AIDS AND THE COLLEGE STUDENT:

KNOWLEDGE, BELIEFS, AND

INFORMATION SEEKING

by

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Dissertation submitted to the Faculty of the Graduate School
of the University of Maryland in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
1989

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ABSTRACT

Title of Dissertation: AIDS AND THE COLLEGE STUDENT: KNOWLEDGE, BELIEFS, AND INFORMATION SEEKING

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A questionnaire on knowledge, beliefs, and information-seeking behavior about Acquired Immune Deficiency Syndrome (AIDS) was administered to a total of 1,300 university students, and 1,001 were completed and returned. The aim of the study was to investigate the relationship between college students' knowledge and beliefs about AIDS and their information-seeking behavior about AIDS. Students were found to be knowledgeable about the disease, but the majority (50.5%) were not worried about contracting AIDS. The findings revealed that students who are more knowledgeable about AIDS seek more information than those less knowledgeable about AIDS. It was also found that students who feel more highly susceptible to AIDS are more likely to seek information about the disease. The primary sources of student information on AIDS were television, newspapers, magazines, and radio; however, doctors and health-care professionals were considered the most trust-worthy sources of AIDS information. The data suggest that medically supported information on AIDS should be provided to college students by health educators via the popular media sources.

ACKNOWLEDGEMENTS

The author wishes to express her sincere appreciation to Kenneth Beck, Ph.D., Associate Professor, University of Maryland, without whose assistance and guidance this study would not have been possible.

A special thanks to my husband, Leon, whose thoughtfulness and encouragement made it possible for me to reach this goal.

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CHAPTER I. INTRODUCTION

Purpose

This study was designed to assess the relationship between college students' knowledge and beliefs about Acquired Immune Deficiency Syndrome (AIDS) and their information-seeking behavior about AIDS, and to determine the sources from which students obtain most of their information about the disease.

Hypotheses

A review of the literature suggested three areas of investigation:

1. There will be an interaction between susceptibility to AIDS and feelings of control:

a. Students who possess a strong feeling of personal- or self-efficacy in protecting themselves from AIDS will seek more information about the disease if they perceive themselves to be more susceptible to it than if they perceive themselves to be less susceptible to it.

b. Students who possess a strong feeling of response efficacy for the usefulness of AIDS information will seek more information if they perceive themselves to be more susceptible to it than if they perceive themselves to be less susceptible to it.

2. Students who are more knowledgeable about AIDS will seek more information about AIDS than those who are less knowledgeable about the disease.

3. There will be an interaction between information seeking on AIDS and feelings of Locus of Control:

a. Students who believe they can control their own health (Internal Locus of Control) will seek more health information concerning AIDS than those who feel they do not have control of their health (External Locus of Control).

b. Students who believe powerful others (PHLC) have a strong control over their health will seek more information about the disease if they perceive themselves to be more susceptible to AIDS than if they perceive themselves to be less susceptible to it.

c. Students who believe that Chance Health Locus of Control (CHLC) controls their health will seek less information concerning AIDS than those who feel they control their own health.

Rationale for the Study

Researchers at the Third International Conference on AIDS (1987) reported that the number at risk for the disease has multiplied. The threat of AIDS is not confined only to homosexuals and intravenous drug users. The heterosexual population faces a growing risk for infection (Cardell et al., 1987; Steigbigel et al., 1987).

Studies have indicated that college students have relatively high levels of sexual activity and a high potential for multiple sex partners (McDermott, Hawkins, Moore, and Cittadino, 1987). College students should be prime targets for AIDS education. In order to prevent the spread of this fatal disease among the college population, it is necessary to provide education about the disease's transmission and to encourage changes in sexual behavior and drug experimentation.

An investigation conducted by Chervin and Martinez (1987) about students' sexual behavior showed that a large proportion of sexually active students have not changed their sexual behavior in response to the AIDS threat. Students tend to view AIDS as "someone else's problem" and do not associate the risk to themselves.

Dunwoody, Friestad, and Shapiro (1987) reported that the more vividly and personalized the risk is portrayed, even in written form, the more likely the risk will be perceived. Controlling the transmission of human immunodeficiency virus (HIV) requires changes in behavior that should be applied continuously because a period of "backsliding" in the case of AIDS would have lethal consequences. Behavioral recommendations on AIDS prevention would require risk reduction for a lifetime (Becker & Joseph, 1988).

Students should be encouraged to avoid sex with anyone in a high-risk group. The chance of becoming infected is about one in 500 if the partner has tested positive for HIV infection (Hearst & Hulley, 1988).

Preventing HIV transmission requires either modification of relevant behavior or abstinence. Indeed, abstinence from sex and the avoidance of intravenous (IV) drugs would probably halt the spread of HIV, but widespread compliance with such extreme measures is unlikely (Schur, 1965, and Waldorf, 1970). Therefore, it will be necessary to modify rather than to eliminate these risk-related behaviors. Koop (1987) reported that "Safer sex guidelines have been developed for homosexuals and heterosexuals who are at risk for HIV to avoid the exchange of body fluids during sexual activities" (p. A14).

Intravenous drug users should eliminate the sharing of needles and other drug paraphernalia and/or these supplies should be carefully sterilized.

Information seeking is a form of protective behavior; therefore, it is imperative that the motivational factors, which underlie this type of behavior, especially as related to AIDS, become better understood. At this time, there is little health information on AIDS specifically directed at college students (McDermott, Hawkins, Moore, and Cittadino, 1987, and Edgar, Freimuth, & Hammond, 1987). In order to target this group for education, it is important to determine what they know about the disease, what they believe, and where they seek information. To date, among college students there is little evidence on information-seeking behavior about AIDS.

Definition of Terms

Locus of Control. The generalized expectancy as to whether one's own behavior or forces external to self control of one's reinforcements (or behavior outcomes) has been typically conceived of as a transsituational personality dimension (Lefcourt, 1966).

Health Locus of Control (HLC). Health Locus of Control is the extent to which individuals will typically endorse statements attributing responsibility for health status to themselves (internal control) or to fate, chance, or other extrapersonal influences (external control). Because the HLC-Internal maintains that matters of sickness and health are largely determined by one's own behavior, it may be predicted that he/she will also seek out relevant information or engage in preventive health care activities with

greater likelihood than the HLC-External, who believes that one exercises little personal control in achieving health or avoiding illnesses (Toner & Manuck, 1979).

Multidimensional Health Locus of Control (MHLC) Scales. This instrument contains separate, statistically independent measures of internality (IHLC), and two distinct externality dimensions: chance (CHLC) and control by powerful others (PHLC). In health-related situations where people are sometimes dependent on family members and health professionals, it is advantageous to separate beliefs that one's health is controllable--by other people--from beliefs that random events determine one's health. The MHLC Scale is situation specific in that all the items mention health or illness; however, it generalizes expectancies because it deals with health in the abstract and does not refer to particular health behaviors or conditions (Wallston, Wallston, & DeVellis, 1978).

Health Belief Model. This model is extensively used to predict individuals' preventive health behavior. It was developed by four social psychologists working for the Public Health Service: Hochbaum, Kegeles, and Leventhal (1958), and Rosenstock (1966). Stone (1979) summarizes the model:

> In essence, the theory says that the likelihood of taking a particular action is a function of perceived threat and perceived benefit. Perceived threat is a function of perceived susceptibility, a subjective probability, and of perceived seriousness, a value. Perceived benefit is the probability that threat will be reduced (by some amount) minus the perceived cost of action, which must itself be reduced to a set of probabilities times values (p. 73).

Acquired Immune Deficiency Syndrome (AIDS). An apparently recent condition, it has been likened to an ancient scourge of humankind--the plague. The AIDS virus belongs to a family of viruses called retroviruses which are known to cause some human cancers. Retroviruses infiltrate and destroy body cells. This virus takes over the genetic machinery of the host cell (presumably the T cell), and may remain dormant for months or years and then become activated and begin to proliferate. The body's immune system is crippled and the person ultimately dies. The virus was isolated in the first half of the 1980s. It is transmitted from person to person rather than by animal vector (Britannica, 1987, pp. 272-274).

HIV (Human Immunodeficiency Virus). The name proposed for the causative agent of AIDS by a subcommittee of the International Committee on the Taxonomy of Viruses (Institute of Medicine, National Academy of Sciences [NAS], 1986).

Information Seeking. Information seeking is conceptualized as one step in a series of behaviors leading to proper health care (Wallston, Maides, & Wallston, 1976). Within the framework of social learning theory (Rotter, 1954), information seeking is viewed as a function of the value placed on the goals to which the information-seeking behavior is related and the expectancy for success in achieving those goals (Davis & Phares, 1967).

Self-Efficacy. This is a person's expectation of being able to perform the recommended threat-coping action(s) successfully (Beck & Feldman, 1983). Bandura (1982) reports that self-efficacy influences

not only the initiation of the coping response, but the amount of energy expended and a person's persistence in the face of obstacles.

Response Efficacy. Response efficacy is one of two fundamental beliefs that comprises a perceived threat control. It is the perceived ability of the recommended coping action(s) to reduce or control the threat (Beck & Feldman, 1983).

Seroconversion. The appearance of antibodies directed against HIV in the serum of exposed persons. The earliest markers now known to indicate that HIV has been transmitted to an individual are either the isolation of HIV from that person or the detection of antibodies to the virus in the person's blood. The typical time between transmission of the virus and seroconversion has been estimated to be six to eight weeks. This period is highly variable, however, with reported instances of up to eight months.

Dependent Variables

The dependent variables were obtained through anonymously self-reported measures of knowledge, beliefs, and information seeking about AIDS. Knowledge of AIDS was measured by using a modified version of a questionnaire from the American Journal of Public Health (DiClemente, Zorn, & Temoshok, 1986) and additional questions prepared by the researcher. The Multidimensional Health Locus of Control Scale (Form A) (Wallston, Wallston, and DeVillis, 1978) was used to measure attitudes and beliefs about AIDS. Information-seeking questions were adapted from a questionnaire used by Beck and Feldman (1983).

Limitations

Respondents represented a convenience sample of students enrolled in health education and recreation classes at the University of Maryland at College Park. This is a threat to external validity. Because of this, one must be careful not to generalize results to non-applicable populations.

Another limitation is that only students attending class on the day that the data were collected were survey participants. Thus, if students who knew about the AIDS survey purposely did not provide their responses, possible bias could occur. Estimates could be misleading if non-participants had differential responses.

Questionnaires were completed during a limited time--class period. There was also a biased overrepresentation of junior and senior students. Finally, due to recently heavy newspaper, radio, and television coverage, survey participants were knowledgeable about AIDS.

CHAPTER II. LITERATURE REVIEW

AIDS - Extent and Significance

Since the first case of Acquired Immune Deficiency Syndrome (AIDS) was diagnosed in 1981, biological and epidemiological knowledge about the disease has increased rapidly. The human immunodeficiency virus (HIV) was identified in 1984; further development of sensitive and specific anti-HIV antibody tests, which were developed by 1985, allowed researchers to investigate the transmission and natural history issues (Imperato, 1987). To date, the prospect for either a vaccine or a definitive treatment for those already infected remains remote (Yankauer, 1986). The only available measure for control of AIDS is the change in human behaviors that are essential to transmission of the HIV (Becker & Joseph, 1988).

Even though a tremendous amount of time, money, and energy have been expended by researchers, the number of diagnosed cases continues to spiral upward each week. Currently there are 99,936 diagnosed cases of AIDS in the United States, and there are 58,014 Americans who have died since 1981 from the disease [Center for Disease Control (CDC), MMR #8, June 30, 1989]. Federal health officials project that, by the end of 1992, 365,000 Americans will develop AIDS, resulting in 263,000 deaths. Eighty thousand new cases are estimated to occur in 1992 and this will pose a tremendous challenge to the health care system. There are uncertainties in this projection, and the total

cases by 1992 could range from 205,000 to 440,000. The total number of Americans who are infected with the AIDS virus is not known with certainty because of the difficulty in obtaining reliable survey results; however, the United States Public Health Service estimated in 1986 that 1.0 to 1.5 million Americans carried the virus; that estimate has not been revised. Available data indicate that more than half of those who carry the virus develop AIDS within ten years of the infection, and studies suggest that most carriers will eventually become ill.

About 11,000 researchers and health officials met in Montreal, Canada, on June 4 to 9, 1989, for the Fifth International Conference on AIDS. It was reported at the conference by Jonathan Mann, Director of the World Health Organization's global AIDS program, that "the AIDS epidemic has not plateaued or peaked." He reported also that projections suggest that the AIDS situation during the decade of the 1990s would be much worse than what had been experienced during the 1980s.

At this time there are 1,685 cases among children 12 years of age and younger, 389 cases in the 13- to 19-year age group, 20,545 cases in the 20- to 29-year age group, 46,144 in the 30- to 39-year age group, 20,993 in the 40- 49-year age group, and 9,859 in the 50-plus age population (CDC, MSR #8, June 30, 1989).

High-risk groups include homosexual or bisexual men, intravenous drug abusers, hemophiliacs, prostitutes, heterosexuals from some central African countries where heterosexual spread of the virus occurs frequently, and people who received multiple blood transfusions

between 1983 and 1985 before routine testing of blood for HIV began. Anyone who has been a regular sexual partner of someone in the high-risk group is considered to be at high risk for infection.

To date, approximately 73% of AIDS patients have been homosexual or bisexual males; heterosexual men and women who abuse intravenous drugs and share contaminated needles are about 20% of the adult AIDS patients (CDC, MSR #8, June 30, 1989).

The chance of becoming infected from a single episode of intercourse without a condom is about one in five million if the partner does not belong to a high-risk group, but about one in 500 if the partner has been tested positive for infection with the human immunodeficiency virus. Currently, protection for heterosexuals against infection with the virus that causes AIDS is to avoid sex with anyone in a high-risk group. This is more effective than condoms, blood tests, or limiting the number of sexual partners (Hearst & Hulley, 1988).

AIDS - High-Risk Behavior: College Students

At this time, the number of college students with AIDS is relatively low. Richard Keeling, Chairman of the American College Health Association's task force on AIDS, reported in April 1987 that there were 75 known cases of the deadly disease among college students in the United States (Kantrowitz et al., 1987). However, McDermott, Hawkins, Moore, and Cittadino (1987) reported that one of the primary modes of transmission for the human immunodeficiency virus is sexual intercourse, and college students have both a relatively high level of sexual activity and the potential for multiple sex partners. Many

persons believe that the low number of AIDS cases among college students does not reflect the potential high risk within this population.

Hearst and Hulley (1988) estimate that the chance of becoming infected is influenced much more by the risk status of a partner than by factors such as condom use or blood testing for HIV. With a high-risk sexual partner, a negative blood test is not a guarantee of safety because tests can be falsely negative or infection may have occurred too recently for a positive test to develop.

To date, the literature reveals only five studies that address AIDS in the college population in the United States and one study of college students in England. These investigations involved data collection through a variety of sample survey methods, which are discussed next.

McDermott, Hawkins, Moore, and Cittadino (1987) conducted a study at a large midwestern university to assess students' knowledge of AIDS and to determine the sources from which students obtain most of their information about the disease. A 20-item forced-choice inventory consisting of cognitive and demographic items and based on fact sheets from the Center for Disease Control was constructed and distributed in a general education course to 161 university students selected through cluster sampling from a pool of approximately 500 possible respondents. The study showed that the students' overall knowledge of AIDS-related facts was mixed, i.e., one-third did not know about the lethal potential of AIDS, or that AIDS-associated deaths are most commonly caused by certain cancers and pneumonia and that engaging in indiscriminate

sexual behavior increases the chance of getting AIDS. One-fifth of the sample did not know that avoiding casual sex is a means of decreasing the chance of getting AIDS. The students relied on mass media for their information; television, newspapers, and magazines were cited as the primary sources of this AIDS information. None of the students who were surveyed stated that physicians or AIDS seminars/workshops were major sources of information on AIDS.

Atkinson, Kitsanes, and Hassig (1987) conducted an investigation of college students from the southern portion of the United States about knowledge, information sources, and behavior. The study was conducted jointly by the Louisiana Department of Health and Human Services and Tulane University. The findings were similar to the ones of McDermott, Hawkins, Moore, and Cittadino (1987) in that students were reasonably knowledgeable about AIDS. More than 95% identified the major routes of transmission, although there were some misunderstandings about the risk of casual contact and blood donations. As McDermott et al. found, Atkinson et al. also found that television was the primary AIDS information source. The majority of the students, 59%, reported that their knowledge of AIDS had affected their choice and number of sexual partners.

Freimuth, Edgar, and Hammond (1987) conducted a survey of college students at the University of Maryland at College Park. Using a stratified random sample, they selected 1,250 full-time students enrolled during the spring semester, 1987, to survey students' awareness and interpretation of the AIDS risk. A 97-item instrument questioned students about their knowledge of AIDS, their perception of

their own risk, and any changes in behavior they may have made in response to the AIDS risk. The questionnaire was mailed along a self-addressed, stamped return envelope and a postcard, which indicated that the completed questionnaire had been returned. The postcard was to be mailed separately to permit the tracking of respondents and to maintain anonymity. After two weeks, the students who had not returned the postcard were telephoned to ask them to send back the questionnaire.

The researchers received a response rate of 458 questionnaires, or 37%. In comparing the demographics of the respondents with the entire university population, it was found that the sample was quite representative. There were 53% females in the sample, compared to 47% in the population.

Most of the students knew that the human immunodeficiency virus can be transmitted through sexual intercourse and dirty needles. The majority also knew that the virus could be transmitted by a person who was infected but who did not show symptoms. One-third of the respondents were not sure if transmission could occur through saliva, teardrops, or insect bites. Freimuth, Edgar, and Hammond found upper-classmen were the most knowledgeable about AIDS. Findings on sources of information were relatively consistent with McDermott, Hawkins, Moore, and Cittadino and Atkinson, Ktsanes, and Hassig. Doctors/ nurses, educational literature, the campus health centers, and the AIDS hotline were rated as the most trusted information sources. Freimuth, Edgar, and Hammond found that the gay community ranked last for credibility and quantity of information.

Cherwin and Martinez (1987) conducted an investigation at Stanford University that addressed the issue of AIDS on campus by asking the students about their sexual behavior rather than assessing their knowledge and information sources as the McDermott, Hawkins, Moore, and Cittadino and Atkinson, Ktsanes, and Hassig studies.

The sample consisted of 1,710 students and was randomly stratified according to sex, class, and ethnicity. The questionnaire contained 50 items on personal sexual health and activity. The questionnaire was mailed to the students; there was a 51% response rate. The researchers studied the level at which students discuss their sexual health prior to sexual activity and the frequency with which they use safe sex methods. Cherwin and Martinez found that the majority (84%) do not discuss their sexual health before sexual activity. The investigation also revealed that a large proportion of sexually active students have not changed their behavior in response to the threat of AIDS. Only 22% of undergraduates and 24% of graduate students claimed they used safe sex methods.

Gottlieb, Vacalis, Palmer, and Conlon (1987) surveyed college students at each of four campuses in a southern midwestern state. The four universities are located in geographically distinct regions of the state. The survey was mailed to 1,982 students. Respondents at three of the campuses were undergraduate students; the remaining resondents were graduate students located at one campus. The survey response rate was 33.8%, or 670 students. The majority of respondents were female (62%). Most subjects were single (82%). Approximately

42% of the sample indicated that their majors were either education or business.

The main survey questionnaire was divided into three sections: (a) beliefs and attitudes about AIDS, (b) level of interest in gaining more knowledge about AIDS-related topics, (c) likelihood of obtaining AIDS information from various sources, and (d) likelihood of engaging in AIDS prevention volunteer activities.

Within each section they examined the knowledge, attitudes, and beliefs of these students regarding AIDS; their sexual activity, safe sex practices, and any pro-social actions they would be willing to take; and their preferred channels of communication for additional information about AIDS and AIDS Related Complex (ARC). The students were generally conservative in their beliefs, attitudes, and behavior, and expressed an interest in learning more about AIDS and ARC. They were well informed about the common methods of transmission of the virus, but were not informed about issues such as transmission by insects and cardiopulmonary resuscitation (CPR) administration.

Clift and Stears (1988) conducted a survey of students at Christ Church College, Canterbury, England. The questionnaire examined the students' beliefs and attitudes regarding AIDS and the AIDS epidemic. The questionnaire consisted of three parts. Part I asked information on sex, age, parental status, and previous employment, and also assessed students' knowledge of the acronyms AIDS and HIV. Part II contained 56 statements about AIDS with a five-point response format ranging from strongly agree to strongly disagree. The statements were designed to assess both beliefs and attitudes on a large number of

issues related to the AIDS epidemic, including religious and moral perceptions of AIDS, preparedness to isolate and discriminate against HIV/AIDS individuals, educational and social measures needed to combat AIDS, and the risks attached to various sexual activities. Part III requested demographic data concerning religion, political affiliation, sexual preference, and sexual activity.

The questionnaire was administered twice--once in November 1986 and again in May 1987. The sample of the first survey (November 1986) consisted of 86 first-year college BA/BSC students (34 men and 52 women) studying courses in Educational Studies and Radio, Film, and Television Studies. Six months later the questionnaire was completed again by 76 first-year students (32 men and 44 women) enrolled in the same academic courses.

For questions on (a) non-sexual contact with HIV/AIDS individuals; (b) blood tests for HIV; (c) awareness and beliefs about HIV and AIDS; (d) education and behavior change; (e) religious beliefs, moral attitudes, and hemophilia; and (f) the meaning of the acronym AIDS, the results showed statistically significant changes in means ($P < 0.05$, one-tailed). The two sets of data were treated as independent rather than correlated. Statistically significant changes occurred for all items in the questionnaire concerning non-sexual contact with HIV/AIDS individuals, social distancing of infected people, and compulsory blood testing. Changes were also apparent for items concerned with the need for education, changes in sexual behavior, hemophilia, and religious and moral perceptions of AIDS. Students in the May sample were more knowledgeable about AIDS than

students in November were, when no student knew the meaning of the acronym HIV.

During the time interval (November-May), an information campaign on AIDS was conducted by the British government and there was considerable coverage in the national media. College-based AIDS education also occurred at this time. In the May survey, knowledge and awareness had clearly improved, and there was a reduction in anxiety over social contact with persons with AIDS. There was no reduction in the students' perception of the seriousness of AIDS or the personal relevance of the AIDS epidemic during the time interval.

McDermott, Hawkins, Moore, and Cittadino (1987), Freimuth, Edgar, and Hammond (1987), Atkinson, Ktsanes, and Hassig (1987), and Gottlieb, Vacalis, Palmer, and Conlon (1987) found that students were reasonably knowledgeable about AIDS, and that most students were aware that the human immunodeficiency virus is transmitted through intercourse and dirty needles. These researchers also found that television was the primary source of AIDS information, and that students relied heavily on mass media. Chervin and Martinez (1987) found that the vast majority (84%) of students in their study did not discuss sexual health before sexual activity, and a large proportion of sexually active students had not altered their behavior in response to the threat of AIDS.

Clift and Stears (1988) found that students in England were in favor of education on safer sex in schools and endorsed monogamy as a means of controlling the spread of AIDS. This study also revealed that students were more informed, although many of their

misconceptions about AIDS were not corrected and anxiety was not lowered by the public information campaign.

It would be inappropriate to generalize confidently about the results of these six studies to the general college student population due to the studies' various limitations. McDermott, Hawkins, Moore, and Cittadino (1987) conducted their research through a cluster sample of 161 university students. They limited their questionnaire to cognitive and demographic items, based on fact sheets from the Center for Disease Control, to determine where the students obtained information about AIDS. Atkinson, Ktsanes, and Hassig (1987) surveyed students by mail questionnaires in Louisiana, and their findings were similar to the McDermott study. Cherwin and Martinez (1987) sent mail questionnaires to 1,710 students. Gottlieb, Vacalis, Palmer, and Conlon (1987) surveyed 1,982 college students at four campuses about beliefs, attitudes, and knowledge about AIDS. Freimuth, Edgar, and Hammond (1987) sampled 1,250 students at one campus using stratified random sampling. The mail questionnaire was similar to that used by the other researchers. Clift and Stears (1988) also used undergraduate college students, but also conducted a pretest and a posttest to determine knowledge gained from public media information. Fewer than 100 students were used for each test. The questionnaire dealt with non-sexual contacts with HIV/AIDS persons and awareness and beliefs about AIDS.

Although studies conducted in the United States utilized different methodologies, the findings were consistent across sections of the United States. If they are indicative of the national trend, challenges exist for health educators to provide more information to

college students to encourage changes in sexual behavior. It is clear that there is a part of the college population that is not knowledgeable now about the transmission of AIDS and the prevention of the disease. This appears to be the minority. The greatest consideration should be directed toward the majority of students, who are knowledgeable about AIDS but who have not changed their behavior.

Information Seeking as the Most Currently Established "Education" Strategy for AIDS

Education and the promotion of appropriate changes in sexual practices and illegal intravenous drug use are the only means currently available to control the spread of the human immunodeficiency virus. When students are made aware of the seriousness of AIDS, they may be inclined to seek information on the disease. Pertinent AIDS information is available from many sources i.e., television, magazines, newspapers, health professionals, health fairs, etc. Researchers have found that there is a great need for education to counter the current misinformation and confusion about AIDS and because knowledge about high-risk behavior could help prevent the spread of the disease in the college population (Strunin & Hingson, 1987; DiClemente, Zorn, and Temoshok, 1986).

Individuals seek information concerning health matters from different sources and in a variety of ways. They also use the information they gather in various ways. Wallston, Maides, and Wallston (1976) noted that information seeking is one behavior that can lead to positive action. It is an accepted assumption that the more a person knows about a specific life-threatening condition, the

more effort he/she will exert to prevent the disease or to eliminate it. Often individuals must gain health-related knowledge through their own efforts, i.e., by actively seeking information about a health topic. This seems true of AIDS today.

Theories of Information Seeking

Health Threat

Information seeking can be viewed as a form of protective behavior in response to a health threat. An individual with a high degree of vulnerability may be motivated to seek more health information to protect him or herself from a threatening situation. One framework for understanding self-protective behavior is the Health Belief Model (HBM) (Becker et al., 1977; Rosenstock, 1966). The Health Belief Model consists of four parts: (a) perceived susceptibility, which refers to the subjective perception of risk or vulnerability to a health threat; (b) perceived severity, which consists of one's perception of how serious the health threat is; (c) perceived benefits, which consists of the efficacy of an action designed to prevent or reduce the threat of illness; and (d) perceived barriers, which refers to the assessment of the negative consequences that might be associated with the preventive or ameliorative behavior (side effects, inconvenience, etc.). The susceptibility and severity components together cause the individual to act, and the cost-benefit analysis of the perceived benefits minus the costs gives a person a preferred course of action. According to Prentice-Dunn and Rogers (1986), even though the threatened individual is alerted to act, his/her action will not take place unless there is a cue to action

present, either internal (e.g., a symptom) or external (e.g., mass media messages).

Many studies have related HBM components not only to preventive health behaviors, but also to sick role behaviors. As in Prentice-Dunn and Rogers (1986), Janz and Becker (1984) found that the HBM provided a straightforward intuitive framework explaining preventive practices.

The Protection Motivation Theory (PMT) (Rogers, 1983) and HBM place emphasis on the cognitive processes mediating attitudinal and behavioral change. The PMT predicts that an individual evaluates a threat and makes a coping appraisal that combines judgments about the efficacy of a preventive response, which will prevent the perceived threat, and assessments of one's ability to successfully initiate and complete the adaptive response (self-efficacy). Rogers (1984) noted that:

> The PMT assumes that protection motivation is maximized when: (1) the threat to health is severe; (2) the individual feels vulnerable; (3) the adaptive response is believed to be an effective means for averting the threat; (4) the person is confident in his or her abilities to complete successfully the adaptive response; (5) the rewards associated with the maladaptive behaviors are small; and (6) the costs associates with the adaptive response are small (p. 156).

Such factors produce protection motivation and lead to coping responses when an individual perceives a health threat. Researchers (Bandura, 1977; Beck & Frankel, 1981) have reported that the self-efficacy component is crucial to the successful avoidance of the threatening situation. Bandura (1982) found that self-efficacy influences not only the initiation of the coping response, but also the amount of energy expended and the individual's persistence in the

face of obstacles. Consequently, the acceptance or rejection of health recommendations may not be so much a matter of being convinced of the seriousness of the threat, but one's control over it.

It is assumed that when response efficacy and/or self-efficacy is high, an increase in vulnerability and severity will create a positive effect on one's intentions. However, if the response efficacy or self-efficacy is low, the increase in severity or vulnerability will have no effect or will reduce the intentions to comply with the health recommendations (Prentice-Dunn & Rogers, 1986).

Many young people do not see themselves to be susceptible or at risk for disease in any form (Koop, 1986). Young people have a false sense of power, and personalization of risk does not occur frequently in the college population. College students are aware that their group is at risk, but they do not believe that they personally are at risk (Freimuth, Edgar, and Hammond, 1987). Information about health and illness becomes salient to one's own life only when reality reinforces health-related claims.

Information seeking in response to a health threat seems to be more prevalent if the person believes that he/she has the ability (self-efficacy) to be effective in preventing the disease by carrying out the adaptive response and has access to information that is needed. However, unless one feels vulnerable to the threat, protective behavior will not occur, regardless of the level of self-efficacy or access to threat-coping information.

Knowledge of AIDS

Knowledge about high-risk behavior associated with the HIV infection could help prevent the spread of AIDS in the adolescent and college population. DiClemente, Zorn, and Temoshok (1986) conducted a study on the cause, transmission, and treatment of AIDS, as well as the attitudes and beliefs regarding personal susceptibility, disease severity, and the need for AIDS instruction in high school curricula. The study involved 1,326 students in the San Francisco school system.

DiClemente, Zorn, and Temoshok found that students possessed some knowledge about AIDS, although their knowledge was uneven. Ninety-two percent of the students were knowledgeable about the transmission of HIV; but only 60% were aware that the use of condoms during sexual intercourse might lower the risk of contracting the disease.

DiClemente, Zorn, and Temoshok (1986), in contrast to a study done by Price, Desmond, and Kukulka (1985), found that geographic proximity to a high-density AIDS epicenter has a great deal of salience for what students' attitudes and beliefs are, including their knowledge about AIDS. The sample included 118 males and 132 females ranging from 16 to 19. Participants were questioned about their knowledge of AIDS, their sources of AIDS information, and about their concern for contracting AIDS. The Price, Desmond, Kukalka (1985) study showed that male students entering college are more knowledgeable about AIDS than female students entering college. The majority of students were not personally worried about contracting AIDS. Their primary sources of information on AIDS were television, newspapers, magazines, and

radio. Schools were the least often mentioned as a source of information.

There is a scarcity of literature on the knowledge, beliefs, and practices of college students in regard to the AIDS problem. Five studies conducted at universities in the United States collectively reveal that the majority of students are reasonably knowledgeable about the transmission of the human immunodeficiency virus and about effective preventive measures. Students rely heavily on the mass media for their AIDS information. Television, newspapers, and magazines were most frequently cited as primary sources of AIDS information (McDermott, Hawkins, Moore, and Cittadino, 1987; Atkinson, Ktsanes, and Hassig, 1987; Freimuth, Edgar, and Hammond, 1987; Gottlieb, Vacalis, Palmer, and Conlon, 1987; and Cherwin & Martinez, 1987). It appears that most students obtain current information from passive exposure to mass-media outlets. Little is known about their active information seeking.

Locus of Control

Rotter's framework of social learning theory (1954), shows that a person who values his/her health and who believes that he/she can exercise control over his/her health will be more likely to engage in health enhancing, or health maintaining, behavior.

In 1966 Rotter developed the Internal-External Locus of Control Scale (I-E) to measure the extent to which individuals feel they have control over their reinforcements. Internals believe they control their own reinforcements, while externals believe that their actions do not lead to reinforcing results. Rotter called the belief or expectancy regarding control or reinforcers, "locus of control."

One generalized expectancy, internal versus external control of reinforcement (I-E), refers to the limit that an individual feels he/she has control over the reinforcers that occur relative to his or her health (Rotter, 1966). Internals feel they are effective in determining the occurrence of rewards. Externals tend to believe that forces beyond their control, such as fate, luck, chance, powerful others, etc., determine the occurrence of reinforcement.

Several studies have shown that internals are more likely to engage in behaviors, like information seeking, that will confront a problem directly than are externals. It appears that internals are superior to externals in actively seeking information relevant to the solution of future as well as present problems (Davis & Phares, 1967).

Prior Studies of Information-Seeking Behavior

The literature search revealed few studies on information seeking. Rotter (1954), in his social learning theory, found that a person will seek information about a particular health-threatening condition if he/she values the outcome (health) and believes that behavior will influence his/her health.

Wallston, Maides, and Wallston (1976) show how the Social Learning Theory Model provides a perspective for studying individual differences in information seeking about preventive health care. They used the hypothesis that a person who values a healthy life and who believes that he/she can control health (internal locus of control) will perceive preventive information as more instrumental in achieving his/her goals.

The sample, for this study, consisted of 88 college students. The students were exposed to a threatening message about hypertension and were given an opportunity to list pamphlet titles, which included selections on hypertension, they would choose if they went to a clinic. The hypothesis that the joint function of valuing health and having a high locus of control predicts information seeking was supported. The study found that internals who valued health highly, relative to other terminal values, chose more pamphlets about the particular health condition, hypertension, than did internals with low health value or externals, regardless of their health value.

This finding also confirms Rotter's results. The researchers acknowledged that the information-seeking measure is a measure of behavioral intention rather than an actual behavior and that the topic might not have been of particular relevance to the students studied.

Weinstein (1979) did a study about seeking reassuring or threatening information about environmental cancer that examined information seeking as a potentially adaptive response to a new environmental health threat. In a state with a particularly high cancer rate, college students were offered an opportunity to obtain either a reassuring or a threatening informational message concerning the cancer rate. The results showed that the majority of both information seekers and nonseekers preferred the threatening message. The choice of message did depend on an individual's belief concerning the seriousness of the cancer threat. Most respondents selected the message that supported their own view of the issue.

Devito, Bogdanowicz, and Reznikoff (1982) noted that individuals with an internal health locus of control orientation and high health value have expressed an intent to obtain a greater number of health pamphlets than people with an external orientation or low health value. In a study with college students, measures of behavioral intent were obtained and then those students were given the opportunity to ask for and receive health-related written information. The study confirmed the previous finding that, though there was intent to seek information, it did not result in actual health-related information seeking. Illness and possible death are topics that cause persons to become emotionally upset, and it may be more comforting for some people not to know they have an illness, even if the condition is treatable, curable, or arrestable. Devito, Bogdanowicz, and Reznikoff, (1982) reported that too much vulnerability may diminish information seeking, and many persons may avoid treatment or health care by a process of selective information gathering or rationalization. People can also deny, or by a process of repression or denial, not seek treatment or examination for their health problem.

Beck and Feldman (1983) conducted a national survey of 574 safety and health managers to determine information seeking about work-related safety and health matters. The study revealed significant predictors of safety and health information seeking: (a) an individual's beliefs of how well they can protect themselves from hazards, (b) the seriousness of needing information, (c) the likelihood of needing additional information, and (d) the usefulness of the information obtained.

Pertinent information is usually available from many sources on various health topics. Premeau and Meyerowitz (1986) reported a study of 80 undergraduates who were read a description of a fictitious disease that was either low or high on the dimensions of disease controllability and personal susceptibility, and were then given an opportunity to seek further disease-related information. They found that high prevention values, as demonstrated by preventive health behaviors, accrued from understanding the threat of a health problem, a desire to learn more about the problem (information seeking), and a willingness to take positive action to prevent the onslaught of the disease or a determination to minimize its effects if it were contracted. Their study indicated that illness-prevention values increase one's willingness to seek health-related information. However, it did not follow that a perception of high personal susceptibility was necessary for health-related information seeking. A positive relationship was found among those who placed a high value on their personal health and those seeking disease-related information. The results of the study showed that a high prevention value was associated with both wanting and requesting information. Internality was related to self reports of desiring information, while perceptions of disease controllability determined or influenced the actual seeking of the information.

Summary

At present, prevention efforts are directed toward sound recommendations and accurate up-to-date public information on how to prevent the transmission of the human immunodeficiency virus. The

Surgeon General's report on AIDS, issued by the National Academy of Sciences and the U. S. Department of Health and Human Services, recommended far-reaching and frank educational efforts to control the spread of the disease (Koop, 1987). Currently, the only means of control of the transmission of the human immunodeficiency virus is education and a resultant behavioral change.

According to a new medical report (Hearst, 1988) our present best means for controlling the spread of AIDS is to urge heterosexuals to avoid sex with anyone in the high-risk group and to educate intravenous drug abusers about the hazards of sharing needles.

Studies reveal that college students are relatively knowledgeable about AIDS, but some misunderstandings still exist about the transmission of AIDS (McDermott, Hawkins, Moore, and Cittadino, 1987; Atkinson, Ktsanes, and Hassig, 1987; Freimuth, Edgar, & Hammond, 1987). Increased information must be made available to the high-risk group, as unhealthy behavior and lifestyles play an important part in the occurrence of AIDS and premature death. Koop (1987) and Rogers (1984) recognized that cases of morbidity and mortality can be prevented.

Two common theoretical approaches that explain health-related behavior are the Health Belief Model by Becker, Haefner, Kari, Kirscht, Maiman, and Rosenstock, (1977) and the Protection Motivation Theory (PMT) (Rogers, 1983). The Health Belief Model predicts that a decision to take health action is influenced by a person's health motivations, his/her perceptions of vulnerability (risk), perceptions of potential severity of the illness, beliefs about efficacy of

actions, beliefs about costs of the actions, and reactions to cues that might trigger a response.

The PMT predicts that an individual will evaluate the health threat and make a coping appraisal, considering judgments about the efficacy of a preventive response that will prevent the perceived threat, and assessments of one's ability to successfully initiate and complete an adaptive response (self-efficacy).

Behavior models, such as the Health Belief Model and the Protection Motivation Theory, assume that when proper health information is available for assessments of potential problems, and when self-efficacy is present in the individual, HIV transmission can be controlled.

In order to stop HIV transmission, we must understand an individual's knowledge, his/her beliefs, and his/her locus of control in relation to information-seeking behavior. Information seeking investigates ways to change behavior, and assumes that being well informed may lead to behavior change.

CHAPTER III. METHODOLOGY

Subject Matter and Questionnaires

The self-report questionnaire (see Appendix A) consisted of six sections:

(1) Sources of Information included seven questions on health-related information (i.e., "Which source would you most likely believe about facts concerning AIDS," "If you thought you had been exposed to AIDS, where would you go first for help" and "Where do you think you have received most of your knowledge and information on AIDS in the past," etc.). The 11 response options for these questions included family, friends, doctors/health care providers, AIDS education pamphlets, health fairs, telephone hot lines, special seminars/ lectures. One of the questions (Item 6) was "Which one would you most likely attend to learn more about AIDS?" The five response options for this question were a local health clinic seminar, a health fair, a public forum, a meeting at a church, or a TV documentary/film. The last statement (Item 7) was, "I would be most likely to change my behavior to prevent getting AIDS if . . . ," and the response options were, "I was asked to by a close friend," "I was told to do so by my physician," "I knew someone personally who had AIDS," etc.

(2) General Health Beliefs contained 18 statements that were measures of attitudes and beliefs regarding personal susceptibility. The Multidimensional Health Locus of Control (MHLC) scale, Form A, was

used (Wallston, Wallston, and DeVellis, 1978). The scale contains three dimensions: Internality (IHLC), Powerful Others (PHLC), and Chance Externality (CHLC). The IHLC subscale contains six items, with an Alpha of 0.77. The PHLC subscale also had six items, with an Alpha of 0.67. The CHLC, with six items, had an Alpha of 0.75.

The IHLC had six items (8 through 13), (i.e., "I am in control of my health"), yielding a possible range of scores from 6 to 36. The PHLC also had six items (14 through 19), such as, "My family has a lot to do with my becoming sick or staying healthy." CHLC also contained six items (20 through 25) with statements such as, "No matter what I do, if I'm going to get sick, I will get sick." A six-point Likert scale ranging from Strongly Disagree to Strongly Agree was used for the response options. The possible range of scores was 6 to 36 for these subscales as well.

The scales are considered reliable. Low positive correlations with appropriate IHLC, PHLC, and CHLC scales represent initial construct validity. Correlation in the predicted direction of the MHLC scales, with health status, provide some evidence of predictive validity (Wallston, DeVellis, Wallston, 1978).

(3) Beliefs about AIDS asked students 37 questions that were specifically used to measure susceptibility, response efficacy, and self-efficacy. A five-point scale ranging from Not at All to Extremely was used for the response options.

Susceptibility was measured by Items 26, 29, 32, 33, 34, 35, and 38, (e.g., "How likely is it you will be exposed to AIDS?"). The response options had a possible range of scores from 7 to 35.

Response efficacy was measured by Items 37, 39, 40, 48, 49, 50, 51, 53, 54, 55, and 56 (e.g., "How helpful do you find the current information about AIDS?" Possible scores ranged from 11 to 55.

Self-efficacy was measured by Items 27, 30, 41, 42, 44, 45, 46, 47, 52, 55, 57, 58, 59, 60, 61, and 62 (e.g., "How effective do you think you are in avoiding situations where there is a high risk for AIDS?"). Scores ranged from 16 to 80.

Since these three subscales were developed by the investigator, a pilot study was conducted to determine their reliability. Participants included 300 undergraduate students from the University of Maryland pretested during the 1988 summer sessions, and 200 students enrolled during the fall semester of 1988. The susceptibility scale produced a Chronbach's Alpha of 0.76 and a test/ retest reliability of 0.87. The self-efficacy items yielded a Chronbach's Alpha of 0.81 and a test/retest reliability of 0.80. The response efficacy scale produced a Chronbach's Alpha of 0.75 and a test/retest reliability of 0.87.

(4) Information-Seeking Behavior contained six items that measured students' past information-seeking behavior concerning AIDS [e.g., How often in the past have you looked up information on AIDS from a medical source (e.g., pamphlets or information sheets on AIDS)?]. This section was adapted from the Beck and Feldman (1983) study of information-seeking among federal safety and health managers. Response options ranged from Never to Frequently. In their study, Beck and Feldman used these six items to measure past information-seeking behavior. These six items were combined and summed as a

single score, yielding a reliable scale (Alpha = 0.784). These six items were pretested in the pilot study for this investigation, and yielded a Chronbach's Alpha of 0.76 and a test/retest reliability of 0.78. This measure was considered reliable for this investigation. There was a possible response range of 1 to 4.

(5) General knowledge about AIDS was measured by a modified instrument consisting of 30 questions (Items 69-96, 98-99) from DiClemente's AIDS Information Survey (1985), and 17 questions (Items 97, 100-115) constructed by the researcher, which measured general knowledge about the cause, transmission, and treatment of AIDS. The primary source for "correct" answers to the questions provided by the researcher on knowledge about AIDS was Confronting AIDS, Institute of Medicine, National Academy of Sciences (1986). The 30 items from DiClemente's AIDS Information Survey yielded a Chronbach's Alpha of 0.72. The combined 47-item questionnaire yielded an Alpha of 0.84. Students' response options were True, False, and Don't Know for all items. Scores ranged from zero to 47. Statements such as "If you kiss someone with AIDS you will get the disease" (Item 72) and "The Human Immunodeficiency Virus is the cause of AIDS" (Item 107) are examples of these general knowledge items.

The knowledge scale used by DiClemente in his study on AIDS was originally developed and used for adolescents, ages 14-18. The questionnaire surveyed the knowledge, beliefs, and attitudes about AIDS in San Francisco schools. His questionnaire was used for this study because it provided an assessment of knowledge about the cause, transmission, and treatment of the disease. A limitation of this

survey is that adolescents represent a low proportion of AIDS cases in the United States (389 cases in the 13- to 19-year age group) (CDC MSR No. 8, June 30, 1989).

This knowledge scale contains more specific questions on transmission of HIV than do studies conducted by McDermott, Hawkins, Moore, and Cittadino (1987), Freimuth, Edgar, and Hammond (1987), Clift and Stears (1987), or Gottlieb, Vacalis, Palmer, and Coulon (1987). The McDermott et al. questionnaire dealt with general knowledge about the prevalence of the disease, the symptoms of the disease, and how it is transmitted. The Freimuth et al. questionnaire asked about where college students obtained most of their knowledge, as well as questions about sexual behavior and the transmission of HIV. Cleft and Stears asked questions about non-sexual contacts with HIV/AIDS individuals, awareness and beliefs about AIDS, as well as questions about education and behavior changes. Gottlieb et al. asked questions about beliefs and knowledge about AIDS and the transmission of the HIV. Questions on self-reported behavior and perceived susceptibility were included. As with the other studies, this one included questions on the means of obtaining knowledge on AIDS.

(6) Demographic Characteristics contained eleven questions about participants' age, gender, academic status, marital status, and sex, as well as the college or school they were attending at the University of Maryland at College Park.

Method of Conducting the Inquiry

Respondents were 1,300 college students from the University of Maryland at College Park. The students were enrolled in health

education and recreation classes at the College of Physical Education, Recreation and Health at the University. Questionnaires were distributed, completed, and returned within the same class period.

The class instructor explained the nature of the research to the students and introduced the investigator to the class. The investigator told the students that the survey concerned itself with their knowledge, beliefs, and attitudes about AIDS, including their sources of information about the disease. The investigator then presented a brief report on the purpose of the study and proceeded with the distribution of the questionnaires. Students were also told that their answers were confidential and that their names and addresses would remain anonymous.

When the survey was completed, the questionnaires were collected by the investigator. Out of 1,300 questionnaires distributed, 1,001 were completed and returned, representing a response rate of 77%.

Statistical Analysis

SPSS-X was used to perform the statistical analysis. Each of the six hypotheses was evaluated as planned in the study proposal. In addition, supplemental analyses were conducted to provide more information about certain variables.

A frequency distribution of demographic variables was the first statistical consideration. The first variable considered was response rate. As previously noted, 1,300 questionnaires were distributed to the sample. Of these, 1,001 (77%) were returned and were used in the analyses.

A frequency analysis was conducted on all items in the questionnaire including demographics variables (see Tables 1, 2, and 3).

Hypotheses 1.a. and 1.b. were tested by employing a median split on measures of personal-/self-efficacy (high vs. low), response efficacy (high vs. low), and susceptibility (high vs. low) to examine the interaction between these variables. This 2 x 2 interaction was tested using an analysis of variance and a post-hoc t test.

Hypothesis 2 was tested by means of a t test comparing the information-seeking measure for students whose knowledge is high with those whose knowledge is low.

Hypotheses 3.a., 3.b., and 3.c. employed a midpoint-split (a median split was not used because the scores clustered toward the internal end of the scale) on measures of internal locus of control (high vs. low), chance locus of control (high vs. low), and powerful others locus of control (high vs. low) to examine the interaction between these variables. This 2 x 2 interaction was tested using an analysis of variance and post-hoc t test. T tests were used to compare the interaction between information-seeking on AIDS and feelings of locus of control.

CHAPTER IV. RESULTS

The demographic characteristics of the students who participated in the study (N = 1,001) at the University of Maryland, College Park, are displayed in Tables 1 and 2. The academic status of the sample showed that all classes were represented (see Table 3). The racial/ethnic background of the sample correlates significantly with that of the total student body (see Table 4). The students were enrolled in various colleges and schools of the University; the largest group (28 percent) was enrolled in the College of Behavioral and Social Sciences (see Table 5).

The demographic distribution revealed that 50.7% of the students were female (N = 508) and 49.3% were male (N = 490). All major racial/ethnic groups were represented. Eighty percent of the students were white, 10.3 percent were black, and 5.7 percent were Asian (see Table 4). Fifty-eight percent of the sample were twenty years of age or younger (mean = 20.5, median = 20.0, S.D. = 3.4). Commuters to the University comprised 56.3% of the sample. The majority of the sample, 90.7%, were single.

In this chapter each hypothesis and the results of the statistical analyses used to test the hypotheses are presented sequentially. See Table 6 for dependent variables used in the study.

Table 1

Departments from Which Sample Was Obtained

Course	Frequency	%
Health	893	89.2
Recreation	105	10.5
Missing	3	0.3
Totals	1,001	100.0

Table 2

Specific Classes from Which Sample Was Obtained

Course and Title		Frequency	%
Health 106:	Drug Use and Abuse	129	12.9
Recreation 130:	Recreation and Leisure	44	4.4
Health 140:	Personal and Community Health	90	9.0
Health 230:	Introduction to Health Behavior	14	1.4
Health 270:	Safety Education	78	7.8
Health 285:	Controlling Stress and Tension	343	34.3
Recreation 335:	Recreation and Leisure	61	6.1
Health 476:	Death Education	194	19.4
Health 498F:	Alcohol - Trends and Problems	40	4.0
Missing		4	0.4
Totals		1,001	100.0

Table 3

Academic Status of Obtained Sample

	Sample		Student Population	
Academic Status	Frequency of Response	%	No. of Students	%
Freshman	200	20.0	4,261	13.0
Sophomore	260	26.0	5,338	16.3
Junior	204	20.4	6,474	19.8
Senior	323	32.3	8,450	25.8
Masters	4	0.4	3,716	11.3
Doctorate	1	0.3	3,631	11.0
Other	4	0.4	904	2.8
Missing	5	0.5	2*	
Totals	1,001	100.0	32,774	100.0

*Included in Other

Table 4

Racial/Ethnic Background of Obtained Sample

	Sample		Student Population	
Background	Frequency of Response	%	No. of Students	%
Asian	57	5.7	2,549	7.8
Black	103	10.3	2,886	8.8
Hispanic	16	1.6	756	2.3
White	804	80.3	25,067	76.5
Other	14	1.4	1,516	4.6
Missing	7	0.7	--	--
Totals	1,001	100.0	32,774	100.0

Table 5

Major Schools Represented in the Sample

School/College	Frequency of Response	%
1. College of Agriculture	9	0.9
2. School of Architecture	9	0.9
3. College of Arts and Humanities	112	11.2
4. College of Behavioral and Social Sciences	276	27.6
5. College of Computer, Mathematical, and Physical Sciences	46	4.6
6. College of Education	24	2.4
7. College of Engineering	52	5.1
8. Graduate School	0	0.0
9. College of Human Ecology	26	2.6
10. College of Journalism	33	3.3
11. College of Library and Information Services	2	0.2
12. College of Life Sciences	54	5.4
13. College of Physical Education, Recreation, and Health	67	6.7
14. School of Public Affairs	0	0.0
15. Undergraduate Studies	241	24.1
16. School of Business	39	3.9
17. Missing	11	1.1
Totals	1,001	100.0

Table 6

Dependent Variables Used in the Study

Variable	Minimum	Maximum	Mean	Median	Standard Deviation
Susceptibility	1.12	4.12	2.54	2.50	0.51
Response Efficacy	1.67	5.00	3.52	3.50	0.49
Self-Efficacy	1.94	3.94	2.81	2.75	0.34
Information Seeking	1.00	3.83	1.86	1.83	0.56
IHLC	6.00	36.00	25.89	26.00	4.35
CHLC	6.00	36.00	16.55	26.00	4.61
PHLC	6.00	36.00	16.75	26.00	4.48
Knowledge of AIDS	0.00	42.00	30.91	31.00	5.20

Note: IHLC - Internal Health Locus of Control.

CHLC - Chance Health Locus of Control.

PHLC - Powerful Others Health Locus of Control.

Hypothesis 1.a.

There will be an interaction between susceptibility to AIDS and feelings of control such that:

Those students who possess a strong feeling of personal- or self-efficacy in protecting themselves from AIDS will seek more information about this disease if they perceive themselves to be more susceptible to it.

Students' scores on susceptibility and self-efficacy measures were treated as independent variables and were dichotomized into high and low groups based upon their median splits. The median value of the susceptibility measure was 2.5; the median value for self-efficacy was 2.75. The average score of the six-item information-seeking scale was treated as the dependent measure and was analyzed by a 2 x 2 analysis of variance (ANOVA). The means and standard deviations for this analysis are presented in Table 7, and the results of this ANOVA are presented in Table 8.

The analysis revealed a significant main effect for susceptibility: $F(1,779) = 14.75$, $p < 0.001$; and for self-efficacy: $F(1,779) = 22.20$, $p < 0.001$. Table 7 shows that students who perceived themselves to be more susceptible to AIDS sought more information than those who felt less susceptible. The interaction term was not significant. A post hoc t test was performed on the means of the high self-efficacy condition, and revealed that the high self-efficacy, high susceptibility mean

Table 7

Means, Standard Deviations, and Cell Sizes for Information-Seeking Behavior by Susceptibility and Self-Efficacy

	Susceptibility	
	Low	High
Self-Efficacy		
Low	Mean = 1.87	Mean = 2.04
	S.D. = 0.62	S.D. = 0.56
	N = 172	N = 198
High	Mean = 1.70	Mean = 1.84
	S.D. = 0.54	S.D. = 0.53
	N = 198	N = 215

Table 8

ANOVA on Information-Seeking Behavior by Susceptibility and Self-Efficacy

Source of Variation	SS	DF	MS	F	P
Susceptibility	4.60	1	4.60	14.75	0.000
Self-efficacy	6.93	1	6.93	22.20	0.000
Interaction	0.06	1	0.06	0.18	0.672
Error	243.09	779	0.31		

(M = 1.84) was significantly greater than the high self-efficacy, low susceptibility mean (M = 1.70), t (411) = 2.49, $p < 0.05$. Although this simple effect is consistent with the hypothesis, it must be interpreted in light of the significant main effects detected in the ANOVA, which revealed that self-efficacy and susceptibility do not multiplicatively interact to facilitate information seeking. Instead, students who feel less self-efficacious or more susceptible appear more likely to seek information. Thus, Hypotheses 1.a. was not confirmed.

Hypothesis 1.b.

There will be an interaction between susceptibility to AIDS and feelings of control such that:

Those students who possess a strong feeling of response efficacy for the usefulness of AIDS information will seek more information if they perceive themselves to be more susceptible to it than if they perceive themselves to be less susceptible to it.

As in the previous analysis, two independent variables were dichotomized into high and low groups based upon their median splits. The median for the response efficacy measure was 3.5. The score on the information-seeking measure was used as the dependent variable and analyzed in a 2 x 2 ANOVA. The means and standard deviations for this analysis are presented in Table 9.

Table 9

Means, Standard Deviations, and Cell Sizes for Information-Seeking Behavior by Susceptibility and Response Efficacy

	Susceptibility	
	Low	High
Response Efficacy		
Low	Mean = 1.63	Mean = 1.76
	S.D. = 0.52	S.D. = 0.55
	N = 198	N = 168
High	Mean = 2.00	Mean = 2.10
	S.D. = 0.59	S.D. - 0.53
	N = 153	N = 240

The results of this analysis (see Table 10) revealed that there was a significant main effect for response efficacy: $F(1,755) = 76.30$, $p < .000$; for susceptibility: $F(1,755) = 7.89$, $p < .005$. Table 9 reveals that students who feel more susceptible to AIDS sought more information and those who feel less susceptible. Those students with a high response efficacy for information seeking sought more information than those with low response efficacy. The interaction term was not significant.

Table 10

ANOVA on Information-Seeking Behavior by Susceptibility and Response Efficacy

Source of Variation	SS	DF	MS	F	P
Response Efficacy	22.85	1	22.85	76.30	0.000
Susceptibility	2.36	1	2.36	7.89	0.005
Interaction	0.84	1	0.04	0.14	0.706
Error	226.11	755	0.30		

A post hoc *t*-test was performed on the means of the response efficacy for high susceptibility only, and revealed that the high response efficacy/high susceptibility (M = 2.10) was significantly greater than the high response efficacy/low susceptibility mean [M = 1.76, t (391) = 2.5, p <0.05]. This effect is consistent with the hypothesis, and it must be interpreted in light of the significant main effect detected in the ANOVA, which revealed that response efficacy and susceptibility do not multiplicatively interact to facilitate information seeking. Instead, students who have higher response efficacy or who feel more highly susceptible, appear more likely to seek information. Hypothesis 1.b. was not confirmed.

Hypothesis 2

Students who are more knowledgeable about AIDS will seek more information about AIDS than those who are less knowledgeable about AIDS.

In order to determine the association between information-seeking behavior and knowledge of AIDS, a comparison of means was conducted. Knowledge of AIDS was split into two groups based on median value. The t test results indicated a significant difference between individuals with low knowledge of AIDS ($M = 1.75$, S.D. 0.52) compared to individuals with high knowledge ($M = 1.96$, S.D. = 0.58) on information seeking, $t = -6.00$, $df = 988$, $p < 0.001$.

Also, when knowledge of AIDS was treated as a continuous variable, the correlation coefficient between information seeking and knowledge of AIDS was 0.23, a statistically significant ($p < 0.001$) result. Hypothesis 2 was confirmed.

Hypothesis 3.a.

There will be an interaction between information seeking on AIDS and feelings of Locus of Control.

a. Students who believe they can control their own health (Internal Locus of Control) will seek more health information concerning AIDS than those who feel they do not have control of their health (External Locus of Control).

Since the Internal Locus of Control had a possible range of scores from 6 to 36, with a midpoint of 21, the midpoint was used to assign persons to high (internal) and low (external) locus of control groups, rather than the obtained median of 26. Therefore, the average

of the six-item information-seeking scale was considered the dependent measure and was analyzed by a t test. The t test ($t = -1.6$, df 932, and $p < 0.1$) revealed a non-significant difference between the two groups (see Table 11). Hypothesis 3.a. was not confirmed.

Table 11

Means, Standard Deviations, and Cell Sizes on Information-Seeking Scale by Locus of Control and t test

Locus of Control	Number of Cases	Mean	S.D.	DF	t-Value	P
External Group	99	1.783	0.56			
Internal Group	835	1.878	0.57	932	-1.60	-1.58

Hypothesis 3.b.

Hypothesis 3: There will be an interaction between information seeking on AIDS and feelings of Locus of Control.

b. Those students who believe powerful others have a strong control over their health will seek more information about the disease if they perceive themselves to be more susceptible to AIDS than if they perceive themselves to be less susceptible to it.

In order to determine if a relationship between susceptibility and information seeking existed for those with a strong

sense of Powerful Others Locus of Control, a comparison of means was conducted. As previously noted in Hypothesis 3.a., because the Powerful Others Health Locus of Control scale had a possible range of scores from 6 to 36, with a midpoint of 21, twenty-one was used as the standard for assigning people to high (internal) and low (external) locus of control groups, rather than the obtained median of 26.

The average of the six-item information scale was treated as the dependent measure, and was analyzed by a 2 x 2 analysis of variance (ANOVA). This analysis considered two independent variables, Powerful Others Health Locus of Control and susceptibility. The dependent variable was information-seeking behavior. Table 12 presents the means, standard deviations, and cell sizes for the 2 x 2 table. Table 13 presents the ANOVA. The only significant effect was a main effect for susceptibility, showing again that those high in susceptibility were more likely to be higher in information seeking than those who were low in susceptibility. For the specific question of whether or not there were differences between low and high susceptible students within the high powerful others group, a t test was performed for the high Powerful Others Health Locus of Control group. Students high in Powerful Others Health Locus of Control and low in susceptibility ($M = 1.83$, $S.D. = 0.58$) did not seek significantly more information than those who were low in Powerful Others Health Locus of Control and high in susceptibility ($M = 1.96$, $S.D. = 0.60$), $t\ (61) = 1.23$, $p < 0.05$. Hypothesis 3.b. was not confirmed.

Table 12

Means, Standard Deviations, and Cell Sizes for Powerful Others Health Locus of Control and Susceptibility

	Susceptibility	
	Low	High
Powerful Others Health Locus of Control		
Low	Mean = 1.76	Mean = 1.96
	S.D. = 0.58	S.D. = 0.54
	N = 329	N = 360
High	Mean = 1.83	Mean = 1.96
	S.D. = 0.58	S.D. = 0.60
	N = 57	N = 69

Table 13

Analysis of Variance on Information-Seeking Behavior for Powerful Others Health Locus of Control and Susceptibility

Source of Variation	SS	DF	MS	F	P
PHLC	0.09	1	0.09	0.27	0.602
Susceptibility	2.84	1	2.84	8.96	0.003
Interaction	0.13	1	0.13	0.41	0.532
Error	257.26	811	0.32		

Note: PHLC - Powerful Others Health Locus of Control

Hypothesis 3.c.

There will be an interaction between information seeking on AIDS and feelings of Locus of Control.

c. Those students who believe that Chance Health Locus of Control (CHLC) controls their health will seek less information concerning AIDS than those who feel they control their own health.

In order to determine if persons who are high on Chance Health Locus of Control will seek less information concerning AIDS than those who believe they control their own health (IHLC), a comparison of means was done in a 2 x 2 analysis of variance. The CHLC had a possible range of scores from 6 to 36, with a midpoint of 21. Twenty-one was used as the standard for assigning people to high CHLC and low CHLC groups rather than the obtained median of 26. There were no significant main or interaction effects (see Tables 14 and 15). Hypothesis 3.c. was not confirmed.

Additional Analyses

Using information-seeking behavior as the dependent variable, a multiple linear regression analysis was performed. Seven independent variables (i.e., susceptibility, response efficacy, self efficacy, Internal Health Locus of Control, Chance Health Locus of Control, Powerful Others Health Locus of Control, and knowledge of AIDS were entered simultaneously.

The overall test of significance revealed a statistically significant association among the seven independent variables and the dependent variable of information-seeking behavior, $F(7,836) = 25.12$, $p < .0001$). The multiple correlation coefficient was 0.42 (see Table 16).

Table 14

Cell Means and Standard Deviations for Internal Health Locus of Control and Chance Health Locus of Control

	CHLC	
	Low	High
IHLC		
Low	Mean = 1.85	Mean = 1.71
	S.D. = 0.61	S.D. = 0.41
	N = 64	N = 26
High	Mean = 1.88	Mean = 1.82
	S.D. = 0.57	S.D. = 0.50
	N = 684	N = 101

Note: IHLC - Internal Health Locus of Control.

Table 15

Analysis of Variance on Information Seeking on AIDS by Internal Health Locus of Control and Chance Health Locus of Control

Source of Variation	SS	DF	MS	F	P
IHLC	0.27	1	0.27	0.88	0.348
CHLC	0.65	1	0.65	2.07	0.151
Interaction	0.10	1	0.10	0.31	0.577
Error	271.74	871	0.31		

Note: IHLC - Internal Health Locus of Control.
CHLC - Chance Health Locus of Control.

Table 16

Analysis of Information-Seeking Behavior of Seven Independent Variables

Source of Variation	df	SS	MS	F	p
Regression	7	47.48	6.78	25.13	.0000
Residual	836	225.61	0.27		

Multiple R = .41689

R Square = .17379

Adjusted R Square = .16688

Of the seven independent variables, four were statistically significant: (a) knowledge of AIDS (beta = 0.151), (b) susceptibility (beta = 0.114), (c) self-efficacy (beta = -0.113), and (d) response efficacy (beta = 0.278). Of the significant associations, the most influential in predicting information-seeking behavior was response efficacy (see Table 17).

While none of the health locus of control measures were significant factors in predicting information-seeking behavior, response efficacy and knowledge of AIDS were the most significant.

Frequency Analyses

A final set of analyses was conducted on the first seven questions of the survey, which measured the sources of information

Table 17

Multiple Regression Analyses

Variable	Simple R	Beta	T	Sig T
Knowledge of AIDS	.226	.151483	4.624	.0000
Susceptibility	.180	.114250	3.490	.0005
IHLC	.084	.036705	1.087	N.S.
Self Efficacy	-.165	-.114786	-3.590	.0003
PHLC	-.004	-.037139	-1.099	N.S.
Response Efficacy	.351	.279467	8.126	.0000
CHLC	-.053	.024143	0.690	N.S.

Note: IHLC - Internal Health Locus of Control.

PHLC - Powerful Others Health Locus of Control.

CHLC - Chance Health Locus of Control.

about AIDS used by the college students. Almost half of the sample (46%) reported that they expected to get the most accurate information on AIDS from doctors/health care providers, and 25% indicated they could also get accurate information from AIDS education pamphlets (see Table 18). When asked where they would go first if they had a question about AIDS, 54% responded they would go first to doctors/ health care providers and then to AIDS education pamphlets (20%) (see Table 19).

Table 18

Frequency Analysis of Question 1: Where Would You Expect to Get Your Most Accurate Information About AIDS?

Value Label	Frequency of Response	%	Valid %	Cum. %
My family	4	0.4	0.4	0.4
My friends	2	0.2	0.2	0.6
Teachers/instructors	33	3.3	3.4	4.0
Doctors/health care providers	461	46.1	46.9	50.9
Newspapers/magazines	66	6.6	6.7	57.6
TV/radio/movies	32	3.2	3.3	60.8
Telephone hot lines	4	0.4	0.4	61.2
AIDS education pamphlets	248	24.8	25.2	86.5
Books	15	1.5	1.5	88.0
Health fairs	3	0.3	0.3	88.3
Special seminars/lectures	115	11.5	11.7	100.0
Missing	18	1.8	--	
Totals	1,001	100.0	100.0	

Valid cases: 983

Missing cases: 18

Table 19

Frequency Analysis of Question 2: Where Would You Go First if You Had a Question About AIDS?

Value Label	Frequency of Response	%	Valid %	Cum. %
Special seminars/lectures	22	2.2	2.2	2.2
Health Fairs	6	0.6	0.6	2.8
Books	35	3.5	3.5	6.3
AIDS education pamphlets	200	20.0	20.1	26.4
Telephone hot lines	56	5.6	5.6	32.1
TV/radio/movies	1	0.1	0.1	32.2
Newspapers/magazines	23	2.3	2.3	34.5
Doctors/health care providers	542	54.1	54.5	88.9
Teachers/instructors	20	2.0	2.0	91.0
My friends	37	3.7	3.7	94.7
My family	53	5.3	5.3	100.0
Missing	6	0.6	--	
Totals	1,001	100.0	100.0	

Valid cases: 995

Missing cases: 6

Eighty-one percent of the students indicated they would go first to doctors/health care providers if they thought they had been exposed to AIDS (see Table 20).

Doctors/health care providers were also selected as the most trusted source for AIDS facts (70%); AIDS education pamphlets were listed as the second most reliable source (19%) (see Table 21).

When asked where they had received most of their knowledge and information on AIDS in the past, the sample cited the media. Newspapers and magazines were perceived by 27% as the source of most of their knowledge and information in the past. TV/radio/movies were cited by 26% of the sample (see Table 22).

Over 55.5% of the sample indicated that they would attend a television documentary/film to learn more about AIDS, while a seminar at a local health clinic was reported as being a good place to learn more about AIDS by 33% of the sample (see Table 23).

Forty-six percent of the students indicated they would most likely change their behavior to prevent getting AIDS if they knew someone who personally had AIDS, while 22% reported they would change their behavior to prevent getting AIDS if they saw a TV documentary regarding the seriousness of the disease (see Table 24).

Overall, doctors and health-care providers were considered the best and most reliable sources of AIDS information; however, the majority of the sample had received most of their knowledge and information from the media (i.e., newspapers, magazines, radio, television, and movies). Similar findings were noted for students in various academic standings, sex, and ethnic groups (see Appendix D, Tables 25 - 45).

Table 20

Frequency Analysis of Question 3: If You Thought You Had Been Exposed to AIDS, Where Would You Go First for Help?

Value Label	Frequency of Response	%	Valid %	Cum. %
Newspapers/magazines	1	0.1	0.1	0.1
TV/radio/movies	1	0.1	0.1	0.2
Telephone hot lines	37	3.7	3.7	3.9
AIDS education pamphlets	14	1.4	1.4	5.3
Books	3	0.3	0.3	5.6
Health fairs	4	0.4	0.4	6.0
Special seminars/lectures	1	0.1	0.1	6.1
My family	96	9.6	9.6	15.7
My friends	28	2.8	2.8	18.5
Teachers/instructors	1	0.1	0.1	18.6
Doctors/health care providers	813	81.2	81.4	100.0
Missing	2	0.2	—	
Totals	1,001	100.0	100.0	

Valid cases: 999

Missing cases: 2

Table 21

Frequency Analysis of Question 4: Which Source Would You Be Most Likely to Believe about Facts Concerning AIDS?

Value Label	Frequency of Response	%	Valid %	Cum. %
Doctors/health care providers	694	69.3	69.7	69.7
Teachers/instructors	6	0.6	0.6	70.3
My friends	3	0.3	0.3	70.6
My family	6	0.6	0.6	71.2
Special seminars/lectures	66	6.6	6.6	77.8
Health fairs	2	0.2	0.2	78.0
Books	9	0.9	0.9	78.9
AIDS education pamphlets	190	19.0	19.1	98.0
Telephone hot lines	6	0.6	0.6	98.6
TV/radio/movies	3	0.3	0.3	98.9
Newspapers/magazines	11	1.1	1.1	100.0
Missing	5	0.5	--	
Totals	1,001	100.0	100.0	

Valid cases: 996

Missing cases: 5

Table 22

Frequency Analysis of Question 5: Where Do You Feel You Have Received Most of Your Knowledge and Information on AIDS in the Past?

Value Label	Frequency of Response	%	Valid %	Cum. %
Doctors/health care providers	54	5.4	5.4	5.4
Newspapers/magazines	268	26.8	26.9	32.4
TV/radio/movies	260	26.0	26.1	58.5
Telephone hot lines	3	0.3	0.3	58.8
AIDS education pamphlets	177	17.7	17.8	76.6
Books	2	0.2	0.2	76.8
Health fairs	4	0.4	0.4	77.2
Special seminars/lectures	61	6.1	6.1	83.3
My family	13	1.3	1.3	84.6
My friends	15	1.5	1.5	86.1
Teachers/instructors	138	13.8	13.9	100.0
Missing	6	0.6	—	
Totals	1,001	100.0	100.0	

Valid cases: 995

Missing cases: 6

Table 23

Frequency Analysis of Question 6: Which One of the Following Would You Most Likely Attend to Learn More About AIDS?

Value Label	Frequency of Response	%	Valid %	Cum. %
A seminar at a local health clinic	331	33.1	33.2	33.2
TV documentary/film	556	55.5	55.7	88.9
A meeting at your church	18	1.8	1.8	90.7
A public forum	32	3.2	3.2	93.9
A health fair	61	6.1	6.1	100.0
Missing	3	0.3	--	
Totals	1,001	100.0	100.0	

Valid cases: 998

Missing cases: 3

Table 24

Frequency Analysis of Question 7: I Would Be Most Likely to Change My Behavior to Prevent Getting AIDS if

Value Label	Frequency of Response	%	Valid %	Cum. %
I was asked by a close friend	49	4.9	5.0	5.0
I read an article in a newspaper or magazine	75	7.5	7.6	12.6
I was told to do so by my doctor	180	18.0	18.2	30.8
I knew someone personally who had AIDS	464	46.4	47.0	77.7
I saw a TV documentary regarding the seriousness of the disease	220	22.0	22.3	100.0
Missing	13	1.3	—	
Totals	1,001	100.0	100.0	

Valid cases: 998

Missing cases: 13

Findings concerning the mass media as the principal sources of information about AIDS confirmed, and were consistent with, those observed in previous studies by McDermott et al. (1987), Atkinson et al. (1987), and Freimuth et al. (1987). Radio, television, newspapers, magazines, and AIDS pamphlets were most frequently cited as the students' primary sources of AIDS information. Physicians and health-care workers were identified as trusted sources; however, they were not identified as the major source from whom students obtained information and knowledge of AIDS.

Specifically, it is important that proper information be disseminated via the sources that the student seeks most often, i.e., television, newspapers, radio, and AIDS pamphlets.

CHAPTER V. SUMMARY AND CONCLUSIONS

Summary of Major Findings

The purpose of this study was to assess the relationship between college students' knowledge and beliefs about Acquired Immune Deficiency Syndrome (AIDS) and their information-seeking behavior about AIDS, and to determine the source from which the students obtained most of their information about the disease.

Significant findings from the study reveal that persons who feel less self-efficacious but more susceptible will seek more information on AIDS. The findings suggest that printed media in general were second only to doctors and health-care providers as a source of trusted information. Information obtained from television and radio was reported to be the most used source of health information. Communication research has shown that mass media presentations are more effective in creating awareness and knowledge, and interpersonal sources are more effective in influencing behavior change (Rogers, 1983).

The findings suggest health education and information should be communicated to students by means that students trust and that will motivate them to change their behavior. Consequently, motivation as well as knowledge should be increased in order to change the behavior of the college population.

Hypothesis 1.a. postulated that there would be an interaction between susceptibility to AIDS and feelings of control such that those

students who possess a strong feeling of personal or self-efficacy in protecting themselves from AIDS will seek more information about this disease if they perceive themselves to be more susceptible to it.

The study results show that students who perceive themselves to be more susceptible to AIDS seek more information than those who feel less susceptible to AIDS. Students who have a lower level of self-efficacy toward information seeking also seek more information than those who have a higher level of self-efficacy. Students who feel less self-efficacious, or more susceptible to AIDS, are more likely to seek information. The ANOVA revealed, however, that self-efficacy and susceptibility do not multiplicatively interact to facilitate information seeking. The hypothesis was not confirmed.

Hypothesis 1.b. stated that those students who possess a strong feeling of response efficacy about the usefulness of AIDS information will seek more information if they perceive themselves to be more susceptible to AIDS than if they perceive themselves to be less susceptible to it. It was found that students who feel more susceptible to AIDS seek more information, and those who feel that the response efficacy of such information is greater seek more information. There is a significant difference between individuals with low knowledge of AIDS compared to individuals with high knowledge on information seeking.

A post hoc *t* test performed on the means of the response efficacy for the high susceptibility group only reveals that high response efficacy/high susceptibility ($M = 2.10$) is significantly greater than the high response efficacy/low susceptibility mean ($M = 2.00$).

Students who have higher response efficacy, or who feel more susceptible, appear more likely to seek information. The hypothesis was not confirmed.

Hypothesis 2 stated that students who are more knowledgeable about AIDS have sought more information about AIDS than those who are less knowledgeable. The *t* test results indicate a significant difference between individuals with low knowledge of AIDS compared to those with high knowledge on information seeking. Treating knowledge of AIDS as a continuous variable, the correlation coefficient between information seeking and knowledge of AIDS was statistically significant ($p < 0.001$). The hypothesis was confirmed.

Hypothesis 3.a. stated that there would be an interaction between information seeking on AIDS and feelings of locus of control. The study findings show that students who feel they could control their own health (IHLC) are not significantly different in seeking more health information concerning AIDS than those who feel they do not control their own health (External Health Locus of Control). The average of the six-item information-seeking scale, the dependent measure, was analyzed by a *t* test, and there was a non-significant difference between the two groups. The hypothesis was not confirmed.

Hypothesis 3.b. stated that those students who believe powerful others have a strong control over their health will seek more information about the disease if they perceive themselves to be more susceptible to AIDS than if they perceive themselves to be less susceptible to it. The analysis considered two independent variables: Powerful Others Health Locus of Control and susceptibility. The dependent variable was information-seeking behavior. The only

significant effect was a main effect for susceptibility, showing again that those high in susceptibility are more likely to be higher in information-seeking than those who are low in susceptibility. Those who are high in Powerful Others Health Locus of Control but low in susceptibility do not seek significantly more information than those who are low in Powerful Others Health Locus of Control and high in susceptibility. The hypothesis was not confirmed.

Hypothesis 3.c. stated that students who believe that Chance Health Locus of Control (CHLC) controls their health will seek less information concerning AIDS than those who feel they control their own health. A comparison of means was conducted in a 2 x 2 analysis of variance. There were no significant main or interaction effects. Students who believe in CHLC and those who believe in IHLC were not significantly different. The hypothesis was not confirmed.

Frequency analyses performed on Questions 1 through 7 reveal that students believe doctors and health-care professionals are the best sources of accurate information about AIDS; however, the majority indicate they had received their information from the mass media. This was also found on the analyses conducted on gender, academic status, and ethnicity.

Ninety-eight percent of the students knew that AIDS could be contracted by sharing a needle with a drug user who had the disease. Only 45% percent of the sample knew that after exposure to the human immunodeficiency virus there is a delay of approximately six weeks before one becomes seropositive. Only 15% were aware that chlorine (bleach) will kill the HIV (see Appendix B).

There was little personalization of risk. Fifty-three percent reported there was only a slight chance they would be exposed to AIDS, and 25% did not believe they would be exposed.

Implications of Findings for Research

The researcher acknowledges that the types of sources included in the questionnaire (Items 1-5) may not reflect the extent to which other sources (e.g., health educators) are used.

Health educators were not respondents in this survey. Future studies should include this group. Since health educators represent a prime source of knowledge about AIDS and are in a position to share that knowledge, it would be important to know how they can share that knowledge and how they can cooperate with fellow educators, media sources, community organizations, and others in effecting viable programs to combat AIDS.

Given the fact that students are learning more and more about AIDS, it is important that this information be converted into behavior modifications that would help control the spread of AIDS. Research concerning the use of effective motivation techniques toward behavior modification in this area would be of great value.

Additional studies from both a substantive or a methodological perspective needs to be done on the college students and their information seeking on AIDS.

This survey focused on college students exclusively. It would be of interest to know if those not at sexual risk (such as intravenous drug users) have a high profile of knowledge, beliefs, and attitudes about information seeking. Would the same implications hold for them as for college students?

Implications of Findings for Education

The implication of this study's finding is that an understanding of epidemiologic and sociocultural differences, which may impact knowledge and attitudes about AIDS, is important in developing health education programs. Health education targeted for the general public should be prepared to take into account the various needs and attitudes of different segments of the public, as well as racial/ethnic groups. Preparation of materials for health education should be done by health educators, researchers, doctors, nurses, and health professionals. it should be presented to the public by the mass media.

Communication research has shown that mass media presentations are more effective in creating awareness and knowledge, and interpersonal sources are more effective in influencing behavior change. This presents a challenge to educators. How can they use the vast store of knowledge about AIDS and convert it into effective, interpersonal programs that will motivate students toward behavior modification?

The findings show that students who are more knowledgeable about AIDS seek more information about AIDS than those less knowledgeable. A minority of college-age persons, particularly those in high-risk groups, are misinformed or confused about HIV transmission. According to CDC information, the number of AIDS cases is increasing each year (CDC, MMR, June 30, 1989). School intervention programs could be used to educate this group about AIDS and how it is transmitted. These information programs could be used by health educators who have contact with college-age persons to increase their awareness of HIV transmission. These educators must make young people believe that

AIDS information is beneficial to them by making them more aware of their susceptibility and of the benefits of response efficacy. Health educators must convince young people that they are at risk and must take precautions to eliminate the spread of AIDS.

Students need to know (a) how to avoid being infected by the human immunodeficiency virus by practicing safe sex, (b) what will prevent exposure, and (c) how to avoid getting AIDS through the use of contaminated needles. This information could be made available via mass media, e.g., radio, television, newspapers, magazines, etc., as well as by health educators.

This study indicates that printed materials, television, and radio documentaries that come from such trusted sources as doctors and health-care providers could be used to endorse messages on AIDS to increase the credibility of the messages.

Students consider information about AIDS to be helpful. Thirty-five percent of respondents agree that additional information about AIDS, provided in health classes, would be important to prevent possible exposure to AIDS in their peer group, and 43% believe that currently available information is useful in preventing their exposure to AIDS.

Education provided to college students concerning AIDS should not be limited to students in health-related classes. It should be provided to all students through lectures, forums, pamphlets, articles in school papers, and through social groups and individuals interested in the prevention of the spread of the disease.

Health educators must convince young people that they are at risk and must take precautions to eliminate the spread of AIDS--a deadly disease.

Conclusions

This study findings are consistent with prior surveys of college students about AIDS, i.e., McDermott, Hawkins, Moore, and Cittadino in the midwest (1987), Atkinson, Ktsanes, and Hassig in Louisiana (1987), and Freimuth, Edgar, and Hammond at the University of Maryland (1987). It can be concluded that college students seek most of their health information from the mass media. Our study found that students were knowledgeable about the trans-mission of the HIV virus; however, they did not feel they were personally at risk. This was also found in the other studies among college students on AIDS.

Overall, the survey results showed that students were knowledgeable about AIDS. They were aware of the principal modes of transmission of the virus--sexual contact and the use of contaminated needles. A great majority, 96%, knew that using a condom during sexual intercourse could decrease the risk of getting AIDS. Very few, 15%, knew that intravenous needles could be cleaned with chlorine (bleach).

APPENDIX A. QUESTIONNAIRE

QUESTIONNAIRE

This questionnaire is part of a study conducted by a doctoral student in Health Education at the University of Maryland. This questionnaire is completely anonymous. Therefore, please answer all the questions as honestly and accurately as you can.

Thank you for your cooperation.

SECTION I. SOURCES OF INFORMATION

Please answer the following questions regarding sources of health-related communication by placing a check mark in the space provided.

1. Where would you expect to get your most accurate information about AIDS? (Choose only one) Check in space below.

(a) My family _____
(b) My friends _____
(c) Teachers/instructors _____
(d) Doctors/health care providers _____
(e) Newspapers/magazines _____
(f) TV/radio/movies _____
(g) Telephone hotlines _____
(h) AIDS education pamphlets _____
(i) Books _____
(j) Health fairs _____
(k) Special seminars/lectures _____

2. Where would you go <u>first</u> if you had a question about AIDS? (Choose only one) Check in space below.

(a) Special seminars/lectures _____
(b) Health fairs _____
(c) Books _____
(d) AIDS education pamphlets _____
(e) Telephone hotlines _____
(f) TV/radio/movies _____
(g) Newspapers/magazines _____
(h) Doctors/health care providers _____
(i) Teachers/instructors _____
(j) My friends _____
(k) My family _____

3. If you thought you had been exposed to AIDS, where would you go first for help? (Choose only one) Check in space below.

(a) Newspapers/magazines _____
(b) TV/radio/movies _____
(c) Telephone hotlines _____
(d) AIDS education pamphlets _____
(e) Books _____
(f) Health fairs _____
(g) Special seminars/lectures _____
(h) My family _____
(i) My friends _____
(j) Teachers/instructors _____
(k) Doctors/health care providers _____

4. Which source would you be most likely to <u>believe</u> about facts concerning AIDS? (Choose only one) Check in space below.

(a) Doctors/health care providers _____
(b) Teachers/instructors _____
(c) My friends _____
(d) My family _____
(e) Special seminars/lectures _____
(f) Health fairs _____
(g) Books _____
(h) AIDS education pamphlets _____
(i) Telephone hotlines _____
(j) TV/radio/movies _____
(k) Newspapers/magazines _____

5. Where do you feel you have received most of your knowledge and information on AIDS in the past? (Choose only one) Check in space below.

(a) Doctors/health care providers _____
(b) Newspapers/magazines _____
(c) TV/radio/movies _____
(d) Telephone hotlines _____
(e) AIDS education pamphlets _____
(f) Books _____
(g) Health fairs _____
(h) Special seminars/lectures _____
(i) My family _____
(j) My friends _____
(k) Teachers/instructors _____

6. Which one of the following would you most likely attend to learn more about AIDS? (Choose only one) Check in space below.

(a) A seminar at local health clinic _____
(b) TV documentary/film _____
(c) A meeting at your church _____
(d) A public forum _____
(e) A health fair _____

7. I would be most likely to change my behavior to prevent getting AIDS if (Choose only one) Check in space below.

(a) I was asked by a close friend _____
(b) I read an article in a newspaper or magazine _____
(c) I was told to do so by my doctor _____
(d) I knew someone personally who had AIDS _____
(e) I saw a TV documentary regarding the seriousness of the disease. _____

SECTION II. GENERAL HEALTH BELIEFS

Please use the following scale for Nos. 8 through 25. Circle the appropriate letter (choose only one).

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
A	B	C	D	E	F

8.	If I get sick, it is my own behavior that determines how soon I get well again.	A	B	C	D	E	F
9.	I am in control of my health.	A	B	C	D	E	F
10.	When I get sick, I am to blame.	A	B	C	D	E	F
11.	The main thing that affects my health is what I myself do.	A	B	C	D	E	F
12.	If I take care of myself, I can avoid illness.	A	B	C	D	E	F
13.	If I take the right actions, I can stay healthy.	A	B	C	D	E	F
14.	Having regular contact with my physician is the best way for me to avoid illness.	A	B	C	D	E	F
15.	Whenever I don't feel well, I should consult a medically trained professional.	A	B	C	D	E	F
16.	My family has a lot to do with my becoming sick or staying healthy.	A	B	C	D	E	F
17.	Health professionals control my health.	A	B	C	D	E	F
18.	When I recover from an illness, it is usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.	A	B	C	D	E	F
19.	Regarding my health, I can only do what my doctor tells me to do.	A	B	C	D	E	F
20.	No matter what I do, if I am going to get sick, I will get sick.	A	B	C	D	E	F
21.	Most things that affect my health happen to me by accident.	A	B	C	D	E	F

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
A	B	C	D	E	F

22.	Luck plays a big part in determining how soon I will recover from an illness.	A	B	C	D	E	F
23.	My good health is largely a matter of good fortune.	A	B	C	D	E	F
24.	No matter what I do, I am likely to get sick.	A	B	C	D	E	F
25.	If it is meant to be, I will stay healthy.	A	B	C	D	E	F

SECTION III. BELIEFS ABOUT AIDS

Please use the following scale for Nos. 26 through 62. Circle the appropriate letter (choose only one).

Not at all	Slightly	Moderately	Very	Extremely
A	B	C	D	E

26.	How likely is it that you will be exposed to AIDS?	A	B	C	D	E
27.	How effective do you think you are, or would be, in avoiding being exposed to AIDS?	A	B	C	D	E
28.	How serious or bad would it be if you were told you definitely had AIDS?	A	B	C	D	E
29.	Is it likely you will contract AIDS at some future time?	A	B	C	D	E
30.	How effective do you think you can be in preventing yourself from getting AIDS?	A	B	C	D	E
31.	How effective do you think the use of condoms are in being able to prevent the spread of AIDS?	A	B	C	D	E
32.	Has the recent publicity about AIDS made you feel more vulnerable to AIDS?	A	B	C	D	E
33.	How risky do you think AIDS is for someone like you?	A	B	C	D	E
34.	How likely is the danger of contracting AIDS among people in your peer group?	A	B	C	D	E
35.	How likely is it that one of your acquaintances has been exposed to AIDS?	A	B	C	D	E
36.	How well do your peers protect themselves from AIDS exposure?	A	B	C	D	E
37.	How serious is the need for health information about AIDS for your own benefit?	A	B	C	D	E
38.	How likely is it that you will need to obtain additional health information about AIDS?	A	B	C	D	E

Not at all	Slightly	Moderately	Very	Extremely
A	B	C	D	E

39.	How useful would additional information, as in health classes, about AIDS be in preventing possible exposure to AIDS by your peer group?	A	B	C	D	E
40.	How useful is the currently available information in preventing your own exposure to AIDS?	A	B	C	D	E
41.	How difficult is it for people in your peer group to obtain useful information about AIDS?	A	B	C	D	E
42.	How difficult is it for you to obtain useful information about AIDS?	A	B	C	D	E
43.	My classmates and peers feel that there is a need for more information to be taught about AIDS in school.	A	B	C	D	E
44.	How competent do you think you are in protecting yourself from AIDS?	A	B	C	D	E
45.	How effective do you think you are in avoiding situations where there is a high risk for AIDS?	A	B	C	D	E
46.	How adequate do you think your knowledge of AIDS is?	A	B	C	D	E
47.	How effective do you think you are or would be in using a condom correctly?	A	B	C	D	E
48.	How helpful do you find the current information about AIDS?	A	B	C	D	E
49.	How effective do you think your current sources of information are in informing you about AIDS?	A	B	C	D	E
50.	How effective do you think the current sources of information are in informing your peers about AIDS?	A	B	C	D	E
51.	How useful has the information on AIDS that you have received from a medical source (e.g., pamphlet or information sheets on AIDS) been to you?	A	B	C	D	E

	Not at all	Slightly	Moderately	Very	Extremely
	A	B	C	D	E

52.	How effective has the information that you have looked up from a general source (e.g., magazines) been concerning AIDS?	A	B	C	D	E
53.	How helpful has information about AIDS that you have obtained from a friend/ classmate been?	A	B	C	D	E
54.	How usable would information on AIDS be that you obtain from talking with teachers?	A	B	C	D	E
55.	How beneficial has attending seminars/ discussions on AIDS been in helping you better understand AIDS?	A	B	C	D	E
56.	How practicable do you consider the information on AIDS would be that you could gain from speaking with medical personnel (e.g., physician/nurse)?	A	B	C	D	E
57.	How difficult is it for you to look up information on AIDS from a medical source (e.g., pamphlet or information sheets on AIDS)?	A	B	C	D	E
58.	How difficult is it for you to look up information from a general source (e.g., magazine) concerning AIDS?	A	B	C	D	E
59.	How hard is it for you to discuss or seek information about AIDS from a friend/ classmate?	A	B	C	D	E
60.	How hard is it for you to speak to a teacher about AIDS?	A	B	C	D	E
61.	How troublesome would it be for you to attend a seminar/discussion on AIDS that would better help you understand AIDS?	A	B	C	D	E
62.	How difficult is it for you to speak to medical personnel (e.g., physician/nurse) concerning AIDS?	A	B	C	D	E

SECTION IV. INFORMATION-SEEKING BEHAVIOR

Please use the following scale for Nos. 63 through 68. Circle the appropriate letter (choose only one).

Never	Seldom	Sometimes	Frequently
A	B	C	D

63. How often in the past have you looked up information on AIDS from a medical source (e.g., pamphlet or information sheets on AIDS)? A B C D

64. How often in the past have you looked up information from a general source (e.g., magazine) concerning AIDS? A B C D

65. How often in the past have you sought information about AIDS from a friend/classmate about AIDS? A B C D

66. How often in the past have you spoken with a teacher about AIDS? A B C D

67. How often in the past have you attended seminars/discussions on AIDS that helped you better understand AIDS? A B C D

68. How often in the past have you spoken to medical personnel (e.g., physician/nurse) concerning AIDS? A B C D

SECTION V. GENERAL KNOWLEDGE ABOUT AIDS

Please use the following scale for Nos. 69 through 115. Circle the appropriate letter (choose only one).

True	False	Don't Know
A	B	C

69.	AIDS is a medical condition in which your body cannot fight off diseases.	A	B	C
70.	AIDS is caused by a virus.	A	B	C
71.	Stress causes AIDS.	A	B	C
72.	If you kiss someone with AIDS you will get the disease.	A	B	C
73.	If you touch someone with AIDS you can get AIDS.	A	B	C
74.	All gay men have AIDS.	A	B	C
75.	Anybody can get AIDS.	A	B	C
76.	What you eat can give you AIDS.	A	B	C
77.	Women are more likely to get AIDS during their period.	A	B	C
78.	AIDS can be spread by using someone's personal belongings, like a comb or hair brush.	A	B	C
79.	AIDS is not at all serious, it is like having a cold.	A	B	C
80.	AIDS is caused by the same virus that causes VD.	A	B	C
81.	The cause of AIDS is unknown.	A	B	C
82.	Just being around someone with AIDS can give you the disease.	A	B	C
83.	Having sex with someone who has AIDS is one way of getting it.	A	B	C
84.	If a pregnant woman has AIDS, there is a chance it may harm her unborn baby.	A	B	C
85.	AIDS is a condition you are born with.	A	B	C

	True	False	Don't Know
	A	B	C

86.	Most people who get AIDS usually die from the disease.	A	B	C
87.	Using a condom (rubber) during sex can lower the risk of getting AIDS.	A	B	C
88.	You can get AIDS by sharing a needle with a drug user who has the disease.	A	B	C
89.	Receiving a blood transfusion with infected blood can give a person AIDS.	A	B	C
90.	You can get AIDS by shaking hands with someone who has it.	A	B	C
91.	AIDS is a life-threatening disease.	A	B	C
92.	People with AIDS usually have lots of other diseases as a result of AIDS.	A	B	C
93.	All gay women have AIDS.	A	B	C
94.	There is no cure for AIDS.	A	B	C
95.	I can avoid getting AIDS by exercising regularly.	A	B	C
96.	AIDS can be cured.	A	B	C
97.	After exposure to the AIDS virus there is a delay of approximately four to six months before one becomes sero-positive.	A	B	C
98.	A new vaccine has recently been developed for the treatment of AIDS.	A	B	C
99.	AIDS can be cured if treated early.	A	B	C
100.	Sexual contact with a person who has AIDS will always cause a person to contract AIDS.	A	B	C
101.	Chlorine (bleach) will kill the Human Immunodeficiency Virus (HIV).	A	B	C
102.	The group that has shown the greatest reduction in the incidence of AIDS is gay men.	A	B	C

	True	False	Don't Know
	A	B	C

103.	By 1992 there will be 95,000 new cases of AIDS reported in this country.	A	B	C
104.	It is possible to contract AIDS from toilet seats.	A	B	C
105.	Most people with AIDS do not die from it, but from some other disease (e.g., Pneumocystis Carinii Pneumonia and Kaposi's Sarcoma).	A	B	C
106.	Susceptibility to AIDS from being a blood donor is zero if new disposable needles are used.	A	B	C
107.	The Human Immunodeficiency Virus is the cause of AIDS.	A	B	C
108.	AIDS-Related Complex (ARC) is less serious than AIDS.	A	B	C
109.	To date the number of AIDS cases in each state is about equal.	A	B	C
110.	There have been over 33,000 deaths from AIDS in this country since 1981.	A	B	C
111.	The current number of diagnosed cases in this country since 1981 is over 60,000.	A	B	C
112.	The macrophage test for AIDS is less reliable than the antibody test.	A	B	C
113.	About 1.5 million Americans are thought to be infected with the AIDS virus.	A	B	C
114.	Persons who have Aids-Related Complex develop an immunity to the AIDS virus.	A	B	C
115.	AIDS can be detected in the urine.	A	B	C

SECTION VI. DEMOGRAPHIC CHARACTERISTICS

Background Information

For each question, circle the one answer that is correct for you, or fill in as appropriate.

116. What was your age on your last birthday? _____

117. What is your academic status?

(a) Freshman
(b) Sophomore
(c) Junior
(d) Senior
(e) Master's Program
(f) Ph.D. Program
(g) Other (specify) _____

118. What is your living arrangement?

(a) Single
(b) Married
(c) Living together as a couple
(d) Divorced
(e) Separated
(f) Widowed

119. What was your approximate grade point average last year? _____

120. What is your sex/gender?

(a) Male
(b) Female

121. What is your ethnic background?

(a) Asian
(b) Black
(c) Hispanic
(d) White
(e) Other

122. Where do you live?

(a) On campus
(b) Commuter

123. What is your religious preference?

(a) Catholic
(b) Jewish
(c) Protestant
(d) Other
(e) None/agnostic

124. How many semester hours are you carrying at this time? _____

125. What is the college, or school, of your major? (Please circle)

(a) College of Agriculture
(b) School of Architecture
(c) College of Arts and Humanities
(d) College of Behavioral and Social Science
(e) College of Computer, Mathematical and Physical Sciences
(f) College of Education
(g) College of Engineering
(h) Graduate School
(i) College of Human Ecology
(j) College of Journalism
(k) College of Library and Information Services
(l) College of Life Sciences
(m) College of Physical Education, Recreation and Health
(n) School of Public Affairs
(o) Undergraduate Studies

126. Fill in the number of this course:

(a) HLTH _____

(b) REC _____

(c) PHED _____

APPENDIX B. GENERAL KNOWLEDGE ABOUT AIDS - CORRECT ANSWERS

GENERAL KNOWLEDGE ABOUT AIDS - CORRECT ANSWERS

Item	Correct Answers Percent	Item	Correct Answers Percent
69*	93.9	93	95.3
70*	85.7	94*	88.4
71	92.4	95	94.4
72	83.1	96	83.8
73	95.4	97	13.9
74	96.2	98	36.3
75*	93.5	99	75.8
76	93.3	100	70.8
77	57.6	101*	15.6
78	92.0	102*	26.5
79	94.9	103*	43.6
80	73.1	104	78.5
81	50.4	105*	67.1
82	96.2	106*	80.4
83*	96.6	107*	60.2
84*	93.9	108	25.3
85	84.8	109	55.9
86*	90.4	110*	36.4
87*	96.2	111*	36.5
88*	98.0	112	8.0
89*	96.8	113*	40.0
90	96.7	114	42.9
91*	96.8	115*	13.3
92*	74.1		

*Indicates "True"

APPENDIX C. APPLICATION FOR REVIEW OF RESEARCH USING HUMAN SUBJECTS

UNIVERSITY OF MARYLAND
College Park, Md 20742

INSTITUTIONAL REVIEW BOARD

APPLICATION FOR REVIEW OF RESEARCH USING HUMAN SUBJECTS

Name of Principal Investigator (or Faculty Advisor) Kenneth Beck, Ph.D. Tel. No. 454-2753

Name of Student Investigator Emily H. Shelnutt Tel. No. 394-3530 (O) 243-0628

Student Identification No. 255-26-3768

Department Health Education Project Duration N/A

Project Title AIDS and the College Student: Knowledge, Beliefs, and Information Seeking

Funding Agency N/A

Has this project been approved by a departmental Human Subjects Review Committee?

Yes 6/1/88 (date) No —

Please attach a copy of your responses to questions I - VI of the instructions along with the proposal.

Please specify whether this research should be exempt or non-exempt for human subjects review and stipulate which of the five exemption reasons (attached) justifies an exempt status:

Exempt X (See attached.) Non-Exempt _____

If exempt, indicate reason for exemption (see page 3 for exemption reasons).

Use of confidential and anonymous questionnaire.

May 17, 1988
Date

Kenneth H. Beck
Principal Investigator

6/1/88
Date

Kenneth H. Beck
Department Chairman's Signature, or
Departmental Human Subjects Review
Committee Chairman's Signature

APPENDIX D. FREQUENCY ANALYSIS TABLES

Table 25. Frequency Analysis by Academic Standing of Question 1: Where would you expect to get your most accurate information about AIDS?

Value Label	Freshman		Sophomore		Junior		Senior		Masters		Doctorate		Other	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
My family	0	0.0	2	0.8	0	0.0	2	0.6	0	0.0	0	0.0	0	0.0
My friends	0	0.0	0	0.0	1	0.5	1	0.3	0	0.0	0	0.0	0	0.0
Teachers/ instructors	7	3.5	7	2.7	6	3.0	13	4.1	0	0.0	0	0.0	0	0.0
Doctors/health care providers	98	49.5	129	50.4	88	44.4	140	44.2	2	50.0	1	100.0	1	25.0
Newspapers/ magazines	12	6.1	11	4.3	18	9.1	25	7.9	0	0.0	0	0.0	0	0.0
TV/radio/movies	4	2.0	12	4.7	4	2.0	12	3.8	0	0.0	0	0.0	0	0.0
Telephone hot lines	0	0.0	2	0.8	0	0.0	2	0.6	0	0.0	0	0.0	0	0.0
AIDS education pamphlets	48	24.2	63	24.6	52	26.3	80	25.2	1	25.0	0	0.0	3	75.0
Books	4	2.0	3	1.2	4	2.0	4	1.3	0	0.0	0	0.0	0	0.0
Health fairs	1	0.5	1	0.4	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0
Special seminars/ lectures	24	12.1	26	10.2	25	12.6	37	11.7	1	25.0	0	0.0	0	0.0
Totals	198	100.0	256	100.0	198	100.0	317	100.0	4	100.0	1	100.0	4	100.0

Table 26. Frequency Analysis by Academic Standing of Question 2: Where would you go first if you had a question about AIDS?

Value Label	Freshman		Sophomore		Junior		Senior		Masters		Doctorate		Other	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Special seminars/ lectures	4	2.0	13	5.0	2	1.0	3	0.9	0	0.0	0	0.0	0	0.0
Health fairs	0	0.0	3	1.2	2	1.0	1	0.3	0	0.0	0	0.0	0	0.0
Books	8	4.0	8	3.1	11	5.5	7	2.2	1	25.0	0	0.0	0	0.0
AIDS education pamphlets	42	21.0	40	15.4	44	22.0	70	21.8	0	0.0	0	0.0	3	75.0
Telephone hot lines	11	5.5	12	4.6	17	8.5	15	4.7	0	0.0	0	0.0	0	0.0
TV/radio/movies	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0
Newspapers/ magazines	3	1.5	6	2.3	4	2.0	10	3.1	0	0.0	0	0.0	0	0.0
Doctors/health care providers	101	50.5	144	55.4	105	52.5	184	57.3	3	75.0	1	100.0	1	25.0
Teachers/ instructors	3	1.5	2	0.8	2	1.0	13	4.0	0	0.0	0	0.0	0	0.0
My friends	9	4.5	14	5.4	5	2.5	9	2.8	0	0.0	0	0.0	0	0.0
My family	19	9.5	18	6.9	8	4.0	8	2.5	0	0.0	0	0.0	0	0.0
Totals	200	100.0	260	100.0	200	100.0	321	100.0	4	100.0	1	100.0	4	100.0

Table 27. Frequency Analysis by Academic Standing of Question 3: If you thought you had been exposed to AIDS, where would you go first for help?

Value Label	Freshman		Sophomore		Junior		Senior		Masters		Doctorate		Other	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Newspapers/ magazines	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0
TV/radio/movies	0	0.0	0	0.0	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0
Telephone hot lines	8	4.0	12	4.6	10	4.9	7	2.2	0	0.0	0	0.0	0	0.0
AIDS education pamphlets	2	1.0	5	1.9	4	2.0	3	0.9	0	0.0	0	0.0	0	0.0
Books	0	0.0	0	0.0	1	0.5	2	0.9	0	0.0	0	0.0	0	0.0
Health fairs	0	0.0	2	0.8	1	0.5	1	0.3	0	0.0	0	0.0	0	0.0
Special seminars/ lectures	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0
My family	27	13.5	25	9.6	20	9.9	24	7.5	0	0.0	0	0.0	0	0.0
My friends	4	2.0	9	3.5	10	4.9	5	1.6	0	0.0	0	0.0	0	0.0
Teachers/ instructors	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Doctors/health care providers	158	79.0	207	79.6	156	76.8	278	86.3	4	100.0	1	100.0	4	100.0
Totals	200	100.0	260	100.0	203	100.0	322	100.0	4	100.0	1	100.0	4	100.0

Table 28. Frequency Analysis by Academic Standing of Question 4: Which source would you be most likely to believe about facts concerning AIDS?

Value Label	Freshman		Sophomore		Junior		Senior		Masters		Doctorate		Other	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Doctors/health care providers	142	71.4	184	70.8	135	66.8	222	69.2	4	100.0	1	100.0	2	50.0
Teachers/ instructors	1	0.5	2	0.8	0	0.0	3	0.9	0	0.0	0	0.0	0	0.0
My friends	0	0.0	0	0.0	2	1.0	1	0.3	0	0.0	0	0.0	0	0.0
My family	0	0.0	3	1.2	1	0.5	2	0.6	0	0.0	0	0.0	0	0.0
Special seminars/ lectures	15	7.5	15	5.8	15	7.4	21	6.5	0	0.0	0	0.0	0	0.0
Health fairs	0	0.0	1	0.4	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0
Books	0	0.0	2	0.8	4	0.2	3	0.9	0	0.0	0	0.0	0	0.0
AIDS education pamphlets	38	19.1	48	18.5	41	20.3	60	18.7	0	0.0	0	0.0	2	50.0
Telephone hot lines	1	0.5	1	0.4	2	1.0	2	0.6	0	0.0	0	0.0	0	0.0
TV/radio/movies	0	0.0	1	0.4	0	0.0	2	0.6	0	0.0	0	0.0	0	0.0
Newspapers/ magazines	2	1.0	3	1.2	2	1.0	4	1.2	0	0.0	0	0.0	0	0.0
Totals	199	100.0	260	100.0	202	100.0	321	100.0	4	100.0	1	100.0	4	100.0

Table 29. Frequency Analysis by Academic Standing of Question 5: Where do you feel you have received most of your knowledge and information about AIDS in the past?

Value Label	Freshman		Sophomore		Junior		Senior		Masters		Doctorate		Other	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Doctors/health care providers	9	4.5	15	5.8	11	5.5	19	5.9	0	0.0	0	0.0	0	0.0
Newspapers/ magazines	55	27.5	62	23.8	62	31.0	87	27.1	1	25.0	0	0.0	0	0.0
TV/radio/movies	57	28.5	80	30.8	54	27.0	67	20.9	0	0.0	0	0.0	1	25.0
Telephone hot lines	0	0.0	1	0.4	0	0.0	2	0.6	0	0.0	0	0.0	0	0.0
AIDS education pamphlets	33	16.5	52	20.0	32	16.0	57	17.8	1	25.0	0	0.0	2	50.0
Books	0	0.0	0	0.0	1	0.5	1	0.3	0	0.0	0	0.0	0	0.0
Health fairs	2	1.0	0	0.0	1	0.5	1	0.3	0	0.0	0	0.0	0	0.0
Special seminars/ lectures	16	8.0	19	7.3	7	3.5	17	5.3	1	25.0	0	0.0	1	25.0
My family	3	1.5	4	1.5	1	0.5	5	1.6	0	0.0	0	0.0	0	0.0
My friends	2	1.0	4	1.5	3	1.5	6	1.9	0	0.0	0	0.0	0	0.0
Teachers/ instructors	23	11.5	23	8.8	28	14.0	59	18.4	1	25.0	1	100.0	0	0.0
Totals	200	100.0	260	100.0	200	100.0	321	100.0	4	100.0	1	100.0	4	100.0

Table 30. Frequency Analysis by Academic Standing of Question 6: Which one of the following would you most likely attend to learn more about AIDS?

Value Label	Freshman		Sophomore		Junior		Senior		Masters		Doctorate		Other	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
A seminar at local health clinic	66	33.0	95	36.5	75	36.9	89	27.7	1	25.0	0	0.0	3	75.0
TV documentary/ film	119	59.5	136	52.3	103	50.7	191	59.5	3	75.0	1	100.0	1	25.0
A meeting at your church	1	0.5	3	1.2	5	2.5	9	2.8	0	0.0	0	0.0	0	0.0
A public forum	4	2.0	11	4.2	5	2.5	12	3.7	0	0.0	0	0.0	0	0.0
A health fair	10	5.0	15	5.8	15	7.4	20	6.2	0	0.0	0	0.0	0	0.0
Totals	200	100.0	260	100.0	203	100.0	321	100.0	4	100.0	1	100.0	4	100.0

Table 31. Frequency Analysis by Academic Standing of Question 7: I would be most likely to change my behavior to prevent getting AIDS if:

Value Label	Freshman		Sophomore		Junior		Senior		Masters		Doctorate		Other	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
I was asked by a close friend	8	4.0	9	3.5	11	5.4	20	6.3	1	25.0	0	0.0	0	0.0
I read an article in a newspaper or magazine	15	7.5	14	5.4	18	8.9	26	8.2	1	25.0	0	0.0	1	25.0
I was told to do so by my doctor	41	20.6	48	18.7	36	17.8	52	16.5	0	0.0	0	0.0	1	25.0
I knew someone personally who had AIDS	86	43.2	137	53.3	87	43.1	149	47.2	2	50.0	1	100.0	1	25.0
I saw a TV documentary regarding the seriousness of the disease	49	24.6	49	19.1	50	24.8	69	21.8	0	0.0	0	0.0	1	25.0
Totals	199	100.0	257	100.0	202	100.0	316	100.0	4	100.0	1	100.0	4	100.0

Table 32. Frequency Analysis by Sex of Question 1: Where would you expect to get your most accurate information about AIDS?

	Sex			
	Male		Female	
Value Label	Frequency	Percent	Frequency	Percent
My family	3	0.6	1	0.2
My friends	1	0.2	1	0.2
Teachers/instructors	18	3.7	15	3.0
Doctors/health care providers	205	42.5	255	51.2
Newspapers/magazines	49	10.2	17	3.4
TV/radio/movies	19	3.9	13	2.6
Telephone hot lines	1	0.2	3	0.6
AIDS education pamphlets	116	24.1	131	26.3
Books	12	2.5	3	0.6
Health fairs	1	0.2	2	0.4
Special seminars/lectures	57	11.8	57	11.4
Totals	482	100.0	498	100.0

Table 33. Frequency Analysis by Sex of Question 2: Where would you go first if you had a question about AIDS?

	Sex			
	Male		Female	
Value Label	Frequency	Percent	Frequency	Percent
Special seminars/lectures	7	1.4	15	3.0
Health fairs	0	0.0	6	1.2
Books	24	4.9	11	2.2
AIDS education pamphlets	85	17.4	115	22.8
Telephone hot lines	23	4.7	32	6.3
TV/radio/movies	1	0.2	0	0.0
Newspapers/magazines	15	3.1	8	1.6
Doctors/health care providers	274	56.1	266	52.8
Teachers/instructors	15	3.1	5	1.0
My friends	21	4.3	16	3.2
My family	23	4.7	30	6.0
Totals	488	100.0	504	100.0

Table 34. Frequency Analysis by Sex of Question 3: If you thought you had been exposed to AIDS, where would you go first for help?

	Sex			
	Male		Female	
Value Label	Frequency	Percent	Frequency	Percent
Newspapers/magazines	1	0.2	0	0.0
TV/radio/movies	1	0.2	0	0.0
Telephone hot lines	19	3.9	18	3.6
AIDS education pamphlets	7	1.4	7	1.4
Books	2	0.4	1	0.2
Health fairs	3	0.6	1	0.2
Special seminars/lectures	0	0.0	1	0.2
My family	49	10.0	47	9.3
My friends	10	2.0	18	3.6
Teachers/instructors	1	0.2	0	0.0
Doctors/health care providers	396	81.0	414	81.7
Totals	489	100.0	507	100.0

Table 35. Frequency Analysis by Sex of Question 4: Which source would you be most likely to believe about facts concerning AIDS?

	Sex			
	Male		Female	
Value Label	Frequency	Percent	Frequency	Percent
Doctors/health care providers	346	70.9	346	68.5
Teachers/instructors	2	0.4	4	0.8
My friends	2	0.4	1	0.2
My family	4	0.8	2	0 4
Special seminars/lectures	24	4.9	42	8.3
Health fairs	2	0.4	0	0.0
Books	5	1.0	4	0.8
AIDS education pamphlets	92	18.9	97	19.2
Telephone hot lines	3	0.6	3	0.6
TV/radio/movies	2	0.4	1	0.2
Newspapers/magazines	6	1.2	5	1.0
Totals	488	100.0	505	100.0

Table 36. Frequency Analysis by Sex of Question 5: Where do you feel you have received most of your knowledge and information on AIDS in the past?

	Sex			
	Male		Female	
Value Label	Frequency	Percent	Frequency	Percent
Doctors/health care providers	32	6.6	22	4.3
Newspapers/magazines	133	27.4	135	26.7
TV/radio/movies	146	30.0	113	22.3
Telephone hot lines	2	0.4	1	0.2
AIDS education pamphlets	74	15.2	103	20.4
Books	2	0.4	0	0.0
Health fairs	2	0.4	2	0.4
Special seminars/lectures	26	5.3	35	6.9
My family	7	1.4	6	1.2
My friends	8	1.6	7	1.4
Teachers/instructors	54	11.1	82	16.2
Totals	486	100.0	506	100.0

Table 37. Frequency Analysis by Sex of Question 6: Which one of the following would you most likely attend to learn more about AIDS?

	Sex			
	Male		Female	
Value Label	Frequency	Percent	Frequency	Percent
A seminar at local health clinic	152	31.1	179	35.4
TV Documentary/film	279	57.1	275	54.3
A meeting at your church	11	2.2	7	1.4
A public forum	21	4.3	11	2.2
A health fair	26	5.3	34	6.7
Totals	489	100.0	506	100.0

Table 38. Frequency Analysis by Sex of Question 7: I would be most likely to change my behavior to prevent getting AIDS if:

	Sex			
	Male		Female	
Value Label	Frequency	Percent	Frequency	Percent
I was asked by a close friend	34	7.0	15	3.0
I read an article in a newspaper or magazine	32	6.6	43	8.6
I was told to do so by my doctor	87	18.0	92	18.4
I knew someone personally who had AIDS	241	49.8	222	44.3
I saw a TV documentary regarding the seriousness of the disease	90	18.6	129	25.7
Totals	484	100.0	501	100.0

Table 39. Frequency Analysis by Racial/Ethnic Group of Question 1: Where would you expect to get your most accurate information about AIDS?

	Asian		Black		Hispanic		White		Other	
Value Label	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
My family	0	0.0	1	1.0	0	0.0	3	0.4	0	0.0
My friends	0	0.0	0	0.0	0	0.0	2	0.3	0	0.3
Teachers/instructors	2	3.6	2	1.9	0	0.0	29	3.7	0	0.0
Doctors/health care providers	24	42.9	43	41.7	9	56.3	376	47.8	5	35.7
Newspapers/magazines	4	7.1	4	3.9	0	0.0	58	7.4	0	0.0
TV/radio/movies	3	5.4	2	1.9	0	0.0	27	3.4	0	0.0
Telephone hot lines	0	0.0	2	1.9	0	0.0	1	0.1	1	7.1
AIDS education pamphlets	16	28.6	39	37.9	5	31.3	180	22.9	6	42.9
Books	1	1.8	2	1.9	0	0.0	12	1.5	0	0.0
Health fairs	0	0.0	0	0.0	0	0.0	2	0.3	1	7.1
Special seminars/lectures	6	10.7	8	7.8	2	12.5	97	12.3	1	7.1
Totals	56	100.0	103	100.0	16	100.0	787	100.0	14	100.0

Table 40. Frequency Analysis by Racial/Ethnic Group of Question 2: Where would you go first if you had a question about AIDS?

	Asian		Black		Hispanic		White		Other	
Value Label	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Special seminars/lectures	1	1.8	3	2.9	0	0.0	18	2.2	0	0.0
Health Fairs	1	1.8	0	0.0	0	0.0	5	0.6	0	0.0
Books	6	10.7	4	3.9	0	0.0	25	3.1	0	0.0
AIDS education pamphlets	9	16.1	14	13.7	5	31.3	166	20.7	6	42.9
Telephone hot lines	6	10.7	7	6.9	1	6.3	40	5.0	1	7.1
TV/radio/movies	0	0.0	0	0.0	0	0.0	1	1.0	0	0.0
Newspapers/magazines	1	1.8	1	1.0	1	6.3	20	2.5	0	0.0
Doctors/health care providers	31	55.4	64	62.7	8	50.0	427	53.4	7	50.0
Teachers/instructors	1	1.8	3	2.9	0	0.0	16	2.0	0	0.0
My friends	0	0.0	2	2.0	1	6.3	34	4.2	0	0.0
My family	0	0.0	4	3.9	0	0.0	48	6.0	0	0.0
Totals	56	100.0	102	100.0	16	100.0	800	100.0	14	100.0

Table 41. Frequency Analysis by Racial/Ethnic Group of Question 3: If you thought you had been exposed to AIDS, where would you go first for help?

	Asian		Black		Hispanic		White		Other	
Value Label	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Newspapers/magazines	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
TV/radio/movies	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Telephone hot lines	4	7.0	5	4.9	1	6.3	24	3.0	3	21.4
AIDS education pamphlets	3	5.3	2	1.9	0	0.0	9	1.1	0	0.0
Books	0	0.0	0	0.0	0	0.0	3	0.4	0	0.0
Health fairs	0	0.0	0	0.0	0	0.0	4	0.5	0	0.0
Special seminars/lectures	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
My family	5	8.8	11	10.7	1	6.3	79	9.9	0	0.0
My friends	3	5.3	2	1.9	2	12.5	21	2.6	0	0.0
Teachers/instructors	1	1.8	0	0.0	0	0.0	0	0.0	0	0.0
Doctors/health care providers	41	71.9	83	80.6	12	75.0	659	82.2	11	78.6
Totals	57	100.0	103	100.0	16	100.0	802	100.0	14	100.0

Table 42. Frequency Analysis by Racial/Ethnic Group of Question 4: Which source would you be most likely to believe about facts concerning AIDS?

	Asian		Black		Hispanic		White		Other	
Value Label	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Doctors/health care providers	39	69.6	68	66.0	11	68.8	561	70.1	10	71.4
Teachers/instructors	0	0.0	0	0.0	0	0.0	6	0.7	0	0.0
My friends	0	0.0	0	0.0	0	0.0	3	0.4	0	0.0
My family	0	0.0	2	1.9	0	0.0	4	0.5	0	0.0
Special seminars/lectures	2	3.6	5	4.9	2	12.5	55	6.9	2	14.3
Health fairs	0	0.0	0	0.0	0	0.0	2	0.2	0	0.0
Books	1	1.8	0	0.0	0	0.0	8	1.0	0	0.0
AIDS education pamphlets	11	19.6	26	25.2	3	18.8	147	18.4	1	7.1
Telephone hot lines	0	0.0	1	1.0	0	0.0	4	0.5	1	7.1
TV/radio/movies	1	1.8	1	1.0	0	0.0	1	0.1	0	0.0
Newspapers/magazines	2	3.6	0	0.0	0	0.0	9	1.1	0	0.0
Totals	56	100.0	103	100.0	16	100.0	800	100.0	14	100.0

Table 43. Frequency Analysis by Racial/Ethnic Group of Question 5: Where do you feel you have received most of your knowledge and information about AIDS in the past?

	Asian		Black		Hispanic		White		Other	
Value Label	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Doctors/health care providers	5	8.9	3	2.9	3	18.8	41	5.1	2	14.3
Newspapers/magazines	16	28.6	23	22.3	1	6.3	223	27.9	5	35.7
TV/radio/movies	15	26.8	26	25.2	1	6.3	213	26.7	2	14.3
Telephone hot lines	0	0.0	2	1.9	0	0.0	0	0.0	1	7.1
AIDS education pamphlets	11	19.6	28	27.2	6	37.5	130	16.3	2	14.3
Books	0	0.0	0	0.0	0	0.0	2	0.3	0	0.0
Health fairs	0	0.0	0	0.0	0	0.0	4	0.5	0	0.0
Special seminars/lectures	2	3.6	11	10.7	2	12.5	44	5.5	2	14.3
My family	0	0.0	1	1.0	0	0.0	11	1.4	0	0.0
My friends	3	5.4	1	1.0	0	0.0	11	1.4	0	0.0
Teachers/instructors	4	7.1	8	7.8	3	18.8	120	15.0	0	0.0
Totals	56	100.0	103	100.0	16	100.0	799	100.0	14	100.0

Table 44. Frequency Analysis by Racial/Ethnic Group of Question 6: Which one of the following would you most likely attend to learn more about AIDS?

Value Label	Asian		Black		Hispanic		White		Other	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
A seminar at local health clinic	24	42.1	34	33.0	9	56.3	259	32.3	4	28.5
TV documentary/film	24	42.1	43	41.7	5	31.3	472	58.9	7	50.0
A meeting at your church	0	0.0	2	1.9	1	6.3	14	1.7	1	7.1
A public forum	3	5.3	11	10.7	0	0.0	18	2.2	0	0.0
A health fair	6	10.5	13	12.6	1	6.3	38	4.7	2	14.3
Totals	57	100.0	103	100.0	16	100.0	801	100.0	14	100.0

Table 45. Frequency Analysis by Racial/Ethnic Group of Question 7: I would be most likely to change my behavior to prevent getting AIDS if:

Value Label	Asian		Black		Hispanic		White		Other	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I was asked by a close friend	4	7.0	6	6.0	2	12.5	35	4.4	2	14.3
I read an article in a newspaper or magazine	4	7.0	10	10.0	0	0..0	61	7.7	0	0.0
I was told to do so by my doctor	11	19.3	18	18.0	3	18.8	142	17.9	5	35.7
I knew someone personally who had AIDS	22	38.6	39	39.0	8	50.0	387	48.7	3	21.4
I saw a TV documentary regarding the seriousness of the disease	16	28.1	27	27.0	3	18.8	169	21.3	4	23.6
Totals	57	100.0	100	100.0	16	100.0	794	100.0	14	100.0

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