1990

AIDS and the sexual attitudes and practices of students at San Jose State University in 1988

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Order Number 1339623

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San Jose State University, 1989

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AIDS AND THE SEXUAL ATTITUDES AND PRACTICES OF STUDENTS AT SAN JOSE STATE UNIVERSITY IN 1988

A Thesis

Presented to

The Faculty of the Department of Sociology

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

By

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December, 1989

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ABSTRACT

AIDS AND THE SEXUAL ATTITUDES AND PRACTICES OF STUDENTS AT SAN JOSE STATE UNIVERSITY IN 1988

By Libby Ingram

To learn about students' opinions on AIDS and related sexual issues, questionnaires were administered to a sample of 550 students at San Jose State University during spring, 1988. Results showed that students adopted conservative postures toward certain sexual behaviors, such as concern with a new sexual partner, monogamous relationships, condom use, and the testing of a new sexual partner for AIDS. Based on the survey results, conservative attitudes are not fully explained by perception of risk, religiosity, or education. Knowing someone with AIDS contributed to the conservative attitude of a fifth of the sample. The study also found that the students' beliefs concerning the possibilities of casual transmission of AIDS were less accurate than those of the general public in California.

ACKNOWLEDGEMENTS

I owe a great debt of gratitude to the people who helped me with the completion of this Master's Thesis.

I would like to thank my committee members, Dr. David Asquith, Dr. Geoffrey Tootell and Ms. Wiggsy Sivertsen for their support throughout the formulation and completion of this project. My thanks to Dr. David Asquith for the use of his AIDS questionnaire and data.

I am deeply grateful to those at Apple Computer who helped me with my data procedures, especially Claude Smithson and Jeff Garavanta.

Throughout this endeavor there are many people who have helped and encouraged me. One of these people is Liz McKean, who, while trying to graduate, hold a job and maintain a home, gave me the best of herself regarding the statistical applications of this study. Her friendship and support have helped me tremendously. Another person I must mention is Nasser Kamali who so graciously gave his time in order to help me organize and complete this study.

This acknowledgement would not be complete without the mention of my family. I am extremely grateful for their continual love and support of my educational and personal pursuits. My love and gratitude is extended to each and every member of my family.

Finally, it must be said that without the love, encouragement and assistance of my ever faithful friend,

David B. Flynn, this Master's Thesis would not be possible. To David, I not only owe the completion of this paper, I also owe the obtainment of my Master's Degree. He has been my strength and my biggest source of encouragement in the times of greatest despair and discouragement. I thank him for his persistence and friendship and for the knowledge which he has freely given to me.

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INTRODUCTION

Acquired Immune Deficiency Syndrome

Rarely in human history has a disease been more widely feared and misunderstood than has AIDS. The arrival on the world scene of this disease has had significant ramifications in both the medical and lay communities. Presently no cure exists, although treatments have been developed to slow or place in remission the disease process.

AIDS is best characterized as an externally acquired, extremely pernicious, systemic disorder which initially compromises the immune system. Because no cure presently exists and none is on the horizon, prevention of the transmission of the AIDS virus is paramount to the overall solution for controlling the spread of AIDS. Work towards this goal must emphasize education and behavior modification, as did attempts to check the spread of venereal disease in earlier times. Efforts aimed at preventing the spread of AIDS can be better served through a more accurate understanding of the disease and its effects on the individual and society.

AIDS has become a major health concern during this decade. Its incidence continues to increase, with intravenous drug users forming the fastest growing group of

infected men and women. However, the incidence of HIV infection in the general population has remained extremely low (Douglas & Pinsky, 1987).

Scientists at the Federal Center for Disease Control (the CDC) in Atlanta, Georgia, reported 11 cases of AIDS in the United States in 1979. Currently, over 100,000 cases have officially been reported in all fifty states, but almost half of all cases are concentrated in New York City, San Francisco, and Los Angeles (Douglas & Pinsky, 1987).

Experts predict that by 1991, there will be a tenfold increase in AIDS-related deaths. Dr. Robert Redfield of the Walter Reed Medical Center in Washington, D.C., suggested that the HIV virus is likely to be present in the blood of from five to ten million Americans by 1991 (Hyde & Forsyth, 1987). Approximately 1.5 million Americans are estimated to be infected now; the CDC has projected that 74,000 patients will be diagnosed in 1991 alone. An estimated 70,000 patients diagnosed during previous years will also require care during 1991.

AIDS has become a leading cause of death among men between 25 and 44 years of age. In 1991 alone, more young Americans will die from AIDS than perished in the course of the Vietnam War. Of known cases, 62% are gay males, 9% are females, 4% are non-gay men and women. Throughout the United States, only one out of every thirty thousand drug-free, non-gay men is infected today, and these men are

referred to as "low-risk" men. For every woman who is infected with the AIDS virus, there are approximately 15 infected men (Kaplan, 1987).

Transmission of AIDS

Controversies about how AIDS is spread have produced fears in which half-truths and facts are confused. Not since the poliomyelitis epidemic of the 1950s has so much public concern been generated over a health issue. This concern is often misplaced, causing confused discussion, heightened prejudice and untenable fear. In fact, many people who talk about AIDS know very little about it. As with many other serious diseases, people who are not directly involved tend to ignore the problem and even choose to view AIDS as a disease which could only affect other people, specifically gay males (Hyde & Forsyth, 1987).

To some extent the efforts to deal with the disease have been hampered because of a fear of transmission through nonsexual or casual contact. Some believe that a virus which causes such devastation in a society must be easily transmitted. However, there is no evidence that AIDS is spread by casual contact. The fear associated with contracting AIDS from swimming pools, restaurants, kissing, sneezing, bathrooms, and from other forms of casual contact, appears to be unfounded. This fear could cause individuals to refuse to take advantage of the scientific

information made available to them (Hyde & Forsyth, 1987).

A rational perspective would be based on the following scientific findings. First, the AIDS virus is transmitted effectively only through infected blood or semen. All infected individuals are assumed to be capable of spreading the virus through the exchange of bodily fluids or by sharing needles and syringes with others.

In the potential infectee the virus seems to require additional conditions, such as significant levels of infection, repeated exposures, and simultaneous infections with another virus. In addition, the AIDS virus is transmitted when infected cells gain direct access to the blood stream. This can occur during anal intercourse (the receiving partner is at greatest risk) or vaginal intercourse.

Risk-reduction guidelines divide common sexual behaviors into three categories of risk for transmitting HIV. These are: (1) high-risk, (2) lower-risk, and (3) no-risk. Sexual contact, especially anal intercourse with an infected person and/or blood contact with IV drug injections by contaminated needles, multiple sexual contacts (sex with a partner who has had multiple sexual contacts), involves a high-risk of contracting AIDS. Behaviors in the high-risk category involve the contact of blood or semen with mucuous membranes and therefore are extremely dangerous. Conversely, no-risk behaviors do not

involve an exchange of bodily fluids and are therefore seemingly safe.

The rate of infection for people outside the presently defined high-risk groups and their sexual partners is estimated to be about one in one hundred thousand. More than 90% of AIDS cases have been attributed to high-risk sexual behavior or intravenous drug use with HIV contaminated needles. Persons at increased (high) risk of HIV infection include: (1) gay and bisexual men, (2) present or past IV drug abusers, (3) persons with clinical or laboratory incidence of infection, such as those with signs or symptoms compatible with AIDS or AIDS-related complex (ARC), (4) persons born in countries where non-gay transmission is thought to play a major role (e.g., Haiti, Central African countries), (5) male or female prostitutes and their sexual partners, (6) sex partners of infected persons or persons at increased risk, (7) all persons with hemophilia who have received clotting-factor products, and (8) newborn infants of high-risk or infected mothers.

The second important scientific finding is that the AIDS virus is easily killed by cleaning agents, such as bleach, alcohol, detergents, and ordinary hot water. This vulnerability of the virus further assures that transmission is likely only through sexual contact or transfer of infected blood, and not from casual exposure to the virus in the environment. Also, the virus is quickly

killed by all routine methods of disinfection used in hospitals (Gong, 1987).

Knowing the facts about AIDS can help prevent the spread of the disease. Education of those who risk infecting themselves or other people is of extreme importance in the prevention of the spread of AIDS.

AIDS Education

The need for education concerning the AIDS virus is paramount to reducing the spread of AIDS, since neither a vaccine to protect the uninfected, nor a reliable treatment to cure the infected, is likely to be available soon. Public health experts have recommended educational programs which are factual, credible and direct. Yet, no single educational program can effectively protect everyone because each new risk group has different needs. Currently there are effective programs for high-risk males who account for up to 93% of AIDS cases, which have resulted in a decrease of new AIDS cases within the gay population. However, programs for other high-risk groups have yet to be proven effective (Emmons, Joseph, Kessler, Wortman, Montgomery & Ostrow, 1986).

The greatest public health threat lies in the large number of individuals who have engaged in high-risk behavior, and who unwittingly, have been infected with the AIDS virus and are unknowingly spreading it. Further, risk-reduction education to control AIDS must be based on

the assumption that public health education works even in areas as sensitive as lifelong sexual behaviors.

Literature Review

A study conducted in the winter of 1986 at the University of Michigan by Emmons, Wortman, Montgomery and Astrow, an academic and medical team, investigated the relationship between psychosocial factors and male gays' attempts to change their sexual behavior in response to the threat of AIDS. Data for this study were collected and compiled from 909 male gays at risk of AIDS. The respondents evaluated the changes in their sexual behavior. The sample was predominantly white (91.1%), with a mean age of 34.6 years, an average of 16.2 years of education, and 16.5 years of homosexual experience.

Respondents' beliefs about the degree to which behavioral change could reduce their chances of getting AIDS were assessed by asking if they were doing everything to reduce their chances of getting AIDS. When asked if behavioral changes had occurred since the AIDS epidemic began, 80.5% of the respondents reported changes in sexual behavior. Furthermore, 76.5% reported attempts to reduce the number of sexual partners since the genesis of the AIDS phenomenon. Respondents were generally very certain that behavioral changes could reduce their risk of contracting AIDS.

In 1984, Klein, Sullivan, Wolcott, Landsverk, Namir,

and Fawzy compared the self-reported changes in sexual behavior among gay physicians and gay laymen. They measured respondents' knowledge and attitudes about AIDS, its transmission, and the changes on social and recreational activities. Fifty-eight gay male students were recruited from the University of California, Los Angeles. Of these students, 70.9% were caucasian, 29.1% non-caucasian, 18.5% Catholic, 13% Protestant, 9.3% Jewish, 20.3% other, and 38.9% none/atheist. Slightly over 44% reported having a current lover and 8.6% were living with their sexual partner. The other group consisted of 64 gay physicians. Of these physicians, 88.7% were caucasian, 11.3% non-caucasian, 24.6% Protestant, 6.6% Catholic, 27.9% Jewish, 9.7% other and 31.2% none/atheist. Fifty percent reported having a current lover, and 37.5% said they were living with their sexual partner.

All 122 participants listed gay men as a high-risk group for contracting AIDS. A significantly higher percentage of students (31.6%) than physicians (14.1%) did not regard themselves as being members of a high-risk group. More of the physicians believed that exchange of bodily fluids, a high number of sexual partners, and specific sexual acts contributed to AIDS transmission. While the physicians also believed that gays had changed their sexual practices, the students were more likely to believe that it was pointless to change.

The physicians reported reduced AIDS risk behavior (56.2%) and were more likely to be living with a lover. However, they rated themselves as feeling vulnerable to AIDS, perceived themselves as being in an AIDS high-risk group, and believed that other gay men had changed their sexual practices. Almost 36% of the students reported reduced AIDS risk behavior. However, the latter group had fewer trusted friends than the students who had not reduced their risk behaviors, and were more likely to have known someone who had died from AIDS. Both subject groups reported marked decreases in AIDS risk behaviors since the onset of the AIDS epidemic.

Although the participants in this study were not representative of the gay population generally, the results of this investigation provide further evidence that at least some groups of gay men are knowledgeable about AIDS and its transmission, and have subsequently altered their sexual behavior. Both groups accepted the prevailing scientific opinion that high numbers of sexual partners, specific sexual acts, and exchange of bodily fluids were significant risk factors for transmission.

The many ramifications of AIDS have been felt more radically in California and New York than in other states. Nearly 25% of all AIDS victims reside in California and approximately 2,000 state residents have died from the disease. In a survey compiled in December, 1985, and

reported by the California Opinion Index, the Field Institute of California examined several issues regarding AIDS. The survey made three major findings. First, about one in seven (15%) Californians were very worried that they or someone close to them might get AIDS (another 24% were somewhat worried). Second, more than nine in ten recognized the danger of the three high-risk avenues identified by doctors as contributing to the spread of AIDS, namely receiving a blood transfusion from a donor with AIDS, through sexual relations with a person who has AIDS, and by using a contaminated hypodermic needle previously used by someone with AIDS. Third, significant sectors of the public were also apprehensive of contracting AIDS in other ways. For example, 37% believed a person was very likely to get AIDS by being exposed to the saliva of a person who has AIDS. Other perceived factors were kissing a person who has AIDS (26%) and giving blood to a blood bank or a hospital (20%). Furthermore, 14% believed AIDS is transmitted by drinking from the glass used by an AIDS carrier; 11% of the respondents believed AIDS is passed by using unclean public toilets; 8% believed that eating food that had been handled by a person who has AIDS can transmit the disease; 6% believed that AIDS can be contracted by being nearby when someone who has AIDS has just sneezed, 2% believed that AIDS can be contracted by working in the same office with someone who has AIDS, and 2% also believed that

AIDS can be contracted by shaking hands with a person who has AIDS.

In April, 1987, the Field Institute administered another statewide study of a random sample of 1,026 California residents. The purpose of the survey was to compare the 1985 California Opinion Index findings to the more recent 1987 findings regarding issues related to the AIDS phenomenon. Six important findings resulted from this survey. First, nearly 92% felt that non-gays who have multiple sex partners are more likely to get AIDS than those who have only one partner. Second, almost four out of ten (39%) believed that AIDS is such a threat to public health that all persons should be required to be tested to determine who has the disease. Third, more than eight of ten Californians (81%) did not believe that AIDS could be easily transmitted through casual contact with a person who has the disease. Fourth, currently 42% reported being very or somewhat worried that they or someone close to them might get AIDS. This is not a significant change from the 1985 survey. Fifth, about one in four Californians (27%) said they had taken special precautions to diminish the chances of contracting AIDS. Those most likely to report this were younger adults between ages 18 to 29. Sixth, the public was split on the issue of whether insurance companies should be allowed to test persons for AIDS. While 48% opposed such testing, 47% were in favor of it.

Though the first two studies limit themselves to the gay population, they are important in determining levels of change and conservatism in sexual attitudes and practices among high-risk groups. The most significant finding in the California Poll's survey is the decline in the public's belief that AIDS can be transmitted through nonsexual or casual contact.

This literature provides an overview of sexual attitudes and practices among gay males and their propensity towards conservatism and change. The California Poll provides a basis for understanding opinions regarding AIDS on a statewide scale. To further evaluate any trends in conservatism regarding students' personal concerns in their sexual behaviors, the present study considers data available from a questionnaire administered in the spring of 1988 to 550 students at San Jose State University.

Definition of the Research Problem

The major question in this investigation was whether or not greater use of precautionary techniques were induced by either more formal education, or by specific information received concerning the transmission of AIDS. The influence of AIDS on students' "personal sexual concerns" was explored in this research and is the dependent variable. Four dependent variables were taken from the questionnaire and were computed in an index labeled "personal sexual concerns." These four dependent variables

included: "new sexual partner," "monogamous relationships," "testing" for the AIDS virus, and "condom" use.

To determine students' propensities toward precautionary techniques in regards to their "personal sexual concerns," six independent variables were used in order to discover the reason for students' caution. These variables were perception of risk, class standing, knowing someone who has died of AIDS, knowledge of AIDS transmission, religious affiliation and religiosity.

The dependent variable is an index composed of four reasonable and realistic steps a person may take to reduce risk. Concern with contracting AIDS from a "new sexual partner" addresses the sexual relationship between two people. The risk of AIDS infection is directly related to the number of partners and the number of sexual exposures to infected partners (Hyde & Forsyth, 1987). This variable was included in the indexed scale of "personal sexual concerns" as a dependent variable because it revealed students' propensity for concern with a new sexual partner.

Individuals who are in strictly monogamous relationships with HIV uninfected persons are not at risk unless either IV drug use is involved or individuals are long term HIV carriers. It was thought that students would be involved in committed monogamous relationships due to their concern of contracting AIDS. "Monogamous

relationships" was therefore included in the index as a dependent variable.

The issue of testing for the AIDS virus was important to the study in an effort to evaluate students' responses concerning their attitudes towards "testing" for AIDS with a new sexual partner. Testing for AIDS was included in the index as a dependent variable because it reflected an attitude of conservatism in the level of students' concern for contracting AIDS.

The most effective and practical technique in reducing the spread of AIDS among sexually active people is the use of condoms as part of a comprehensive program which includes education and testing. If students were insistent on condom use during sexual relations, it would indicate a general attitude of concern in the prevention of the spread of AIDS.

Any attempt to define and evaluate levels of risk was ambiguous and difficult. This was because such an evaluation involved perceived levels of risk, not actual levels of risk, among sexually active students. It was expected that students, who perceived themselves to be at high-risk for contracting AIDS, would be more conservative regarding their own sexual attitudes and practices because it is within their own power and control to choose survival over an early death.

According to the 1987 California Field Institute Poll,

"those with fewer years of formal education are somewhat more likely to believe AIDS can be transmitted through casual contact than are those with a college education." It was expected that students who had pursued higher levels of formal education would be less likely to believe that AIDS could be transmitted through casual contact. This is because college and university education requires students to develop critical attitudes not simply to their course subjects, but hopefully to their evaluation of the world around them. They would therefore be less likely to accept myth, rumor or gossip as truth and would be more likely to pursue a critical inquiry into the true states of known facts respecting a given subject.

One might expect college students to be as knowledgeable, if not more so, about the transmission of AIDS as is the general public. Not only because students' level of schooling demands a degree of inquisitive awareness which is equal to or greater than that possessed by the general public, but also because the social environment of colleges and universities includes considerable involvement among students in personal relationships which entail sexual encounters.

In addition, it was assumed that university students who perceived themselves to be at high-risk for contracting AIDS would seek to increase their knowledge concerning the transmission of AIDS. It was expected that students'

intellect and survival propelled them to learn the facts from which they could determine whether or not their health and life were jeopardized. It was also expected that students who have relatives or close friends who are dying or have died from AIDS would modify their sexual behaviors because they had been personally touched by the process of death and dying.

Religious affiliation and religiosity were used because it was conjectured that the more religious students would respond to the AIDS phenomenon by becoming more sexually conservative than they might have already been, based on their traditional and religious beliefs.

Hypothesis

To estimate how students at San Jose State University have adjusted to the threat of AIDS, the following hypothesis was evaluated: If students perceive themselves to be at risk for contracting AIDS, especially those students a) with higher class standing, b) with better knowledge of how AIDS is transmitted, c) with the experience of losing a relative or friend to AIDS, and d) who are affiliated with religious denomination with more conservative postures toward sexual behavior or e) to whom religion is more important in ordinary life, they will be more likely to adopt sexual or personal practices which reduce the probability of becoming infected with AIDS.

METHODS

A questionnaire (Appendix A) was administered in the spring semester of 1988 to a random cluster sample of 550 students at San Jose State University. Under the direction of Dr. David Asquith, the questionnaire was constructed and administered by his Research Methods 104 class (Appendix B).

A factor analysis was run on the opinion data and the sort criterion was .4. Students' responses were recoded (Appendix C), and a multiple regression was employed to explain the variation in students' attitudes towards sexual behavior by each independent variable.

RESULTS

Overview

The sample for this study consisted of 20% Freshmen, 12% Sophomores, 22% Juniors, 28% Seniors and 18% Graduate students. Of the sample 73% belonged to a religious denomination, while 27% did not. Ethnic data revealed 61% were caucasians. Seventeen percent of the students believed themselves to be generally conservative, 36% felt they were liberal, and the remainder considered themselves to be middle-of-the-road.

When questioned whether or not students would worry about contracting AIDS with a new sexual partner, 85% indicated they would. Regarding the issue of monogamy, almost 61% of the students said they would try harder to keep their monogamous relationships going because of their concern of contracting AIDS. When students were questioned about feeling better if a new sexual partner had recently been tested for AIDS, 71% said they would. Regarding the question of insisting on using a condom with a new sexual partner, 69% answered in the affirmative.

Approximately 5% perceived themselves to be at high-risk, 11% perceived themselves to be at medium-risk, and 78% perceived themselves to be at low-risk (see Table 1, p. 19). The remainder were unable to make an assessment. When students were asked if they knew someone who had died of AIDS, approximately 82% said they did not.

Table 1

Specific guidelines for high, lower and no-risk sexual activities for contracting AIDS according to the Columbia University Health Services

High-Risk Activities
(1) Vaginal or anal intercourse without a condom.
(2) Fellatio (sucking) with ejaculation into partner's mouth.
(3) Cunnilingus (oral sex) during menstruation.
Lower Risk Activities
(1) Vaginal and anal intercourse with condoms and without ejaculation.
(2) Fellatio without ejaculation into partner's mouth (risk of infection through oral-genital sex is low).
(3) Cunnilingus not during menstruation.
(4) Oral-anal contact (Rimming) with a barrier.
(5) Deep kissing (French kissing, Tongue kissing).
No-Risk Activities
(1) Mutual masturbation, rubbing bodies, and kissing skin.

Note: From The Essential AIDS Fact Book by P. H. Douglas and L. Pinsky, 1987, Columbia University Health Service.

When asked directly if students felt that they were becoming more cautious in their sexual attitudes and values, 62% said they had become more cautious.

When questioned on the transmission of the AIDS virus, 62.6% of the students responded in a manner which was at odds with the results of medical and scientific studies defining the types of conduct through which AIDS is transmitted. For the purpose of this study, the responses to the transmission of AIDS were defined in terms of "accurate" and "inaccurate" responses. However, it was argued that at least two answers to this question could be placed in with the accurate responses rather than with the inaccurate responses. The two responses in question were "exchanging saliva with or kissing a carrier on the mouth" and "touching a carrier's blood or semen."

The responses to question #61 (Appendix A) are arranged to satisfy the requirements of a Guttman scale (Guttman, 1950). Medical findings strongly suggest that one cannot catch AIDS from the situations described in the second through fifth items. Conversely, medical opinion almost unanimously accepts the high probability of getting AIDS from the ninth and tenth items. It has been pointed out that touching the blood or semen of an AIDS carrier (item eight) may produce AIDS if the blood or semen contacts a lesion on the person doing the touching. On the other hand, it is unlikely to do so if no lesion is

exposed. The item does not specify which condition holds. In this paper, it is interpreted as if no lesion were exposed, but it is not known which interpretation the respondents had in mind. A similar argument may be made with respect to item seven, exchanging saliva or kissing a carrier on the mouth (especially if the latter leads to contact between oral lesions or mixing of blood).

With this proviso, the interpretation suggested in this paper is that only 36% of the sample correctly identified where unfounded fear stopped (at item nine) and where serious risk began. Therefore, 62.6% may have believed that they, or if not they personally, others, were living at a higher degree of risk than was warranted. By this token, 62.6% had an inaccurate understanding of the transmission of AIDS. On the other hand, if items seven and eight are interpreted extremely cautiously (the alternative interpretation mentioned above), then this percentage drops to 19.4%. At the time this poll was taken (Spring, 1988), less was known about sources of AIDS. This may have led to more public confusion regarding the transmission of AIDS. Depending upon one's interpretation, from one-fifth to almost two-thirds of this sample were living in fear, perhaps, and certainly in ignorance (see Table 2, p. 22).

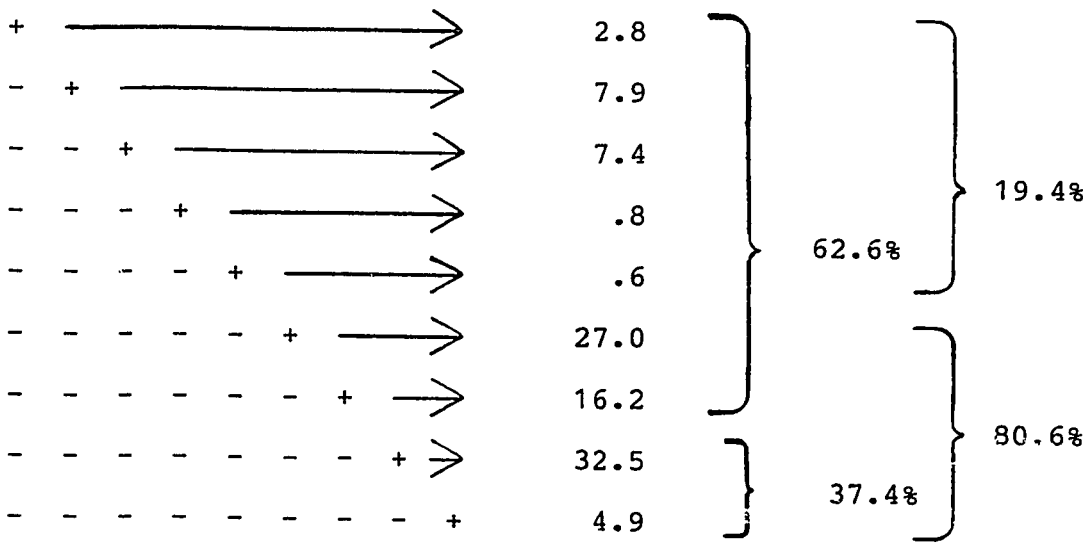
Construction of the Dependent Variable

The varimax rotated factor matrix was used and showed

Table 2

Students' knowledge of AIDS transmission

Percentage of students' responses at San Jose State University to question #61 of the questionnaire. The percentages are associated with the two contrasting interpretations as presented in this paper on pages 20 and 21.



Opinion that AIDS is transmitted through casual contact by level of education. Comparison of students at San Jose State University with the California public regarding the AIDS phenomenon.

Students at SJSU (Some college through some graduate school) (N = 550)		California Poll Poll (N = 511)
Interpretation	62.6%	
Alternative Interpretation	19.4%	High School Graduate or Less 26%
		Some College 18%
		College Graduate 12%

Note: California Opinion Index, "The AIDS Epidemic," December 1985, May 1987.

the following results (see Table 3, p. 24). Factor 1 formed a cluster related to issues of victims' rights, Factor 2 formed a cluster related to responsibility issues, and Factor 3 formed a cluster related to issues of personal sexual concern. The variables in Factor 3, Newpart, Monog, Testpart and Condom were used to form the dependent variable "personal sexual concerns" (see Table 4, pp. 25 & 26). Ordinarily, factors are not used to describe a data set if the corresponding eigenvalue is less than one. In this case, interest was not focused on the most efficient description of the data, which was achieved adequately by factors 1 and 2. Here we were concerned with testing a specific hypothesis on the available data. However, the low eigenvalues of factor 3 (.78), from which the dependent variable was constructed, suggested that perception of risk was not highly salient.

Evaluation of the Hypothesis

Despite satisfactory low p values associated with all coefficients, the direction (signs) of several regression coefficients falsify the hypothesis (see Table 5, p. 27). For example, if students perceived themselves to be at high-risk with respect to AIDS, they would not become more conservative regarding their own sexual attitudes and practices. This is emphasized by the relatively large negative beta (-.51550). Clearly the conclusions obtained showed students reported conservative sexual attitudes and

Table 3

Factor analysis and respective eigenvalues (For explanation of the value labels the numbers given refer to survey questions in Appendix A.)

VICTIMS' RIGHTS		SOCIAL RESPONSIBILITY		PERSONAL SEXUAL CONCERNS	
Factor 1		Factor 2		Factor 3	
#8	School -.75	#12	Office -.51	#17	Newpart .58
#9	Teachers .70	#3	Attn .50	#18	Monog .54
#10	Quarant .54	#14	Church .49	#20	Condom .49
#11	Fire .52	#2	Blame .42	#19	Testpart .42
#24	Treated .51				
#4	Rights -.50				
Eigenvalue		Eigenvalue		Eigenvalue	
4.9		1.91		.78	

Table 4

Dependent and independent variables and the survey questions (Appendix A) associated with each variable. (See Appendix C for recoding information.)

Dependent Variable "Personal Sexual Concerns"

Dependent Variables/ Value Labels	Survey Question	% of Students at SJSU Answering in the Affirmative
New Sexual Partner (Newpart)	#17 I do (or would) worry about AIDS with a new sexual partner.	85%
Monogamy (Monog)	#18 Due to the AIDS epidemic, I would probably try harder to keep a monogamous relationship going if my partner and I were having problems.	61%
Testing (Testpart)	#19 If I had a new sexual partner, I would feel better if I knew he or she had recently been tested for AIDS.	71%
Condom Use (Condom)	#20 If I had a new sexual partner, I would insist that we use a condom.	69%
Perceived Risk (Risk)	#75 Given your life-style, would you say you are personally at high or low-risk for ever contracting AIDS?	High 5% Medium 11% Low 78% Don't Know 6%

Independent Variables/ Value Labels	Survey Questions	% of Students at SJSU Answering in The Affirmative
Class Standing (Class)	#68 What is your class standing?	Freshman 20% Sophomore 12% Junior 22% Senior 27% Graduate 18%
Know Someone Who Has Died of AIDS? (Know)	#76 Do you know anyone with AIDS or who has died of AIDS?	No 82% Yes 18%
Knowledge of AIDS Transmission (Passed)	#61 To your knowledge, how may the AIDS virus be transmitted?	Inaccurate response 63% Accurate Response 37%
Religious Affiliation	#69 What is your religious denomination or preferences?	73% reported a religious affiliation
Religiosity	#70 How important are your religious beliefs in your daily life?	27%

Table 5

Variable names and Beta values for the six independent variables used to test the hypotheses by means of multiple regression analysis

DV = Personal Sexual Concerns Factor $R^2 = .11$

VARIABLE	BETA
Perceived Degree of Risk	-.52*
Class Standing	-.19*
Know Someone Who Has Died of AIDS	.56*
Knowledge of AIDS Transmission	-.13*
Religious Affiliation	.13*
Religiosity	-.16*

* Significant at $p < .01$

Table 5 states the results of regression analysis. It shows that the combination of independent variables only explain almost 11% of the variance in the index of personal sexual concerns.

practices. On the other hand, the "hypothesis," perception of risk, did not apply. It seemed unrealistic that 78% of the students perceived themselves to be at low-risk, while only 5% believed themselves to be at high-risk. Given the size of the sample and any reasonable estimate of real non-monogamous sexual activity among college students, this result was surprising. This probably reflected the large number of students who both believed themselves to be at low-risk and reported their growing sexual conservatism. However, the direction of the relationship also indicated that those who recognized high risk may not be adjusting their behaviors. Perhaps they need not. Perhaps they care not. In any case, it was clear that among our sample the perception of risk did not explain students' adopting precautionary sexual attitudes or practices.

Level of formal education did not directly reflect a correct knowledge about the transmission of AIDS. In fact, current educational level (i.e., freshman, sophomore, junior, senior, or graduate students) was inversely associated with the personal sexual concerns index. This was inconsistent with findings about the general public. "Those with fewer years of formal education are somewhat more likely to believe that AIDS can be transmitted through casual contact than are those with a college education" (The Field Institute, California Poll, 1987). While the

relation of class standing to prediction of conservatism was statistically significant ($p < .01$), it showed no dramatic relevance in this study as the negative beta value indicated (-.18732).

This result may have been produced by one or more confounding elements. First, class standing may be a poor indicator of level of education. There may be too little difference among specific years within any particular level (college, high school). Greater differences among different schools or curricula may be obscured. Second, the negative beta value may reflect students' ages, marital statuses, or other variables which obviate a sense of risk or need for changed practices.

Regression analysis showed that better knowledge of AIDS transmission is associated with less conservative behavior. This finding has a statistical significance of $p < .01$, and a low negative beta value (-.12886). This definitely requires further analysis. The Field Institute's survey of 1,026 California residents revealed that only 19% of Californians surveyed believed that AIDS could be easily transmitted through casual contact. Students at San Jose State University, however, showed a remarkable lack of knowledge about the actual state of medical and scientific evidence concerning the transmission of the AIDS virus. Of the 550 students surveyed, 62.6% believed that AIDS can be easily transmitted through casual

contact (see Table 2, p. 22). Although one of the most important findings in this study concerned students' knowledge regarding transmission of AIDS, it was difficult to explain how 62.6% of the students surveyed believed that AIDS is transmitted by nonsexual contact. As mentioned previously, the results are subject to interpretation, and this should be kept in mind while considering the associated findings.

If students have a relative or close friend who is dying, or has died, as a result of AIDS, they report that they modify their sexual attitudes and behavior. The relationship between this variable and the personal concerns index carried the highest beta value (.55568). It was a significant factor in determining levels of conservatism regarding students' sexual attitudes and practices among the minority affected. Of the students surveyed, 18% have known someone who has died of AIDS. Distant friends account for 46% while 45% are close relatives.

It is not clear that more religious students are either careful in most cases or more quick to return to conservatism for reasons of conscience or belief. The social norms and mores on sexual behavior put forth by most churches in the United States presumably help create a deterrent to sexual promiscuity. If so, religious affiliation might have been a predictor of conservatism

concerning sexual behavior. This variable is significant ($p < .01$), but it is a very slight predictor of conservative sexual behavior, as demonstrated by the beta value (.13135). Similarly, religiosity appeared significant because it may directly influence a propensity towards conservatism in students' sexual behavioral activities. Though it was significant ($p < .01$), the negative beta (-.15697) reflects only a very weak and inverse association between religiosity and conservatism. The inversion may be due to more meticulous application of religious scruples for a longer period.

DISCUSSION

Results of this survey at San Jose State University revealed a perceived conservatism which was thought to have evolved subsequent to the introduction of AIDS into American society. The most salient finding from this investigation was that high levels of conservatism existed among the students surveyed regarding their personal sexual concerns, and a major precursor to this conservatism was the AIDS phenomenon.

Perception of risk in the contraction of AIDS was expected to play a central role in behavioral change in response to AIDS. It did not. This finding needs further discussion. When assessing actual levels of risk, current sexual behaviors must be precisely evaluated. In this study, perceptions of risk were not clearly defined, and neither the terms "high-risk" nor "low-risk" are reliable. With the available data, it was not predicted whether students' conservatism precipitated the low-risk perception or whether this perception of low-risk precipitated students' conservatism regarding their sexual attitudes and practices.

One of the most important findings in this study addresses students' knowledge in regards to the transmission of AIDS. Students have a poor understanding of the present state of medical and scientific evidence regarding how the virus is transmitted. Furthermore, it is difficult to explain. Several factors may help explain this lack of

knowledge. One factor may be due to the lack of educational programs available to low-risk groups. Educational programs have largely been targeted towards high-risk groups, specifically gay communities and IV drug users. Another factor may be a disregard for the information due to students' perception of low-risk in contracting AIDS. Still another factor may be that the fear of AIDS is pervasive and often unfounded, despite educational programs directed towards eliminating fear through the presentation of accurate information. Data illustrate that regardless of educational programs designed to eliminate fear, students are taking precautions outside the realm of sexual-contact issues.

Perhaps students had adopted cynical attitudes in response to the media's repeatedly reported conflicting data on the transmission of AIDS. Students may have doubted medical science and chose to err on the more conservative side in their responses to the mode of AIDS transmission. Furthermore, if university students were sufficiently preoccupied with their own work load, they would have not had time to undertake any in-depth study on the scientific literature relating to AIDS. If their only information was from the media, then it was not surprising that the majority of them believed that AIDS could be transmitted through casual contact with saliva, semen or blood. However, due to the ambiguity of this finding, the conclusion that students were ignorant or lacked education regarding AIDS is not

necessarily supported. The problem would not be a "lack of education regarding AIDS transmission," but would rather be viewed as a result of serious flaws in the process by which those directly concerned with AIDS have sought to educate the public.

Among many students, avenues for rational thinking about AIDS may be closed. The result of this apparent lack of information concerning the transmission of AIDS may manifest itself as a fear of all things associated with AIDS, whether founded in truth or not. The messages which the public receives regarding the potential for infection are numerous and often times contradictory. It is not surprising that this situation would produce a general level of fear and apprehension, serving as a catalyst to social and behavioral changes regarding sexual issues.

It thus becomes apparent that to overcome this fear, however constructive it may be, information and education must be set forth in a thorough, consistent and straightforward manner. For example, in the gay community where the information has been accurately presented, the rate of new cases of AIDS has been decreasing (Emmons et al., 1986). This fact demonstrates that reliable information, articulately presented, combined with an accurate assessment of personal risk, can reduce the rates of infection.

One could surmise that this conservatism develops from students' knowledge of AIDS as a remorseless,

non-discriminate, and incurable disease evolving from their knowledge of someone who had died of AIDS.

The information gained through this endeavor can serve as a baseline for future studies as AIDS becomes more prevalent in the non-gay community. Studies of comparatively low-risk groups will increase in importance. The following questions have to be clearly defined, measured and analyzed in future studies: true risk versus the perceived risk; potential for nonsexual transmission among students; establishing the importance of education; the effects of demography, the possibility of a new morality; and a more conservative attitude regarding sexual questions generally. One would hope that these questions, foremost among others, would be addressed by future researchers.

Finally, it should disturb faculty and administrators to learn of the general level of ignorance among San Jose State University students concerning a topic of such obvious importance to their lives. The data suggest low levels of awareness, interest and competence on a topic of major importance to their survival. To what extent do these attitudes extend generally to other areas? These data do not supply answers. But faculty and administrators have reason for concern. This may be shared with those at other colleges and universities as well.

From the perspective of public health issues, the conservatism reported here is practical; it suffices to

protect these students from AIDS. It extends beyond the care actually required. However, it seems to be unrelated to other attitudinal or behavioral structures. Thus it may be superficial and fragile, an issue of fashion perhaps. If so, public health practitioners should be forewarned.

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APPENDIX A

SJSU AIDS SURVEY

This survey concerns how SJSU students feel about the AIDS situation. We would very much appreciate your help with our poll. Your class was selected at random, and all your answers will, of course, remain strictly confidential.

* * * * *

For the first questions, please CIRCLE one of the following:

SA = Strongly Agree
A = Agree
? = Don't know/not sure
D = Disagree
SD = Strongly Disagree

1. AIDS is a problem for just specific groups, not for all individuals.	SA	A	?	D	SD
2. Most adults who get AIDS have only themselves to blame.	SA	A	?	D	SD
3. Heart disease and cancer deserve MORE public effort and priority than AIDS.	SA	A	?	D	SD
4. AIDS victims should have the same civil rights as everyone else.	SA	A	?	D	SD
5. Homosexuals with AIDS are being punished by God.	SA	A	?	D	SD
6. Nurses and other health care workers should have a personal right NOT to treat AIDS victims.	SA	A	?	D	SD
7. To reduce the spread of AIDS, free needles should be made available to people addicted to drugs.	SA	A	?	D	SD
8. Children who test positive for the AIDS virus SHOULD be allowed to attend public schools.	SA	A	?	D	SD
9. Teachers and others who test positive for the AIDS virus should NOT be allowed to work with children.	SA	A	?	D	SD
10. As soon as they are old enough to understand it, AIDS information should be presented to all school children.	SA	A	?	D	SD
11. Employers should be allowed to terminate or fire any worker who tests positive for the AIDS virus.	SA	A	?	D	SD
12. ALL politicians and public officials have a responsibility to address the AIDS issue.	SA	A	?	D	SD
13. People who test positive for the AIDS virus should be quarantined and isolated from the rest of the population.	SA	A	?	D	SD
14. ALL religious leaders have a moral responsibility to AIDS victims.	SA	A	?	D	SD
15. If one has the AIDS virus and knowingly puts an unsuspecting person at risk of getting it, he or she should be liable to a charge of attempted murder.	SA	A	?	D	SD
16. Even though condoms may prevent the spread of AIDS, I do NOT think they should be advertised on television.	SA	A	?	D	SD
17. I do (or would) worry about AIDS with a new sexual partner.	SA	A	?	D	SD
18. Due to the AIDS epidemic, I would probably try harder to keep a monogamous relationship going if my partner and I were having problems.	SA	A	?	D	SD

19. If I had a new sexual partner, I would feel better if I knew he or she had recently been tested for AIDS.	SA	A	?	D	SD
20. If I had a new sexual partner, I would insist that we use a condom.	SA	A	?	D	SD
21. Because of the AIDS epidemic, it is a good idea for people to store their own blood in case they or a relative ever need a transfusion.	SA	A	?	D	SD
22. I tend to worry about AIDS when I use certain public facilities such as restrooms, clinics, restaurants, or swimming pools, etc.	SA	A	?	D	SD
23. I would find it difficult to be around or visit someone with AIDS.	SA	A	?	D	SD
24. I would not want to be treated by a physician or dentist who also treated AIDS victims.	SA	A	?	D	SD
25. If a care facility for AIDS victims was proposed for my neighborhood, I would fight to keep it out.	SA	A	?	D	SD
26. The more information I get about AIDS, the more I tend to worry about it.	SA	A	?	D	SD

For each of the item below, please check the answer which comes closest to your experience or opinion. Thank you.

27-46. For each group or circumstance listed on the left, how do you feel about AIDS testing? (PLEASE CHECK ONE ANSWER ON THE RIGHT FOR EACH CIRCUMSTANCE OR GROUP LISTED ON THE LEFT.)

	TESTING SHOULD BE.....			
CIRCUMSTANCE/GROUP	MANDATORY (Required for all)	INVOLUNTARY (May be court-ordered in certain cases)	VOLUNTARY (Only with individual's or family's consent)	PROHIBITED (Not permitted at all)
27. Everyone in U.S.	-----	-----	-----	-----
28. All adults in U.S.	-----	-----	-----	-----
29. Permanent immigrants to U.S.	-----	-----	-----	-----
30. Foreign visitors to U.S.	-----	-----	-----	-----
31. For marriage license	-----	-----	-----	-----
32. For security clearance	-----	-----	-----	-----
33. ANY Job applicant	-----	-----	-----	-----
34. Candidates for public office	-----	-----	-----	-----
35. ADMITTED homosexuals	-----	-----	-----	-----
36. Nurses, medical technicians	-----	-----	-----	-----
37. Physicians, dentists	-----	-----	-----	-----
38. Teachers, professors	-----	-----	-----	-----
39. Child care workers	-----	-----	-----	-----
40. Food handlers	-----	-----	-----	-----
41. Military personnel	-----	-----	-----	-----
42. Prostitutes	-----	-----	-----	-----
43. Prisoners	-----	-----	-----	-----
44. CONVICTED drug addicts	-----	-----	-----	-----
45. SUSPECTED drug addicts	-----	-----	-----	-----
46. Other _____	-----	-----	-----	-----

47. If at all, how much would you say your own sexual VALUES or ATTITUDES have changed due to the AIDS epidemic?

( ) Much more conservative or cautious
( ) Somewhat more conservative or cautious
( ) Have not really changed at all
( ) More liberal, less conservative

46-58. Regarding each category or relationship on the left, how has your ACTUAL BEHAVIOR changed, if at all due to the AIDS epidemic? (PLEASE CHECK ONE ANSWER ON THE RIGHT FOR EACH CATEGORY SHOWN ON THE LEFT.)

		HOW CHANGED?			
	BEHAVIOR OR RELATIONSHIPS WITH....'	MUCH MORE CAUTIOUS	SOMEWHAT MORE CAUTIOUS	NO CHANGE	LESS CAUTIOUS
48.	Strangers in a public place	-----	-----	-----	-----
49.	Public places you frequent or visit	-----	-----	-----	-----
50.	Someone you would work alongside	-----	-----	-----	-----
51.	Friends, people you see casually	-----	-----	-----	-----
52.	IF APPLICABLE: a friend you would date	-----	-----	-----	-----
53.	* * : possible roommate (non-intimate)	-----	-----	-----	-----
54.	* * : possible roommate (intimate)	-----	-----	-----	-----
55.	* * : sex with someone known only a short time .	-----	-----	-----	-----
56.	* * : rules/advice given own children	-----	-----	-----	-----
57.	Other: _____	-----	-----	-----	-----
58.	_____	-----	-----	-----	-----

59. If I had known someone only a short time and was considering having sex with them, I would (probably).... (Check one.)
( ) take the initiative and ask them directly about AIDS and their own sexual history
( ) wait, and mention AIDS, etc., only if they did not bring it up themselves
( ) not say anything directly, but insist we take precautions (use a condom, etc.)
( ) not say anything and have sex anyway (with or without precautions)
( ) Other (Please specify.) _____

60. Whom do you think should be MAINLY responsible for the cost of AIDS victims' care and treatment? (Check one.)
( ) Victim or family ( ) Local cities or counties through public hospitals
( ) Charities ( ) Federal government
( ) Insurance companies ( ) Other (Please specify) _____

61. To your knowledge, how may the AIDS virus be transmitted? (Please check as many as you think applicable.)
( ) By donating blood at a regular clinic or blood bank
( ) Being in the same place or room as AIDS virus carrier
( ) Being where carrier sneezes or coughs
( ) Using same water supply, pool, or jacuzzi as carrier
( ) Using the same bathroom or toilet as carrier
( ) Touching an AIDS virus carrier
( ) Exchanging saliva with or kissing a carrier on the mouth
( ) Touching a carrier's blood or semen
( ) Internally receiving semen from a carrier
( ) Getting blood from a carrier into one's own bloodstream
( ) Other (Please specify) _____

The last questions have to do with a few habits, customs, and background characteristics. This is just so we can see if people with different experiences and backgrounds have different opinions, and so on.

62. How old were you as of your last birthday? _____ 63. Sex/gender? ( ) Female ( ) Male

64. What is your sexual preference?
( ) Heterosexual ( ) Bisexual ( ) Homosexual

65. What is your current marital status?
( ) Single, never married ( ) Married (gay/lesbian marr.) ( ) Divorced
( ) Married (heterosexual marr.) ( ) Married but separated ( ) Widowed

66. How many children do you have?
( ) None ( ) 1-2 ( ) 3-4 ( ) 5 or more

67. (SINGLE PEOPLE ONLY. MARRIED RESPONDENTS PLEASE SKIP TO QUESTION #68.) Are you currently involved in a fairly steady, monogamous relationship?
( ) Yes ( ) No

68. What is your class standing?
( ) Freshman ( ) Sophomore ( ) Junior ( ) Senior ( ) Graduate

69. What is your religious denomination or preference?
( ) None ( ) Jewish ( ) Islamic
( ) Protestant ( ) Mormon/LDS ( ) Other (Please specify)
( ) Catholic ( ) Buddhist _____

70. How important are your religious beliefs in your daily life?
( ) Very important ( ) Somewhat important ( ) Of little importance ( ) Not important at all

71. What is your racial or ethnic background?
( ) White ( ) Hispanic ( ) Mid-Eastern
( ) Black ( ) Asian ( ) Other (Please specify) _____

72. What is your political affiliation or preference?
( ) Republican ( ) Democrat ( ) Independent ( ) Other (Please spec.) _____

73. Would you generally describe yourself as liberal, middle-of-the-road, or conservative?
( ) Very liberal ( ) Middle-of-the-road ( ) Conservative
( ) Liberal ( ) Very conservative

74. How would you describe your immediate family's current standard of living?
( ) Lower class ( ) Lower-middle class ( ) Upper class
( ) Working class ( ) Upper-middle class

75 Given your lifestyle, would you say you are personally at high or low risk for ever contracting the AIDS virus?
( ) High ( ) Medium ( ) Low ( ) Don't know

76. Do you know anyone with AIDS or who has died of AIDS?
( ) No ( ) Yes
↓ ↵
77. If "Yes", Relationship to you? _____

78. What has been your MAIN source of information on the AIDS situation? (Check one.)
( ) Television ( ) Health care professionals
( ) Newspapers, magazines ( ) College or high school classes
( ) Friends, relatives ( ) Other (please specify) _____

THANK YOU VERY MUCH FOR YOUR TIME AND HELP WITH OUR SURVEY.

If you would like to see the results of this poll or to make any comment at all about it, please call Prof. David Asquith (Sociology, 924-5220). Once again, thank you.

APPENDIX B

To choose a simple random cluster sample, Dr. Asquith's research methods 104 class utilized the Random Numbers Table, Table D, Babbie, P. 491. The Spring schedule of classes was used in order to select the classes where the questionnaires were to be administered. The procedure required the utilization of four numbers from the table: the first two to direct the page from the schedule, the second two, to select classes by counting down the courses listed by the designated number from the table.

It was often found that in counting down the classes in the schedule on a designated page, that some classes were unavailable. The reasons for this unavailability were due to: classes not listed on the line selected; classes were scheduled by arrangement, no scheduled meeting time; special studies classes, thesis or independent studies courses; mini-courses; labs; instructor not listed. In these cases the next available class was used.

Dr. Asquith sent letters to each of the professors teaching the selected classes, requesting their permission for the administration of the questionnaire to their classes. If permission was granted, the questionnaires were administered by the research methods class.

APPENDIX C

Recodes

With the dependent variable verified and defined, the responses were recoded to evaluate levels of conservatism among students concerning their sexual personal concerns. Zero designated a low conservative (or more tolerant) orientation, while four designated a high level of conservatism. The four variables formulating the areas of "personal concerns" were recoded to quantify respondents' varying levels of concern. The variables, Newpart, Monog, Testpart, and Condom, were recoded as follows: Students responding to answers of Strongly Agree (1) and Agree (2) were recoded to include high concern responses, (1,2 = 1). Students responding to answers of Don't Know (3), Disagree (4) and Strongly Disagree (5) were recoded to signify a low level of concern, (3,4,5 = 0).

Six independent variables were chosen and recoded and crosstabulated with levels of concern. The purpose was to dichotomize the responses to allow for the conversion of nominal and categorial variables into interval scales. Class standing remained unchanged, 1 = Freshman, 2 = Sophomore, 3 = Junior, 4 = Senior, and 5 = Graduate.

Religious affiliation was recoded as Protestant (2), Catholic (3), Jewish (4), LDS (5), Buddhist (6), Islamic (7), and Other (8), or (2,3,4,5,6,7,8 = 1). Respondents not belonging to any religious affiliation (1) were recoded as 0,

or (1 = 0).

Religiosity (the importance of religion in daily life) was recoded to include responses of "very important" (1), as 3 or (1 = 3), "somewhat important" (2), remained 2, "little importance" (3), became 1, or (3 = 1), and "not important" (4) was recoded as 0, or (4 = 0).

Perceived risk remained as presented on the questionnaire with 1 = high risk, 2 = medium risk and 3 = low risk. However, answers of "don't know" (4) were recoded to 0, or (4 = 0).

Whether or not students knew someone who had died of AIDS was recoded as (1) "don't know" to (0) or (1 = 0). Students' responses of "do know" (2) were recoded to (1) or (2 = 1).

Knowledge concerning the transmission of AIDS was recoded to account for correct and incorrect responses. Answer nine, "Internally receiving semen from a carrier" and answer ten, "Getting blood from a carrier into one's own bloodstream," were the correct responses and were recoded to (9,10 = 1). All other responses including 1, "Donating blood at a regular clinic or blood bank," 2, "Being where carrier sneezes or coughs," 4, "Using same water supply, pool, or jacuzzi as carrier," 5, "Using the same bathroom or toilet as carrier," 6, "touching an AIDS carrier," 7, "Exchanging saliva with or kissing a carrier on the mouth," and 8, "Touching a carrier's blood or semen," are incorrect and were recoded to 0, or (1 - 8 = 0).