

THE EFFECTS OF A COLLEGE HUMAN SEXUALITY COURSE ON
STUDENTS' SEXUAL KNOWLEDGE, ATTITUDE, AND BEHAVIOR

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Smith, Jolene A., The effects of a college human sexuality course on students' sexual knowledge, attitude, and behavior. Masters of Science (Health Promotion), December 2001, 47 pp., 3 tables, references, 40 titles. Using an experimental-comparison group design, data were collected at the beginning and end of a semester to assess the effect of a human sexuality course on students' sexual knowledge, sexual attitude, and sexual behaviors. Data analysis by *t*-tests showed statistical differences between the experimental and comparison group only on sexual knowledge scores ($p < .001$), with the experimental group scoring higher. *T*-tests showed statistical difference between males and females in sexual attitude ($p < .001$) and sexual behavior ($p < .001$) with women scoring higher than men in the experimental group, and also when experimental and control groups were combined. Although not statistically significant, women scored higher in sexual knowledge than males.

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INTRODUCTION

The majority of Americans are uneducated about human sexuality, even among college students (King & LoRusso, 1997). Nationally, only 36 percent of teenagers say they learned “a lot” from their parents about sex (Kaiser Family Foundation, 1996). According to a 1998 Time magazine/CNN survey, 74% of teenagers said that friends and television were their major sources of information, compared to only 10 percent who listed parents or sex education (Stodghill, 1998). Much of the information from peers and the media is incorrect, and as a result, a majority of Americans are amazingly ignorant about sexual knowledge and sexual behaviors (Reinisch, 1990; Sprecher & Regan, 1996; Feigenbaum, Weinstein, & Rosen, 1995).

Many colleges and universities around the country now offer courses in human sexuality (Rodriguez, Young, Renfro, Asencio, & Haffner, 1996). These sexuality courses are now being offered by 41% of the American colleges and universities; larger institutions are more likely to offer human sexuality classes than are smaller schools. Human sexuality had become one of the 30 most frequently offered psychology courses in the United States (Polyson, Lash, & Evans, 1986). These courses on colleges and universities have been designed to provide relevant sexuality information about subjects that play an important role in a person’s life. College courses in human sexuality are often the first time some students learn formally and comprehensively about the principles of human sexuality. More than in other college courses, students enrolled in a college human sexuality course enter the classroom with an enormous amount of pre-

learning. They bring with them a lifetime of learning, a mixture of facts, values, prejudice, inaccuracies, taboos, beliefs, and stereotypical thinking.

In order to unlearn, students must become aware of what they have unconsciously acquired throughout their lives. For students to benefit from instruction, they must discard sexual myths in favor of accurate factual information about human sexuality. Potentially they could experience significant attitudinal and behavioral changes that could enhance their adult sexual lives (Kirby, 1995; Isberner, 1990; Thomas, Long, Whitten, Hamilton, Fraser & Askins, 1985; Gray & Saracino, 1989; Knox, Daniels, Sturdivant, Zusman, 2001; Feigenbaum, et al., 1995). Studies show that sexuality education courses in schools typically result in substantial gains in knowledge and a more tolerant attitude toward others (SIECUS, 1992; McGuire, Shega, Nicholls, Deese, & Landefeld, 1992). Understanding that people are different from ourselves sexually without condemning them is a particularly important virtue in a multiethnic, multicultural society as the United States. There may be gender differences in the acquisition of sexual information, sexual attitude changes, and sexual behavior. For instance, Weis, Rabinowitz, and Ruckstuhl (1992) studied 48 males and 124 females and found that women showed more permissive attitude changes than their male counterparts, among other classifications such as students living at home, and younger individuals. Although in contrast, Melchert and Burnett (1990) found no difference between the genders when it came to sexual knowledge.

Every year about 250,000 college students take a human sexuality course, according to a 1994 estimate (Moglia, 1994). A major assumption made by many who

teach these courses is that they result in significant changes in increased knowledge, more tolerant sexual attitudes, and healthier sexual behavior. A relevant question to ask about sexuality courses on campus is “Does it work?” The question of relevance depends on who is asking. If one student leaves with more knowledge, or another reduces his or her risky behavior, the human sexuality course may be considered “effective.” On the other hand, politicians, churches and opponents of sexuality education, look at test scores, teenage pregnancy rates and rising numbers of new STD and HIV cases per year as a failure of sexuality education efforts. Ultimately, the only person who truly knows the effectiveness of attending a human sexuality course is the student. If the courses are effective, how long does the effect last, and how long does it take to facilitate a positive change in the student? Is a semester long enough to cause a change in a student’s knowledge, attitude and/or behaviors or do we need a longer period for the intervention?

At the University of North Texas, there are a few courses addressing the topic of human sexuality, both at the undergraduate and graduate levels. Such courses are being offered through various departments: Psychology, Human Development and Family Studies, Sociology, Women’s Studies, and Kinesiology, Health Promotion and Recreation, to name a few. In an attempt to meet growing student needs, some courses are being delivered through large classes, one of them being *Health 2200: Family Life & Human Sexuality*, from the Department of Kinesiology, Health Promotion and Recreation, which currently serves over 400 students per semester. According to the current catalog, “*This course emphasizes issues related to sexual health from historical, physiological, psychological, social, and cross-cultural perspectives. It incorporates a*

multicultural, multiethnic perspective on human sexuality, reflection the diversity of sexual experiences in our society and the world” (UNT, 2000).

Because student learning about sexuality is multidimensional – cognitive, attitudinal, and behavioral – creating a supportive classroom atmosphere that enhances the exchange of experiences, ideas, and viewpoints would be especially important. By creating a permissive environment in which diversity is embraced and contradictions are explored, students will feel safe, respected, and free to address the complex sexuality issues and feelings that may arise from class discussions and lectures. While smaller settings can enhance such positive interactions among students, the larger the class, the greater the challenge in creating a supportive environment for human sexuality education. Because *Health 2200: Family Life and Human Sexuality* has large enrollments of over 400 students per semester, it would be interesting to assess its effects on students in the class. It is against this backdrop that this study is conducted.

The Information-Motivation-Behavioral Skills (IMB) Model (Fisher & Fisher, 1992) appears to be the most appropriate theoretical basis for this study. The IMB model holds that sexual information, motivation, and behavioral skills are the fundamental determinants of sexual behavior. Information that is directly relevant to human sexuality is a prerequisite of sexual behavior. In this model, information refers to basic knowledge of human sexuality. Motivation to engage in sexual behavior is a second prerequisite; it refers to personal attitudes toward human sexual behaviors and perceived social support for such behaviors. The IMB model conceptualizes motivation to engage in sexuality in accord with the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980) and related

discussions of motivation to engage in sexual behavior. In effect, motivation to engage in sexual behavior is assumed to be a function of one's attitude toward a particular sexual act, and relevant subjective norms regarding the specific sexual behavior. Information and motivation are thought to activate sexual behavioral skills that result in the initiation and maintenance of preventive sexual behavior.

Information and motivation are regarded generally as independent constructs within the model (Fisher & Fisher, 1992). The presence of information and the presence of motivation each make it more likely that sexual behavioral skills will be used, but there is no necessarily strong relationship between level of information and level of motivation. Highly informed individuals may either have high or low motivation to engage in preventive sexual behaviors and highly motivated individuals may or may not be highly informed. Conceptually then, information and motivation are both thought to influence the use of behavioral skills to engage in healthy and preventive sexual behaviors, but information and motivation are viewed as separate entities that influence the utilization of behavioral skills in the enactment of preventive sexual behaviors in quite separate ways. Empirically, the plethora of information-only interventions that show little impact on sexual behavior also suggests that information alone is not generally sufficient to motivate healthy and preventive sexual behaviors and that other factors such as relatively independent attitudes and norms concerning sexual behaviors must be considered as well (Fisher & Fisher, 1992).

The model further assumes that other factors that may affect motivation to engage in sexual behavior (e.g. perceived vulnerability to breast cancer, perceived cost and

benefits to breast self examination, type of sexual partner) will be reflected in the IMB model of acts and subjective norm parameters (Fisher & Fisher, 1992). According to the IMB model, behavioral skills for performing specific sexual acts (e.g. communicating sexual needs to new partners) are a final prerequisite of sexual behavior. Behavioral skills involve the possession of the requisite skills to effectively perform specific sexual activities (e.g. verbal abilities to communicate and negotiate safer sex with partners). Individuals with these skills are assumed to possess self-beliefs in their ability to enact healthy sexual behaviors effectively - a sense of self-efficacy with respect to the behavior in question (Bandura, 1992). Whereas as the IMB model views information, motivation, and behavioral skills as generally necessary for the initiation and maintenance of change, it assumes that relapse is typically a problem of motivation that has ebbed or of an individual encountering new situations in which existing behavioral skills are insufficient. Relapse can also occur because one has encountered new information that is inconsistent with prevention (e.g., for heterosexual college students, relapse could be prompted by receiving incorrect information that being on birth control pills can protect you from sexually transmitted diseases as well as condoms).

This study attempts to evaluate the effects of exposure to a semester-long human sexuality course at the University of North Texas on student sexual knowledge, attitude, and behavior. Sexual knowledge, for the purpose of this study, is defined as a learned fact about the sexual information that was provided in the course; the basic factual information encompassing the entire spectrum of the course and sexuality issues. Sexual attitudes are favorable or unfavorable evaluative reactions or dispositions toward

something, a situation, a person, or a group exhibited in one's beliefs, feelings, or intended behavior. Sexual behavior is defined as any observable response of a person to a stimulus (human sexuality course information) that has a specific frequency, duration and purpose, whether conscious or unconscious (Modeste, 1996). More specifically, this study will test the following hypotheses:

- 1) As a result of attending a college Human Sexuality course (experimental group), students will show significant improvement in their sexual knowledge, attitudes, and behaviors.
- 2) Students attending a college Human Sexuality course (experimental group) will show significantly higher scores in sexual knowledge, attitude, and behavior than scores of students not exposed to sexuality content (comparison group).
- 3) Female students will have significantly higher scores in sexual knowledge, attitude, and behavior than male students in both groups.

METHOD

Design

To assess sexual knowledge, sexual attitudes and sexual behavior among college students enrolled in a human sexuality course (*Health 2200: Family Life and Human Sexuality*), we used a quasi-experimental pre-post treatment design. In this experimental-comparison design, differences (sexual knowledge, attitudes, behaviors) observed between pretests and posttests for experimental (*Health 2200*) and comparison groups (other health courses) might be attributed to the educational treatment (sexuality curriculum in *Health 2200*) given to the experimental group. Although randomization

was not used, special care was taken to achieve some degree of equality between the two groups, as it relates to gender distribution and the lack of previous exposure to sexuality education. The independent variable is the human sexuality course (*Health 2200*), where data was collected at the beginning (test 1) and end (test 2) of the course. The three dependent variables are: sexual knowledge, sexual attitudes, and sexual behaviors.

DATA ANALYSIS

Data analysis was done by a one sample t-tests for each hypothesis. Effect size was calculated by subtracting the test 1 mean from the test 2 mean and then dividing by the standard deviation.

SAMPLE

The Institutional Review Board at the University of North Texas approved the field methodology for this study (see appendices). Confidentiality and anonymity of all responses were ensured. The study sample in the experimental group (N=313) consisted of students enrolled in *Health 2200: Family Life and Human Sexuality* offered in Spring semester, 2001. Besides items on sexual knowledge, attitude and behavior, data on gender and previous sexuality education were collected. To control for selection bias, a comparison group of students (N=106) enrolled in Spring semester, 2001 in college courses (*Health 1900: Principles of Health*, *Health 2100: Mental Health*, and *Health 4300: Corporate Health*) were used. The total combined sample of N=419 was deemed acceptable for hypothesis testing with alpha at .05 and with statistical power at .5 for a small effect size (Olejnik, 1984).

The comparison groups were undergraduate health classes, with a large enrollment of students similar in demographic characteristics as those enrolled in the experimental group. However, despite efforts to achieve gender parity in our samples, there was uneven gender distribution for the two groups: the male to female ratio in the experimental class was 66% (N=206) women and 34% (N=107) men and 84% (N=89) women and 16% (N=17) men in the comparison group. This uneven gender distribution in both groups could be considered a threat to the internal validity of the current study.

PROCEDURE

Students were informed that their participation was fully voluntary and that their decision would have no impact on their course grade; instructors gave extra credit if students completed both questionnaires. After explaining the purpose of the study, emphasizing issues of confidentiality and anonymity, the questionnaire was administered in class on the first and last day of the semester. Responses of individual students to pretests and posttests were matched using a student-generated identification number. This procedure was used to allow matching of responses while protecting the confidentiality of student responses.

INSTRUMENT

A 6-page, 80 item survey was developed to measure students' religious outlook, sexual attitude, sexual knowledge, and sexual behavior. Four subscales were developed.

A religious scale developed by Allport and Ross (1967) was used to assess the religiosity of respondents. The scale has 20 items and asks questions regarding religious practices and internal religious beliefs. Preliminary data analysis from the final study

confirmed that the students' scores did not influence study findings and subsequently that data was not utilized.

The second subscale, developed by the researcher, was used to assess students' sexual knowledge. Based on the review of subject matter as reflected in the course syllabus and textbook, ten content areas were identified: (1) *Female and male sexual anatomy*, (2) *Sexual response and behavior*, (3) *Gender identity, gender roles, and sexual orientation*, (4) *Attraction, love, relationship, intimacy and communication*, (5) *Conception, pregnancy, and childbirth*, (6) *Contraception and abortion*, (7) *Sexuality across the life span*, (8) *Sexual dysfunction*, (9) *Sexually transmitted diseases*, and (10) *Sexual coercion, and commercial sex*. After multiple reviews and revision, the researcher and course instructor chose two knowledge items for each content area. Respondents received one point for each correct response on the 20 multiple-choice questions, resulting in a potential subscale scoring range of 0 to 20 points. The higher the score, the more sexually knowledgeable will be the respondent. For example, students had to "*accurately identify the symptoms of a gonorrheal infection in men.*"

As in the knowledge subscale, the researcher generated items on the same ten content areas to measure students' attitude on sexuality issues (2-3 items for each content area). The third subscale assessed students' sexual attitudes using 29 items on a 7-point Likert-type scale, with 1= *strongly disagree* and 7 = *strongly agree*. The potential range of scores was 29 to 203, with higher scores indicating more positive (accepting of sexual diversity by mainstream societal norms) attitude toward sexuality issues. For example, students responded to the statement, "*Women who menstruate are irrational.*"

Eleven items were used to evaluate current sexual behaviors corresponding to the ten content areas. A 7-point Likert scale was again used to assess frequency of participation in selected sexual behaviors (1=*Never*, 7=*Always*). The potential range of scores was 11 to 77 points, with higher scores indicating more frequency of healthier sexual behaviors. For example, students responded to the question, "*I do a monthly breast or testicular self-examination.*"

PILOT STUDY

A pilot study was conducted prior to the final study to validate the instrument, using two other health classes in the summer (N=63), *Health 4400: Health Competencies*, *Health 1100: School and Community Health*. These two courses were selected for convenience and also because they enrolled students who typically register for the college sexuality course used in the study. The purpose of the pilot study was to establish reliability of the instrument using a test-retest procedure with a 7-day interval between the two test administrations, identify confusion in instructions, clarify terminology, and estimate the time taken to complete the questionnaire. Data from the pilot study was analyzed to establish reliability and internal consistency of the instrument.

Students who participated in the pilot study were not used in the final study. The same data collection protocol proposed for the final study to ensure confidentiality and anonymity was used in the pilot study. The students took between 10-20 minutes to complete the instrument, and only one question arose from the students. It was a question about a double-negative question in the behavior subscale, which was

consequently modified. Student responses from test 1 were correlated with responses from test 2, a week later, to establish stability for the instrument over time. There were 75 questionnaires distributed on first day of the study and 62 were distributed a week later, producing a return rate of 83%. For the pilot study, stability was established using Pearson r correlation coefficients for knowledge (.97), attitudes (.99), and behaviors (.99).

In summary, to establish face/content validity, the survey instrument was developed after a comprehensive literature review and consultation with the course instructor, a national expert on human sexuality with over 20 years of college teaching experience. All recommendations offered by the expert were reviewed by the investigator and incorporated into the final survey instrument, where appropriate. Students reported no problems in comprehension.

RESULTS

With reference to hypothesis #1, (*As a result of attending a college-level Human Sexuality course (experimental group), students will show significant improvement in their sexual knowledge, attitudes and behaviors*), dependent *t*-tests confirmed statistical improvement in students' sexual knowledge, attitude and behaviors. As shown in Table 1, students exposed to the human sexuality curriculum reported statistically significant improvements in sexual knowledge ($p < .001$), with a large effect size, sexual attitude ($p < .001$), with a small effect size, and sexual behavior ($p < .001$) at the second administration, also with a small effect size.

Table 1
Experimental Group: Means, Standard Deviations, and Effect Sizes on Sexual Knowledge, Attitude and Behavior

Experimental N= 313	Knowledge		Attitude		Behavior	
	Test 1	Test 2	Test 1	Test 2	Test 1	Test 2
Mean	8.65	12.36*	152.92	155.86*	47.05	49.15*
Std Dev	2.23	2.88	18.58	17.55	8.86	9.13
Effect Size	-1.66		-0.16		-0.24	

*Significant at $p < .001$

With reference to hypothesis #2, (*Students attending a college-level Human Sexuality course (experimental group) will show significantly higher scores in sexual knowledge, attitudes, and behaviors than the scores of students in the comparison group*), independent *t*-tests showed statistical differences between the experimental and comparison group only on sexual knowledge scores ($p < .001$), with the experimental group scoring higher. Again the effect size was large. As seen in Table 2, no statistical differences were found between the groups on sexual attitude or sexual behavior. ANOVA also confirmed that there was a statistical significance between the groups only on sexual knowledge ($p < .001$), with the experimental group posting higher scores.

Table 2

Comparison Between Experimental and Comparison Groups: Means, Standard Deviations, and Effect Sizes on Sexual Knowledge, Attitude and Behavior

	Knowledge		Attitude		Behavior	
	Test 1/Test 2	Test1/Test 2	Test 1/Test 2	Test 1/ Test 2	Test 1/Test 2	Test 1/Test 2
	Exp.	Comp.	Exp.	Comp.	Exp.	Comp.
Mean	8.65/12.36	8.42/8.58*	152.92/155.86	157.23/155.14	47.05/49.15	49.08/50.64
Std Dev	2.23/2.88	2.25/2.41	18.58/17.55	15.19/18.38	8.86/ 9.13	10.06/ 9.47
Effect Size	1.57**		0.04**		-0.16**	

*Significant at $p < .001$ between the experimental and comparison group at test 2. This table shows that in attitude and behavior scores, the experimental group regressed towards the mean of the comparison group.

** Effect size calculated for the difference between the means of test 2 scores between experimental and comparison groups.

With reference to hypothesis #3, (*Female students will have significantly higher scores in sexual knowledge, attitudes and behaviors than male students in both groups*), independent t -tests, as seen in Table 3, showed statistical differences between males and females in sexual attitude ($p < .001$) and sexual behavior ($p < .001$). Interesting to note, in both groups, there was no difference in knowledge scores observed between males and females; although not statistically significant, women scored higher in sexual knowledge than males.

Table 3

Comparison of Male and Female Respondents in Experimental and Comparison Groups Combined: Test 2 Means, Standard Deviation and Effect Sizes on Sexual Knowledge, Attitude, and Behavior

N=419	Knowledge		Attitude		Behavior	
	Females	Males	Females	Males	Females	Males
	N=295	N=124	N=295	N=124	N=295	N=124
Mean	11.51	11.1	159.92	145.58*	50.87	46.23*
Std Dev	3.10	3.47	14.83	19.96	8.69	9.71
Effect Size	0.10		0.72		0.48	

*Significant at $p < .001$

DISCUSSION

Before discussing findings, it is prudent to be reminded of study strengths and limitations. Study strengths include using an experimental-comparison study design, and developing an instrument geared toward the sexuality curriculum under investigation. However, the study is not without limitations. (1) Being that data was collected over time using the same instrument, there is no assurance that the students (particularly the diligent ones) did not research sexuality topics on their own between test administrations. Thus, conceivably any observed changes gained in subsequent administrations might not have been the direct result of exposure to the sexuality class, but to extraneous factors. (2) Because the same instrument was being used on multiple occasions, there could be a potential learning effect at play. (3) Although there could have been a bias of self-reported sexual behavior, no attempt was made to verify such information. (4) Because there may be a social bias to underreport what is perceived as sexually "unacceptable behaviors," students may underreport on such test items, which could confound study findings. (5) The unequal numbers between the experimental (N=313) and control group (N=106) was a limitation, with females in the majority. This uneven gender distribution could be a threat to the internal validity of the study findings, if there was in fact a gender effect. (6) Although the overall response rate was high, it is unclear whether students who did not respond differed significantly from those who completed the surveys. (7) This study did not provide evidence about the long-term impact of attending a college human sexuality course on subsequent sexual behavior. Findings should be interpreted in light of this limitation. However, while time-limited, the fact that the findings were robust

across an entire semester (15 weeks) suggests the effect was not due to seasonal or historical factors. (8) The effectiveness of the sexuality course may have been shaped by the instructor with many years of experience teaching this course, who may understand the knowledge gaps and issues facing college students, and who may constantly modify the course to address emerging concerns. A college sexuality course under a less experienced instructor might not produce the same results. (9) No attempt was made to establish reliability and validity scores on the three subscales used; as such, study findings could be confounded. (10) Because no inferential statistics was conducted that controlled for the uneven distribution of gender, uneven sample distribution between experimental and control groups, as well as the different baseline levels of sexual knowledge, attitude and sexual behaviors between groups, study findings are therefore inconclusive.

Although the study produced statistically significant student improvements in sexual knowledge, attitude and behavior scores resulting from attending the college sexuality curriculum, when compared to the comparison sample, students from the course only showed significant improvement in knowledge scores ($p < .001$); no statistical difference was observed in attitudes or behavior scores between the two samples over time. This finding is consistent with those produced in other studies (Isberner, 1990, Kirby, 1989). Some evidence has even suggested that the sexual knowledge gained from college courses may be retained for up to two years (Thomas, et al., 1985). College instructors can be confident that minimally students will show improvement in their

sexual knowledge after attending a sexuality curriculum. Affecting permanent change in student attitude and behaviors is another challenge.

When data from both experimental and comparison groups were analyzed across gender over time, no difference was found on sexual knowledge or behavior. This finding confirms the result of Melchert and Burnett (1990), who looked at sexual knowledge, attitudes, and behavior across gender. They concluded in their study that overall there was no real difference between the genders when it came to sexual knowledge. Gender difference was reflected in sexual attitude ($p < .001$), with females holding more sexually positive attitudes than males, a finding consistent with those found by others. As reported by Davidson and Darling (1988), female college students exposed to lectures on masturbation reported more positive attitudes toward masturbation among their peers. Weis, et al., (1992) assessed the attitudes of 48 male and 124 female college students before and after attending a human sexuality college course. Results indicated that sexual attitudes became more permissive during the period of the course. Permissive attitude changes were particularly evident among those who were members of social groups with restricted sexual norms, such as younger individuals, females, and those living at home with their parents. Although our study confirmed the results of Weis et al. (1992), our findings might be more valid because we have used a comparison group to account for extraneous variables.

This study was unable to demonstrate an effect on student sexual behaviors. Sexuality advocates note that it often takes a long time, possibly several generations, to influence people's behavior in any kind of public-health campaign, whether it is smoking

habits, birth control, or participation in safe sexual practices. The study's finding was not surprising or unexpected since previous studies have failed to show any significant association between exposure to sexuality education and subsequent sexual behaviors while others have been able to demonstrate a direct effect.

Although some studies found minimal positive effects on student behavior (Knox, et al., 1992; Feigenbaum, et al., 1995), others have reported positive changes in body image attitudes, journal writing, and breast cancer awareness (SIECUS, 1999). As reported by Polyson, et al., (1986), an evaluation of 33 studies to determine the effects of sexuality courses on students' sexual knowledge, attitudes, and/or behaviors concluded that such courses generally resulted in greater knowledge, more tolerant attitudes toward one's own and others' sexuality, but not on sexual behaviors. Since then researchers have used Knowledge, Attitude, Belief, and Behavior (KABB) models and have developed questionnaires that attempt to measure behavior change resulting from the threat of HIV/AIDS. HIV/AIDS prevention theorists believe that increased knowledge, along with positive attitudes and beliefs about HIV/AIDS, will lead to positive behavior changes. However, studies (Bustamante, 1992; McGuire, et al., 1992; Gray & Saracino, 1989; Feigenbaum, et al., 1995; Shapiro, Radecki, Carchian, & Josephson, 1999) indicate that increased knowledge of HIV/AIDS does not always result in a positive behavior change. Use of alcohol or other drugs often alters judgments about the perceived risks of a particular situation.

HIV and AIDS education is discussed frequently in studies using college samples. McGuire, et al., (1992) surveyed 158 college freshmen on an urban campus to determine

sexual practices, knowledge, and attitudes about AIDS among them. Study findings were mixed: while students reported an increase in sexual and HIV-related knowledge, it did not automatically result in a positive change in their safer sexual behavior. The authors warned that programs that heighten personal concerns around HIV/AIDS might not be most effective in promoting change (McGuire, et al., 1992). Gray and Saracino (1989) found no relationship between increased knowledge and changes in sexual behavior among 459 undergraduates in regard to their perceptions of AIDS risk and sexual behavior. Similarly, Dawson's (1986) national study on teenage girls revealed no consistent relationship between exposure to contraceptive education and subsequent initiation of intercourse. Feigenbaum, et al., (1995) reported a study on sexual attitudes and behaviors of students in a large northeastern community college. They concluded that no significant changes in attitudes or behaviors about safer sex, having fewer sex partners, and using contraception were reported among those who attended the sexuality courses.

In contrast, Davidson and Darling (1988) compared masturbation behavior of female college students who were exposed to sex education lectures on masturbation in a marriage and family class with those who had no similar exposure. A two-year follow up concluded that those women exposed to sex education lectures on masturbation increased their masturbatory behavior more than did the women in the control group. Although there was no explanation as to why the increase occurred, it may have been the exposure to the course content and the feeling that masturbation was not something “dirty” that may have had the effect.

The relationship between sexual knowledge and sexual behavior among college students is complex: in some cases, they have led to behavior change, in others, no change was observed. Bustamante (1992) examined the association between exposure to sexuality instruction and subsequent student sexual behaviors. This study showed that even with a high level of knowledge, there were still a large number of students who engaged in “careless” sexual behavior. A majority of the respondents reported that they were unlikely to get an HIV test, even after being instructed on the risk for HIV. These students felt they were not susceptible to becoming infected with the AIDS virus. Apparently, even among those students who confessed to being very or somewhat susceptible to becoming infected with HIV, 61% said that they would be either very or somewhat unlikely to get an HIV antibody test (Bustamante, 1992). Obviously, just highlighting their sense of vulnerability to HIV does not automatically lead to increasing the desire to learn their HIV status through testing. Once again, researchers conclude that the association between information and behavior is not direct or simple, particularly on such an emotionally charged and stigmatizing condition as HIV/AIDS, a topic often addressed in college sexuality courses.

Using the Health Belief Model, Hollar and Snizek (1996) explored relationships among knowledge, self-esteem, and students’ proclivity to engage in risky sexual behavior. The results of this study indicate that students with high levels of self-esteem, as well as high levels of knowledge of HIV/AIDS, report engaging in safer behavioral practices, more than those with low to moderate levels of self-esteem. On the reverse side, surprisingly students with a high level of self-esteem reported more risky sexual

behaviors than the students with low to moderate self-esteem. These results indicate that both self-esteem and knowledge operate differently depending on the type of sexual behavior involved. Obviously, the relationship between knowledge and behavior is not linear or simple.

Shapiro, et al., (1999) conducted a study to determine levels of HIV-related sexual behavior, along with knowledge and attitudes among students attending a community college in Orange County, California. The level of student knowledge concerning HIV disease was found to be relatively high, and significant differences in knowledge and sexual permissiveness were identified as a function of ethnicity and religion. Respondents' comfort in asking a partner about his/her sexual history was positively associated with their level of self-esteem, and negatively related to peer pressure in this population. Previous studies (MacNair-Semands & Simono, 1996; Kaemingk & Sechrest, 1990; Gould & Keeling, 1996) have shown that in college populations, HIV knowledge does not confer a protective effect against high-risk behavior. However, knowledge was found to be an enabling factor with regard to students' comfort levels in asking about their partner's sexual histories, and in requesting that partners take an AIDS test.

FUTURE RESEARCH

Further research should include future investigators to examine the long-term effect of attending a college human sexuality course. It would be beneficial to track students to determine if the knowledge gained in class will persist over time. It would also be interesting to determine if student sexual attitude and behavior will change after

the course. Because the experienced instructor may have influenced the effectiveness of the sexuality course, it would be beneficial to conduct the same study using a less experienced teacher.

CONCLUSION

Study findings on the effect of a college sexuality course on students sexual knowledge, attitude and behavior converge on earlier, cross-sectional sexuality surveys, and thus add weight to the view that it is beneficial to formally instruct young adults on sexuality. However, the task is not easy, as eloquently stated by Joy Davidson in a popular lay magazine read by young adults: *“By the time teenagers enter college days, they’re surprisingly sophisticated about some aspects of sex and disappointingly naïve about others. They’ve grown up surrounded by sexual images in the media mixed with constant warnings that sex is inappropriate, immoral and quite possibly deadly. Is it any wonder that many college men and women, suddenly free of parental chaperoning, rush headlong into campus sex with the abandon of starved dogs let loose in a butcher shop? And is it really any surprise that a lot of what they already know about sexuality is forgotten in their rush to sample the feast? So while today’s worldly young adults could teach their elders a thing or two about certain aspects of sexuality, there are still plenty of things they have to learn”* (Davidson, 1998).

Appendix A

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(940)-565-2651

Dear Participant:

Thank you for your participation in this study. **YOU MUST BE 18 YEARS OF AGE TO COMPLETE THIS STUDY!** Your participation in this study is completely voluntary. You are free to discontinue your participation at any time. By completing the questionnaires and turning them in, you have given your consent to participate in the study. Your answers will be strictly confidential and will be seen only by the researchers. The results will be reported in statistical form only, and no response will be associated with any individual. Please **DO NOT** write your name on the questionnaire.

This study is sponsored by the Health Promotion program in the Department of Kinesiology, Health Promotion and Recreation at UNT. It is a part of a research project that must be completed for a master's thesis. Part of the goal is to examine college student's knowledge, attitude, and behavior toward human sexuality. An extensive report on the survey will be published as a master's thesis and will be available for your review on file at the University of North Texas.

It is possible to complete this survey in 15-20 minutes. Your cooperation and honesty will help make this survey accurate and useful. Thank you for your assistance in this important study.

Any questions you have after completing the questionnaire, please contact The Institutional Review Board at 940-565-3940, Jolene Smith at 972-562-1866, or Dr. Chwee Lye Chng at 940-565-2651.

Thank you again.

Jolene A. Smith
Candidate Student
Department of Kinesiology, Health Promotion and Recreation
University of North Texas

Appendix B

This study has been reviewed and approved by the University of North Texas Committee for the Protection of Human Subjects.

EXAMPLE: JES 1866 YOUR ID: _____
Mother's initials/last 4 digits of your current home phone number

Please take the time to read each question carefully. Answer honestly and openly. Remember the questionnaires are completely anonymous. DO NOT write your name on the questionnaire.

Demographic Information

Course: (check the class you are attending today)

____ Human Sexuality ____ Principles of Health ____ Mental
Health ____ Corporate Health

Gender:

____ Female ____ Male

Have you ever taken or are currently taking a college-level sexuality education class, whether at UNT or another campus?

____ yes ____ no

Please indicate the response you prefer, or most closely agree with, by circling the letter corresponding to your choice.

1. What religion offers me most is comfort when sorrows and misfortune strike.

- a. I definitely disagree.
- b. I tend to disagree.
- c. I tend to agree.
- d. I definitely agree.

2. One reason for my being a church member is that such membership helps to establish a person in the community.

- a. I definitely disagree.
- b. I tend to disagree.
- c. I tend to agree.
- d. I definitely agree.

3. The purpose of prayer is to secure a happy and peaceful life.

- a. I definitely disagree.
- b. I tend to disagree.
- c. I tend to agree.
- d. I definitely agree.

4. It doesn't matter so much what I believe so long as I lead a moral life.

- a. I definitely disagree.
- b. I tend to disagree.
- c. I tend to agree.
- d. I definitely agree.

5. Although I am religious person I refuse to let religious considerations influence my everyday affairs.

- a. I definitely disagree.
- b. I tend to disagree.
- c. I tend to agree.
- d. I definitely agree.

6. The church is most important as a place to formulate good social relationships.
- I definitely disagree.
 - I tend to disagree.
 - I tend to agree.
 - I definitely agree.
7. Although I believe in my religion, I feel there are many more important things in my life.
- I definitely disagree.
 - I tend to disagree.
 - I tend to agree.
 - I definitely agree.
8. I pray chiefly because I have been taught to pray.
- I definitely disagree.
 - I tend to disagree.
 - I tend to agree.
 - I definitely agree.
9. A primary reason for my interest in religion is that my church is a congenial social activity.
- I definitely disagree.
 - I tend to disagree.
 - I tend to agree.
 - I definitely agree.
10. Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being.
- I definitely disagree.
 - I tend to disagree.
 - I tend to agree.
 - I definitely agree.

11. The primary purpose of prayer is to gain relief and protection.
- a. I definitely disagree.
 - b. I tend to disagree.
 - c. I tend to agree.
 - d. I definitely agree.
12. I try hard to carry my religion over into all my other dealings.
- a. I definitely disagree.
 - b. I tend to disagree.
 - c. I tend to agree.
 - d. I definitely agree.
13. Quite often I have been keenly aware of the presence of God or the Divine Being.
- a. I definitely disagree.
 - b. I tend to disagree.
 - c. I tend to agree.
 - d. I definitely agree.
14. My religious beliefs are what really lie behind my whole approach to life.
- a. I definitely disagree.
 - b. I tend to disagree.
 - c. I tend to agree.
 - d. I definitely agree.
15. The prayers I say when I am alone carry as much meaning and personal emotion as those said by me during services.
- a. I definitely disagree.
 - b. I tend to disagree.
 - c. I tend to agree.
 - d. I definitely agree.

16. If not prevented by unavoidable circumstances, I attend church:
- a. more than once a week
 - b. about once a week
 - c. two or three times a month
 - d. less than once a month
17. If I were to join a church group:
- a. I would prefer to join a Bible study group
 - b. I probably would prefer to join a Bible study group
 - c. I probably would prefer to join a social fellowship
 - d. I would prefer to join a social fellowship
18. Religion is especially important to me because it answers many questions about the meaning of life.
- a. I definitely disagree.
 - b. I tend to disagree.
 - c. I tend to agree.
 - d. I definitely agree.
19. I read literature about my faith (or church).
- a. frequently
 - b. occasionally
 - c. rarely
 - d. never
20. It is important to me to spend periods of time in private religious thought and meditation.
- a. I definitely disagree.
 - b. I tend to disagree.
 - c. I tend to agree.
 - d. I definitely agree.

21. Why is the *length* of a man's penis largely unrelated to sexual satisfaction?
- a) Women can only achieve orgasm through direct clitoral stimulation.
 - b) The majority of women do not like deep penetration.
 - c) Only the outer one-third of the vagina is highly innervated.
 - d) The inner vagina is so highly innervated that excessive stimulation can be painful.
22. To optimize their chance of early breast cancer detection, women should:
- a) get baseline mammogram between age forty and age fifty.
 - b) get a baseline mammogram around the age thirty-five and perform monthly breast self-exams.
 - c) have a mammogram every three years after age fifty.
 - d) perform daily breast self-exams.
23. During menstruation, how much blood do women typically lose?
- a) 4-6 tablespoons
 - b) 8-10 tablespoons
 - c) 10-16 tablespoons
 - d) 16-20 tablespoons
24. Typically, how much cooler than body temperature is scrotal temperature?
- a) 2-4 degrees Fahrenheit
 - b) 5-6 degrees Fahrenheit
 - c) 7-9 degrees Fahrenheit
 - d) 9-11 degrees Fahrenheit
25. The Hispanic concept, *marianisimo*, describes a stereotype in which
- a) a virtuous woman is a woman who "suffers in silence."
 - b) a male is expected to be strong, virile, and dominant.
 - c) a woman is expected to disclose feelings and personal experiences.
 - d) a male is expected to be strong and virile yet expressive of his feelings.

26. In terms of life adjustment and satisfaction, researchers have found that gay males and lesbians
- a) have more difficulty with satisfactory relationships than heterosexual couples.
 - b) experience no more psychological distress than heterosexual couples.
 - c) experience high levels of attachment but lower levels of intimacy than heterosexual couples.
 - d) experience higher levels of intimacy but lower levels of commitment than heterosexual couples
27. Which statement most accurately reflects mate selection by women?
- a) Women will forgo job status in favor of romance.
 - b) Women will forgo family of origin in favor of attractiveness looks.
 - c) Women will forgo attractive looks in favor of steady earning potential.
 - d) Women will forgo educational background in favor of youth and attractiveness.
28. Couples who live together and then later marry
- a) run a greater risk of divorce than couples that did not live together before marriage.
 - b) are more likely to be married for twenty-five years or more.
 - c) are twice as likely to engage in extramarital affairs.
 - d) are more committed to the values traditionally associated with marriage.
29. Which statement *best* reflects differences in communication between the genders?
- a) Women talk more than men do but disclose more personal experiences.
 - b) Men talk more than women do but disclose fewer personal feelings.
 - c) Boys tend to be more talkative in early childhood, but by elementary school, girls dominate the classroom.
 - d) Boys tend to verbally dominate the elementary school classroom, but by high school, girls clearly dominate.

30. According to obstetricians, how long should women wait after childbirth before resuming intercourse?
- a) 2 weeks
 - b) 12 weeks
 - c) 3 months
 - d) 6 weeks
31. Which teenage ethnic group is the least likely to use contraception?
- a) White Americans.
 - b) Hispanic Americans
 - c) Asian Americans
 - d) African Americans
32. In a vasectomy
- a) each vas deferens is severed.
 - b) each epididymus is severed.
 - c) the seminiferous tubules are tied shut.
 - d) the seminal vesicles are tied shut.
33. Today in the United States, the average age of first intercourse for boys is
- a) 16.
 - b) 15.5
 - c) 14.5
 - d) 13
34. Vaginismus is the
- a) voluntary contraction of vaginal muscles that prevents penetration.
 - b) experience of pain during intercourse because of pelvic inflammatory disease.
 - c) experience of pain during intercourse because of deep penile penetration.
 - d) involuntary contraction of the pelvic muscles near the vaginal opening, which prevents penetration.

35. Which is *true* regarding sexual responses in older men?
- a) Nocturnal emissions disappear
 - b) It takes less time to become erect but the refractory period increases significantly.
 - c) Older men produce less ejaculate.
 - d) Orgasmic contractions remain strong but are spaced further apart.
36. For men, what are the symptoms of a gonorrheal infection?
- a) a clear discharge that appears about 7 days after infection.
 - b) a clear discharge within 2-3 days, which changes to yellow-green within a day.
 - c) flu-like symptoms that occur about 14 days after infection.
 - d) the appearance of a soft sore on the glans of the penis and pain with urination.
37. In testing for HIV infection, an ELIZA test detects
- a) the number of CD4 cells circulating in the blood.
 - b) the amount of virus circulating in the blood.
 - c) the amount of virus in semen or vaginal fluids.
 - d) the presence of antibodies to HIV in the blood.
38. Which statement is *true* regarding male or female reactions to pornography?
- a) Men, but very few women, are physiologically aroused by pornography.
 - b) Men tend to rate romantic scenes as more arousing.
 - c) Both women and men are physiologically aroused by pornography.
 - d) Women are more accepting of pornography that is very sexually explicit
39. Two of the most common settings in which sexual harassment takes place are the workplace and
- a) physician's offices.
 - b) psychologist's offices.
 - c) colleges or universities.
 - d) high schools.

40. Many of the physical changes in aging women can be slowed or prevented with

- a) testosterone replacement therapy
- b) estrogen replacement therapy
- c) progesterone replacement therapy
- d) follicle stimulating hormone replacement therapy.

Strong Agree (SA) 7 6 5 4 3 2 1 Strongly Disagree (SD)

41. The size of a man's penis always matters to women.

SA 7 6 5 4 3 2 1 SD

42. A woman should not be allowed to breastfeed in public places.

SA 7 6 5 4 3 2 1 SD

43. Large breasted women are more fun sexually than small-breasted women.

SA 7 6 5 4 3 2 1 SD

44. Women who menstruate are irrational.

SA 7 6 5 4 3 2 1 SD

45. Women who fake orgasms during sex are immoral.

SA 7 6 5 4 3 2 1 SD

46. It is impossible to expect a man to be sexually faithful to a partner.

SA 7 6 5 4 3 2 1 SD

47. A woman is not qualified to become President of the U.S.

SA 7 6 5 4 3 2 1 SD

48. Homosexual men and women should have gender reassignment surgery to become heterosexuals.

SA 7 6 5 4 3 2 1 SD

49. Physical appeal is the most important trait we seek in partners for long-term relationships.

SA 7 6 5 4 3 2 1 SD

50. Living together before marriage should not be permitted.

SA 7 6 5 4 3 2 1 SD

51. It is impossible for men and women to understand each other completely.

SA 7 6 5 4 3 2 1 SD

52. Couples have the right to choose the sex of their child.

SA 7 6 5 4 3 2 1 SD

53. Pregnant women are physically attractive.

SA 7 6 5 4 3 2 1 SD

54. A pregnant woman should be permitted to drink alcohol since it is her body after all.

SA 7 6 5 4 3 2 1 SD

55. Condoms are only needed when having sex with someone looking unhealthy.

SA 7 6 5 4 3 2 1 SD

56. Birth control is the sole responsibility of the woman.

SA 7 6 5 4 3 2 1 SD

57. Abortion should be banned in the U.S.

SA 7 6 5 4 3 2 1 SD

58. Elderly people in nursing homes should not be allowed to have sexual intercourse with each other.

SA 7 6 5 4 3 2 1 SD

59. Teaching children about contraception increases the likelihood that they will engage in sexual intercourse at an earlier age.

SA 7 6 5 4 3 2 1 SD

60. Male and female college students should be permitted to be roommates in dormitories.

SA 7 6 5 4 3 2 1 SD

61. Sexual dysfunctions always indicate that there is a problem in the relationship.

SA 7 6 5 4 3 2 1 SD

62. Only older men should be concerned about erectile dysfunction.

SA 7 6 5 4 3 2 1 SD

63. A woman should feel inadequate if she does not have an orgasm every time she engages in sexual intercourse.

SA 7 6 5 4 3 2 1 SD

64. Contracting a STD means you are an immoral person.

SA 7 6 5 4 3 2 1 SD

65. Mandatory testing of college students should be implemented to decrease the spread of STD.

SA 7 6 5 4 3 2 1 SD

66. A person who knowingly passes on a STD to others should be imprisoned.

SA 7 6 5 4 3 2 1 SD

67. Only males are sexually aroused by pornography.

SA 7 6 5 4 3 2 1 SD

68. Women are not capable of rape.

SA 7 6 5 4 3 2 1 SD

69. Women who dress provocatively are asking to be sexually harassed.

SA 7 6 5 4 3 2 1 SD

70. I do a monthly breast or testicular self-exam.

A 7 6 5 4 3 2 1 N

Always (A) 7 6 5 4 3 2 1 Never (N)

71. I have inquired about my family history for cancer.

A 7 6 5 4 3 2 1 N

72. I communicate with my partner about what arouses me sexually.

A 7 6 5 4 3 2 1 N

73. I have had sexual experiences with someone of my own sex.

A 7 6 5 4 3 2 1 N

74. I have encouraged avoidance of alcohol and other drugs in pregnant women.

A 7 6 5 4 3 2 1 N

75. I have had sex without the use of condoms.

A 7 6 5 4 3 2 1 N

76. I discuss sexual issues with my parents.

A 7 6 5 4 3 2 1 N

77. I discuss my sexual problems with my partner.

A 7 6 5 4 3 2 1 N

78. I get tested for HIV at least once a year.

A 7 6 5 4 3 2 1 N

79. I talk to my sexual partners about possible exposure to STDs.

A 7 6 5 4 3 2 1 N

80. I have limited the number of sexual partners to reduce my risk of disease and/or pregnancy.

A 7 6 5 4 3 2 1 N

Appendix C

UNIVERSITY OF NORTH TEXAS
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS
RESEARCH CONSENT FORM

Subject Name: Jolene A. Smith Date: November 9, 2000

Title of Study: The Effects of a College Human Sexuality Course on Students' Sexual Knowledge, Attitude, and Self-Reported Behavior at the University of North Texas

Principal Investigator: Jolene A. Smith

Co-Investigators: Dr. Chwee Lye Chng, Professor and Coordinator of Health Promotion, Department of Kinesiology, Health Promotion and Recreation

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the proposed procedures. It describes the procedures, benefits, risks, and discomforts of the study. It also describes the alternative treatments that are available to you and your right to withdraw from the study at any time. It is important for you to understand that no guarantees or assurances can be made as to the results of the study.

PURPOSE OF THE STUDY AND HOW LONG IT WILL LAST:

This study attempts to evaluate the effects of exposure to a semester-long human sexuality course at the University of North Texas on students' sexual knowledge, sexual attitude, and self-reported sexual behavior. More specifically, does attending the course on human sexuality significantly change the sexual knowledge, attitude, and self-reported sexual behavior of students?

DESCRIPTION OF THE STUDY INCLUDING THE PROCEDURES TO BE USED:

Using an author-designed questionnaire, data will be collected from students at the beginning and end of the semester. Data collected will include, in addition to demographic information, knowledge about sexuality issues covered in the course, attitudes related to sexuality issues addressed in the course, and sexual behaviors related to issues addressed in the course. Data will be collected in the beginning of class during the two administrations. Students will be assured that information provided will be kept

confidential and anonymous. No names of students will be recorded on the questionnaire. However, to monitor the changes in knowledge, attitude, and behavior over time, a student-generated personal identification number will be used throughout the study. At no point in the process will the investigator know the identity of respondents. To encourage participation, the instructors will be approached to consider offering extra credit to those students who have completed the questionnaires for both administrations.

The major hypothesis is that a semester-long course in Human Sexuality

positively affects the knowledge, attitudes and self-reported of the students enrolled in the course.

The study will employ a quasi-experimental design using a treatment and non-treatment comparison group format. More specifically, the study is a 2 X 2 factorial design. The dependent variables for the study are students' sexual knowledge, sexual attitudes, and sexual behaviors, as measured in an author-designed questionnaire. The independent variables are the three classes (Health 2200, Health 2100, Health 1900), and the two test administrations (test 1 and test 2). Student enrolled in Health 2200 will receive the treatment from the human sexuality curriculum, while students enrolled in Health 1900 and Health 2100 will receive no treatment. The Allport-Ross Religious Orientation Scale will be used to control for the effects of religious beliefs on students' knowledge, attitude, and behaviors.

Instruments

The instrument is an author-designed questionnaire. There will be five sections to the questionnaire. Section One will seek demographic information with three items. Item #1 will identify the sample that is whether participants are from either the experimental or comparison samples (i.e. Health 2200, Health 1900, Health 2100). Item #2 is gender classification. Item #3 deals with current and/or previous formal sexuality education, whether participants have taken a human sexuality college course. (i.e., positive responses to this item will help to eliminate these participants from data analysis).

Section Two will measure the importance of religious background using the Allport and Ross (1967) Religious Orientation Scale. It has a total of 20 items. The students will be scored using a 4-point Likert scale, ranging from 20-80; the higher the score, the more religious the individual. This scale will be used to control for the effects of religious influence on the dependant variables.

Section Three is the knowledge portion of the questionnaire. It has 30 items, measured by true or false questions. The students can score anywhere from 0-30 points.

Section Four measures attitudes towards human sexuality. It will also have 30 items, measured by a seven point Likert scale, 7 being strongly agree and 1 being strongly disagree. Students can score anywhere from 30-210 points.

Section Five measures student's self-reported behaviors. It will have 31 items, measuring with a Likert scale in the same way as attitude. Students can also score anywhere from 31 to 217 points.

DESCRIPTION OF PROCEDURES/ELEMENTS THAT MAY RESULT IN DISCOMFORT OR INCONVENIENCE:

Using an author-designed questionnaire, data will be collected from students at the beginning and end of the semester. Data collected will include, in addition to demographic information, knowledge about sexuality issues covered in the course, attitudes related to sexuality issues addressed in the course, and sexual behaviors related to issues addressed in the course. Data will be collected in the beginning of class during the two administrations. Students will be assured that information provided will be kept confidential and anonymous. No names of students will be recorded on the questionnaire. However, to monitor the changes in knowledge, attitude, and behavior over time, a student-generated personal identification number will be used throughout the study. At no point in the process will the investigator know the identity of respondents. To encourage participation, the instructors will be approached to consider offering extra credit to those students who have completed the questionnaires for both administrations.

The major hypothesis is that a semester-long course in Human Sexuality positively affects the knowledge, attitudes and self-reported of the students enrolled in the course.

The study will employ a quasi-experimental design using a treatment and non-treatment comparison group format. More specifically, the study is a 2 X 2 factorial design. The dependent variables for the study are students' sexual knowledge, sexual attitudes, and sexual behaviors, as measured in an author-designed questionnaire. The independent variables are the three classes (Health 2200, Health 2100, Health 1900), and the two test administrations (test 1 and test 2). Student enrolled in Health 2200 will receive the treatment from the human sexuality curriculum, while students enrolled in Health 1900 and Health 2100 will receive no treatment. The Allport-Ross Religious Orientation Scale will be used to control for the effects of religious beliefs on students' knowledge, attitude, and behaviors.

DESCRIPTION OF THE PROCEDURES/ELEMENTS THAT ARE ASSOCIATED WITH FORESEEABLE RISKS:

Minimal to none

BENEFITS TO THE SUBJECTS OR OTHERS:

The students might benefit by reflecting on their sexual knowledge, attitudes and behaviors. They might use this survey to recognize their lack of sexual knowledge, negative sexual attitudes, and risky sexual behaviors. This may encourage them to modify their sexual behaviors, attitudes and knowledge by attending relevant courses,

reading books, and discussions with experts. The importance of the information gained from the study on the effects of exposure to a semester-long college human sexuality course might be used to streamline such curriculum on this and other campuses.

CONFIDENTIALITY OF RESEARCH RECORDS:

An informed consent (see Research Consent Form included) will be passed out but not collected. The investigator will orally emphasize the confidential and anonymous nature of the study. Students will be told that no personal identifying information like their names will be recorded, and that only the investigator will have access to the data collection, which will be kept in a locked cabinet in the Physical Education Building. The cover letter will list the name and phone number of the investigator and advising professor, if students have questions resulting from their participation in the study.

REVIEW FOR PROTECTION OF PARTICIPANTS:

This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940.

RESEARCH SUBJECTS' RIGHTS: I have read or have had read to me all of the above.

Jolene A. Smith has explained the study to me and answered all of my questions. I have been told the risks or discomforts and possible benefits of the study. I have been told of other choices of treatment available to me.

I understand that I do not have to take part in this study, and my refusal to participate will involve no penalty or loss of rights to which I am entitled. I may withdraw at any time without penalty or loss of benefits to which I am entitled. The study personnel can stop my participation at any time if it appears to be harmful to me, if I fail to follow directions for participation in the study, if it is discovered that I do not meet the study requirements, or if the study is canceled.

In case there are problems or questions, I have been told I can call **Dr. Chwee Chng** at telephone number **(940) 565-2651** or **the Institutional Review Board** at **(940) 565-3940**.

I understand my rights as a research subject, and I voluntarily consent to participate in this study. I understand what the study is about and how and why it is being done. I will receive a signed copy of this consent form.

Subject's Signature

Date

Signature of Witness

Date

For the Investigator or Designee:

I certify that I have reviewed the contents of this form with the person signing above, who, in my opinion, understood the explanation. I have explained the known benefits and risks of the research.

Principal Investigator's Signature

Date

Appendix D

IRB Approval Letter



Office of Research Services

January 15, 2001

Jolene Smith
3206 St. Pierre
McKinney, TX 75070

RE: Human Subjects Application No. 00-187

Dear Ms. Smith,

On December 15, 2000, the University of North Texas Institutional Review Board conducted a full review of your proposed project titled "The Effects of a College Human Sexuality Course on Students' Sexual Knowledge, Attitude, and Self-Reported Behavior at the University of North Texas." The University of North Texas IRB feels that with the requested changes and clarifications the submitted protocol is hereby approved for the use of human subjects on this project.

Enclosed is the consent document with stamped IRB approval. Please copy and **use this form only** for your study subjects.

U.S. Department of Health and Human Services regulations require that you submit annual and terminal progress reports to the UNT Institutional Review Board. Further, the UNT IRB must re-review this project annually and/or prior to any modifications you make in the approved project. **Federal policy 21 CFR 56.109(e) stipulates that IRB approval is for one year only.**

Please contact me if you wish to make changes or need additional information.

Sincerely,

Reata Busby
Chair, Institutional Review Board

RB:sb

REFERENCES

- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social and cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bustamante, A.M. (1992). College student sexual knowledge and behavior in the AIDS era. Journal of College Student Development, 33, (4). 376-378.
- Davidson, J. (1998, September). Carnal knowledge: 10 things most college students already know about sex...and 10 things they should know. Men's Fitness, 14, 72-76.
- Davidson, J.K., Sr. & Darling, C.A. (1988). Changing autoerotic attitudes and practices among college females: A two-year follow-up study. Adolescence, 23, 773-792.
- Dawson, D.A. (1986). The effects of sex education on adolescent behavior. Family Planning Perspectives, 18, July/August, 162-185.
- Feigenbaum, R., Weinstein, E., Rosen, E. (1995). College students' sexual attitudes and behaviors: implications for sexuality education. Journal of American College Health, 44, (3). 112-118.
- Fisher, J. D., & Fisher, W. A. (1992). Changing AIDS risky behaviors. Psychological Bulletin, 111, 455-474.
- Gould, J., & Keeling, R. P. (1996). Principles of effective sexual health promotion on campus: Theory into practice. New Directions for Student Services, 57, 5-22.
- Gray, L.A., Saracino, M. (1989). AIDS on campus: A preliminary study of college students' knowledge and behaviors. Journal of Counseling and Development, 68, 199-202.
- Hollar, D.S., Snizek, W.E. (1996). The influences of knowledge of HIV/AIDS and self-esteem on the sexual practices of college students. Social Behavior and Personality, 24, (1). 75-85.
- Isberner, P.R. (1990). Sex education in rural churches. Human Services in the Rural Environment, 13, 6-12.

Kaemingk, K. L., & Sechrest, L. eds. (1990). Evaluation of AIDS prevention and education program (Special Issue). Evaluation and Program Planning, 13, 1.

Kaiser Family Foundation (1996, June 24). Survey on teens and sex: What they say teens today need to know, and who they listen to. (News release).

King, B. M., & LoRusso, G. C. (1990). Effects of sexually explicit textbook drawings on enrollment and family communication. Journal of Sex Education and Therapy, 16, 38-53.

Kirby, D. (1995). A review of educational programs designed to reduce sexual risk-taking behaviors among school-aged youth in the United States. Santo Caruz (CA): ETR Associates.

Knox, V., Daniels, V., Sturdivant, D., & Zusman, M.E. (2001). College student use of the Internet for mate selection. College Student Journal, 35, 158-160.

MacNair-Semands, R.R., & Simono, R. B. (1996). College student risk behaviors: Implications for the HIV/AIDS pandemic. Journal of College Student Development, 37, 574-582.

McGuire, E., Shega, J., Nicholls, G. (1992). Sexual behavior, knowledge, and attitudes about AIDS among college freshmen. American Journal of Preventive Medicine, 8, (4). 226-234.

Melchert, T. & Burnett, K.F. (1990). Attitudes, knowledge, and sexual behavior of high-risk adolescents: Implications for counseling and sexuality education. Journal of Counseling & Development, 68, 293-298.

Modeste, N.N. (1996). *Dictionary of Public Health Promotion and Education*. Thousand Oaks, CA: Sage Publishing.

Moglia, R. (1994). Sexuality education in higher education in the USA: Analysis and implications. Sexual and Marital Therapy, 9, 181-191.

Polyson, J., Lash, S., & Evans, K. (1986). Human sexuality courses: where and how many? Teaching Psychology, 13, (4). 221-222.

Rathus, S.A., Nevid, J.S., Fichner-Rathus, L. (2000). *Human Sexuality in a World of Diversity*. Fifth Edition.

Reinisch, J. M. (1990). The Kinsey Institute new report on sex. New York: St Martin's.

Rodriguez, M., Young, R., Renfro, S. Asencio, M., Haffner, D., (1996). Teaching our teachers to teach: A SIECUS study on training and preparation for HIV/AIDS prevention and sexuality education. *SIECUS Report*, 28(2), 3-11.

Shapiro, J., Radecki, S., Charchian, A.S., Josephson, V. (1999). Sexual behavior and AIDS-related knowledge among community college students in Orange County, California. *Journal of Community Health*, 24, (1). 29-43.

SIECUS. (1999). SIECUS reports. 1-5.

SIECUS. (1992). Sexuality education and the schools: Issues and answers. *SIECUS report (Fact Sheet No. 3)*, August/September, 13-14.

Sprecher, S., & Regan, P.C. (1998). Passionate and companionate love in courting and young married couples. *Sociology Inquiry*, 68, 163-185.
Stiff, J. (1990). Learning about AIDS and HIV transmission in college-age students. *Communication Research*, 17, 743-758.

Stodghill II, R. (1998). Where'd you learn that? *Time*, June 15, 52-59.

Thomas, L.L., Long, S.E., Whitten, K., Hamilton, B., Fraser, J. & Askins, R.V. (1985). High school students' long-term retention of sex education information. *Journal of School Health*, 55, 274-278.

University of North Texas. (1999). Undergraduate catalog. 1.

University of North Texas. (1999). Graduate catalog. 2.

Weis, D.L., Rabinowitz, B. & Ruckstuhl, M.F. (1992). Individual changes in sexual attitudes and behavior within college-level human sexuality courses. *Journal of Sex Research*, 29, 43-59.