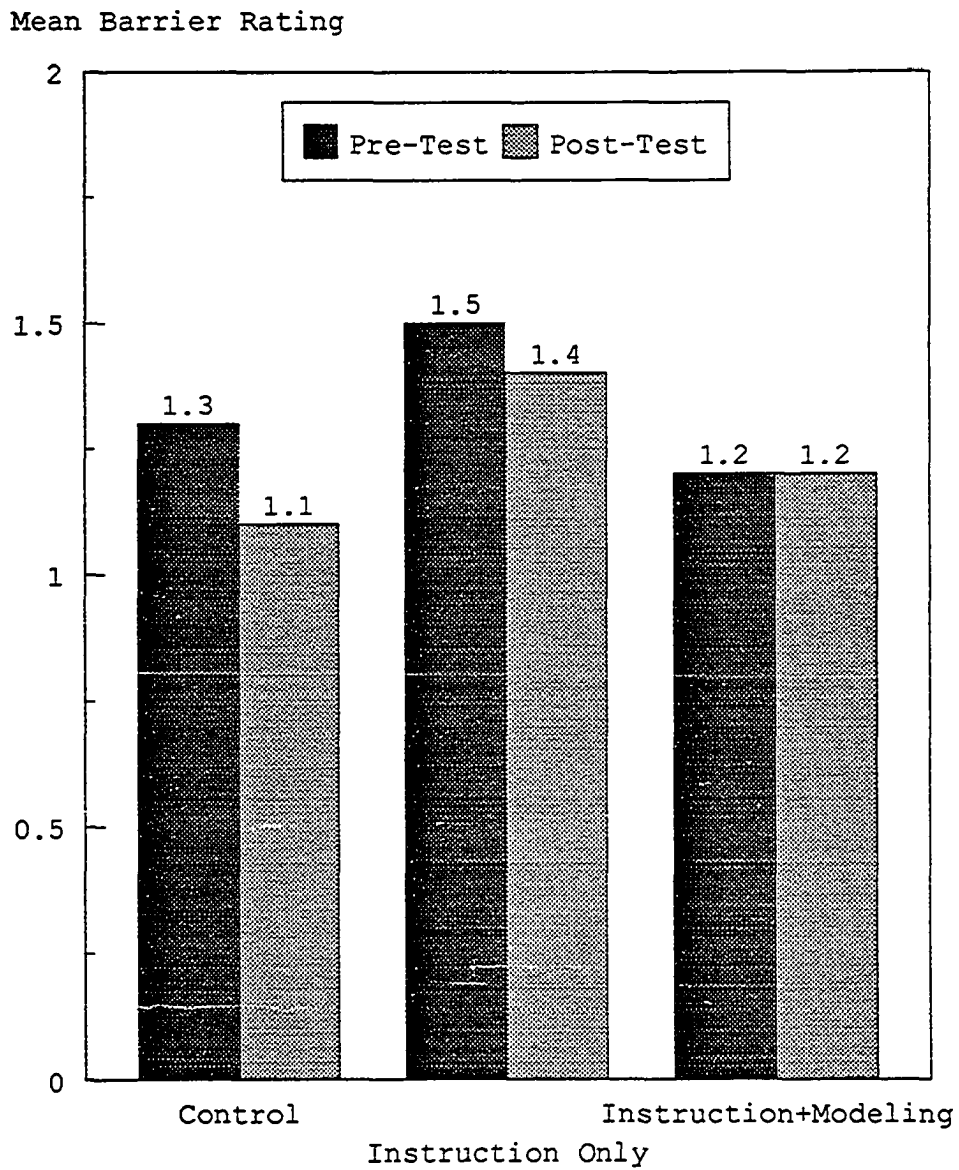


Figure F-28. Mean Ratings of Other Barriers to Safer Sex, I Am Afraid That My Partner Would Refuse My Request for Safer Sex.

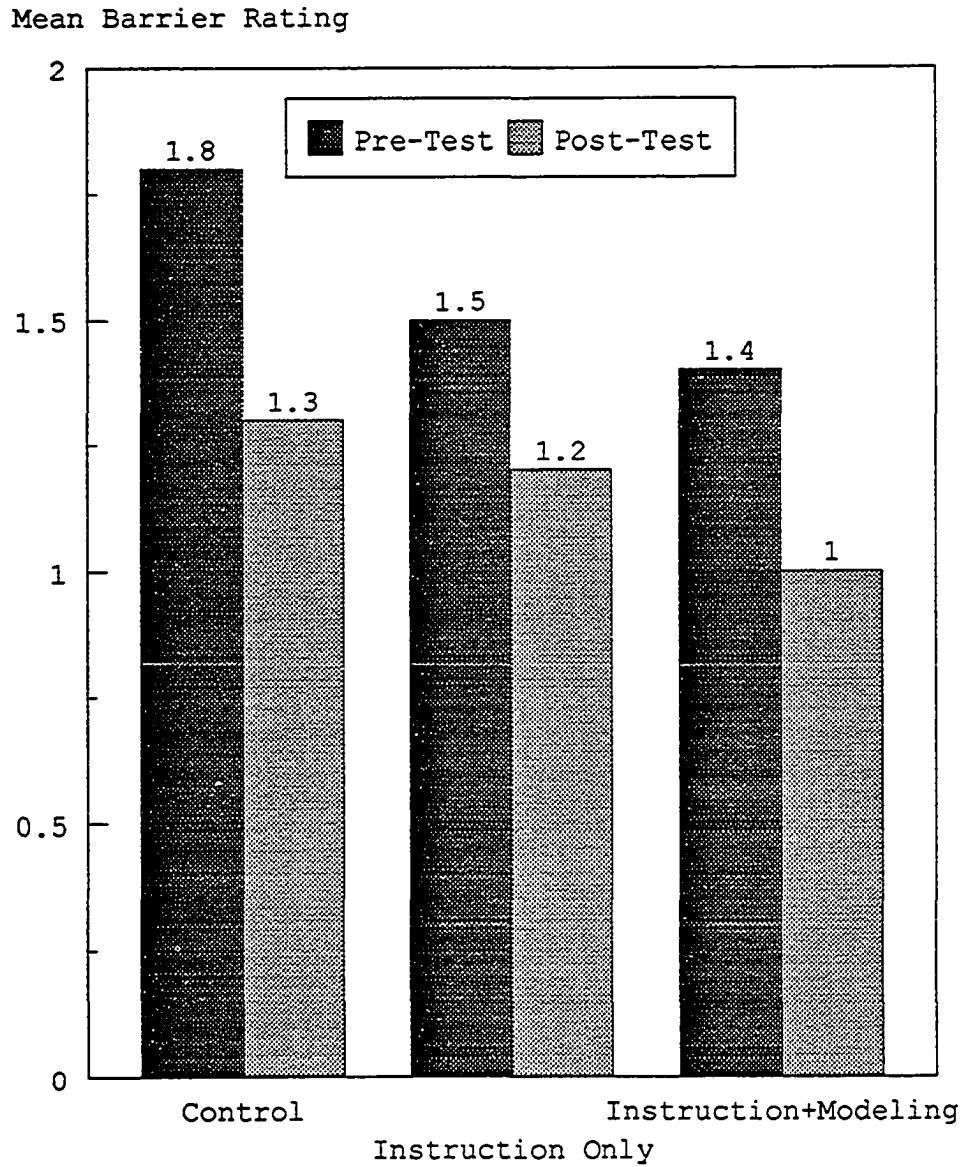


Figure F-29. Mean Ratings of Other Barriers to Safer Sex, I Do Not Know Enough About Safer Sexual Health to Make Changes.

Appendix G

Human Subjects Institutional Review Board
Protocol Approval and Correspondence:
Experiments One and Two



WESTERN MICHIGAN UNIVERSITY

Date: October 29, 1990

To: R. Wayne Fuqua, Department of Psychology

From: Mary Anne Bunda, Chair

Re: HSIRB Project Number 90-07-18

Mary Anne Bunda

This letter will serve as confirmation that your research protocol, "An Evaluation of an AIDS Education Brochure on Incoming Freshmen," as revised, has been approved after expedited review by the HSIRB. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any change in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: October 29, 1991



WESTERN MICHIGAN UNIVERSITY

November 3, 1994

Dr. Rollin Douma
Interim Dean
The Graduate College
Western Michigan University

Dear Dr. Douma:

The Human Subjects Institutional Review Board has received a request from Dr. Wayne Fuqua to have Cheryl L. Knight included in a previously approved research project. This project, "An evaluation of an AIDS education brochure on incoming freshmen," was approved by the HSIRB in 1990 (HSIRB #90-07-18).

Per the request from Dr. Fuqua (copy enclosed) the HSIRB has added Ms. Knight to that project so that she may make use of the data in her dissertation. From the HSIRB perspective, this change would satisfy the university requirement for approval of her project.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Richard A. Wright".

Richard A. Wright
Associate Vice President
for Academic Affairs
Interim Chair, HSIRB

cc: Dr. Fuqua
M. Knight
HSIRB



WESTERN MICHIGAN UNIVERSITY

Date: May 4, 1992

To: Cheryl L. Knight

From: Mary Anne Bunda, Chair

A handwritten signature in cursive script that reads "Mary Anne Bunda".

Re: HSIRB Project Number 92-04-06

This letter will serve as confirmation that your research protocol, "Increasing the Safer Sexual Behaviors of Male Heterosexuals: The Erotic Use of Condoms" has been approved after expedited review by a subcommittee of the HSIRB. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any change in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

xc: Fuqua, Psychology

Approval Termination:

May 4, 1993



WESTERN MICHIGAN UNIVERSITY

Date: June 24, 1992

To: Cheryl L. Knight

From: Mary Anne Bunda, Chair *Mary Anne Bunda*

Re: HSIRB Project Number 92-04-06

This letter will serve as confirmation that your research protocol, "The Erotic Use of Condoms" has been approved after expedited review by a subcommittee of the HSIRB. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any change in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

xc: Fuqua, Psychology

Approval Termination: May 4, 1993

Human Subjects Institutional Review Board



Kalamazoo, Michigan 49008-3899

WESTERN MICHIGAN UNIVERSITY

Date: April 16, 1993

To: Cheryl Knight

From: M. Michele Burnette, Chair *MMB/SKB*

Re: HSIRB Project Number 92-04-06

This letter will serve as confirmation that your research protocol "The erotic use of condoms" has been re-approved by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may continue to implement the research as described in the approval application.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: April 16, 1994

xc: Fuqua, PSY

Human Subjects Institutional Review Board

Kalamazoo, Michigan 49008-3899
616 387-8293

WESTERN MICHIGAN UNIVERSITY

Date: October 6, 1993
To: Cheryl L. Knight
From: M. Michele Burnette, Chair *M. Michele Burnette*
Re: HSIRB Project Number 92-04-06

This letter will serve as confirmation that the changes in your research protocol, "Increasing the safer sexual behaviors of male heterosexuals: The erotic use of condoms" have been approved by the Human Subjects Institutional Review Board.

xc: Fuqua, Psychology

1

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