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## The Effect of Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome Education Program on Knowledge, Attitudes and Sexual Behavior of Selected College Students

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The Effect of Human Immunodeficiency Virus/Acquired Immune  
Deficiency Syndrome Education Program on Knowledge,  
Attitudes and Sexual Behavior of Selected College Students

by

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B.S. May 1979, Hampton Institute  
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the Degree of

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## ABSTRACT

**The Effect of Human Immunodeficiency Virus/Acquired Immune  
Deficiency Syndrome Education Program on Knowledge,  
Attitudes and Sexual Behavior of Selected College Students**

**Arlene Jaine Jackson Montgomery**

**Old Dominion University, 1994**

**Chairman: Dr. Gregory H. Frazer**

The problem studied in this investigation was whether a behaviorally focused Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) Program affects the knowledge, sexual attitudes and sexual behavior of college students.

Three hundred and six first- and third-year college students were included in the study from one university located in Southeastern Virginia. The sample was predominately female, African-American and mainly between the ages of 16-22 years of age.

Freshmen students were presently enrolled in the institution's HIV/AIDS education program, which was a part of a required course. The class sessions consisted of a pretest prior to student's completing the reading assignment and class discussion. During the regular class session, the researcher discussed the reading assignment, provided basic information about HIV/AIDS, its transmission, prevention and treatment, and at the end of

the sessions administered a posttest. Junior students were administered a posttest only. No prior reading assignment or class session was provided.

The data collected was analyzed in terms of significant differences, utilizing t-tests for paired and independent groups, factor analysis and an analysis of variance. The results of the study indicated that there was little effect of HIV/AIDS education programs on knowledge, sexual attitudes and sexual behavior.

## DEDICATION

This dissertation is dedicated to my loving family; husband Monty, who supported, encouraged, assisted, gave flowers every week prior to and during this entire process, and told me to "Hang Tough!"; my daughter, Yolanda, who told me I was a better woman than her to embark on such an endeavor, yet is now completing her first year of Law School; and Michael, my son (also returning to college), who always said, "I know you can do it!"

To my mother for her constant support and the way she takes pleasure in my accomplishments, always asking, "How many more graduation presents do I have to buy for you?"

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## CHAPTER 1

### INTRODUCTION

In June, 1981, The Centers for Disease Control (CDC) published a report describing a mysterious and deadly disease in otherwise healthy, homosexual American men (Morbidity and Mortality Weekly Report, Centers for Disease Control, 1981). This marked the beginning of the American public's awareness of the presence of Acquired Immunodeficiency Syndrome (AIDS). The disease, Pneumocystis Carini Pneumonia (PCP), was identified as a lethal type infection of the lungs in five young homosexual men in Los Angeles, California. Some of the men also had an even rarer form of cancer called Kaposi's Sarcoma (KS) (Centers for Disease Control, 1981).

Three major hypotheses were proposed by Johnson and Vieira (1986) in an effort to explain what was actually occurring in the lives of these apparently healthy young men. One such hypothesis was immune overload in homosexual men. This was felt to have resulted from practicing lifestyles, including the use of recreational drugs and amphetamines, to heighten and prolong sexual stimulation. However, AIDS affects persons other than members of the homosexual population. One such group of persons would be college students who often encounter new independence, and strong peer pressure to adopt certain behaviors while

living in the college community. Students with low self-esteem and self-identity problems may compound their ability to make the best personal choices.

According to McClain & Matteoli (1989), experimentation with sexual behaviors and/or drug use may put college and university students at a greater risk. The second hypothesis, multifactorial theory, implied that exposure to repeated infections, alcohol and drug abuse, environmental and genetic factors eventually caused a collapse of the immune system. This theory was discarded since all homosexuals did not fit this mode. Sexually active individuals with multiple sexual partners are at greater risk of all sexually transmitted diseases. The third hypothesis was the single agent theory. From diligent and focused scientific research, it was concluded by the AIDS researchers that the causative agent found in AIDS was a virus.

New cases of AIDS have appeared with increasing frequency indicating that AIDS affects not only the homosexual and drug abuse populations, but also heterosexuals, bisexuals, infants of high risk or infected mothers, school aged children, and young adults, especially college students (Centers for Disease Control, 1989). According to the 1993 Centers for Disease Control AIDS Information Hotline, the cumulative total of reported AIDS cases in the United States was 361,509.

During the 1991 International Conference on AIDS, United Nations Health officials predicted that the AIDS virus could infect 40 million people by the end of the century (Daily Press, 1991). One fourth of those affected will be afflicted with the onset of the disease. AIDS has been cited as the number one cause of death for people 24-44 years of age. To date there are no drugs to cure AIDS nor any vaccine to prevent it (McClain & Matteoli, 1989). The magnitude of this health problem makes it one in which control of the spread of this disease is of major importance (Daily Press, 1991).

Higher education has as its mission teaching, research, and service. Higher education institutions must focus on AIDS education and compassion in responding to the AIDS crisis. These institutions also must foster education of its students and its community, and develop compassion in settings designed for treatment and care for affected persons.

College students represent selected subgroups of the general population limited in age range and socioeconomic level. This researcher found through the review of literature that the amount of survey data available on the college population are limited.

#### Statement of the Problem

Realizing the implications of the continuous spread of the HIV (Human Immunodeficiency Virus) virus among college

students, many universities and colleges are beginning to initiate AIDS education programs to increase knowledge, foster attitude changes, and eventually alter sexual behaviors of their students. The research question for this study was: Does a behaviorally focused HIV/AIDS education program affect the knowledge, sexual attitudes, and sexual behavior of freshmen and junior college students?

#### Purposes of the Study

The purposes of this study were: (1) determine the effect of a behaviorally focused HIV/AIDS education program on knowledge, sexual attitudes, and sexual behavior of college students; (2) determine students' sexual attitudes toward HIV/AIDS based upon age, race, and gender; and (3) determine if any effects remain from the freshman year to junior year.

#### Significance of this Study

A college student population is composed of individuals at varying developmental levels that often promote the practice of risky behaviors. Experimentation, peer pressure, substance use and abuse are some of the ways in which these developmental levels are exhibited.

A cumulative report of AIDS cases in the United States are provided in the Quarterly Surveillance Statistics compiled by the CDC. For the quarter ending December 1993, in the 13-19 year age group there were 1,528 cases; 20-24 year age group, 13,552 cases; 25-29 year age group, 54,075,

and 30-34 year age group, 84,511 documented cases of AIDS (centers for Disease Control Information Hotline, 1993).

The Virginia Department of Health also compiles cumulative statistics on the incidence of HIV/AIDS in the state of Virginia. From statistics reported at the end of March 31, 1994, it was found that there were 154 cases of HIV infection among persons 13-19 years of age; 2,223 cases, 20-29 years of age, and 2,461 cases among those persons 30-39 years of age. Documented cases of AIDS included 26 cases among the 13-19 year age group; 1,095 cases, 20-29 year age group and 2,468 cases among the 30-39 year age group (Commonwealth of Virginia Department of Health, 1994).

Preliminary studies conducted by the American College Health Association and the CDC provided an indicator of the prevalence of HIV antibodies among college students. The study results indicated that of approximately 17,000 students tested through student-health centers on 19 campuses in the United States, roughly two of every 1,000 students were HIV infected (Keeling, 1990). Most people between 25-45 years of age who are actually infected with AIDS, were probably infected with HIV during their late teens and late twenties. The time period between date of infection and date of diagnosis of severe immune deficiency averages approximately a decade (Keeling, 1990).

Therefore, it is extremely important that measures to curb the spread of HIV be intensified for the college-aged



population since they are apart of the late teens and late twenties age groups.

Despite the growing concern of health officials about AIDS, college aged students do not show the same concern (Smilgis, 1987). This lack of concern may be the result of feelings of immortality often seen in this age group (AIDS Consortium, 1988). Students often admit hearing about AIDS daily, but to most of them, it is simply not seen as a personal concern. Students often feel there are other issues in their immediate environment that are more important. This group is also more at risk, not only because of its perceived lack of risk, but because adults often overlook the special needs of adolescents and young adults. Such attitudes concerning perceived lack of risk can contribute greatly to the transmission of the disease (Hannan, 1990). Therefore, it is imperative that studies be conducted to assist AIDS educators in their efforts to provide effective programs by identifying program deficits and strategies for increasing student interest and participation. It is critical that administrators on college campuses focusing on HIV/AIDS education programs clearly understand which programs work and which do not. They also should address the concerns which give impetus to risky behavior. The significance of this study was twofold: First, the results will provide an assessment of student attitudes which is essential for effective program planning. Second, an analysis of the data will provide

information that can be used by student health care services administrators regarding education programs that serve to decrease the transmission of the HIV virus. The results of the analysis of data can serve as an indicator for changes in present programs. Many programs have a global focus and thus overlook needed local concerns. The results also will provide input and direction for more in-depth studies.

#### Assumptions

The following assumptions were established:

1. College students were aware of the major risk of contracting the HIV virus from sexual contact and intravenous drug use.
2. Students participated in the college-sponsored HIV/AIDS education program.
3. Students completed the pre and posttest questionnaires with honest answers.
4. The instrument measured knowledge, attitudes, and sexual behavior of college students.
5. The instrument was reliable and valid.

#### Delimitations of the Study

The following delimitations of the study were established:

1. The researcher utilized a sample composed of college first- and third-year students. Freshmen students were used since they were just entering college and would be

exposed to an HIV/AIDS education program early in their course of study. Junior students were chosen because they would have been a part of the college environment long enough to have exhibited effects from and developed conclusions about the program presented to them during their freshmen year.

2. The sample consisted of students who had been full time in the study setting and had participated in the HIV/AIDS education program as a freshman.

3. The sample consisted of an intact group of subjects from one university.

4. The respondents' answers to the questionnaire were mainly limited to the choices offered which may have prompted an omission or a forced-choice of answers to the questions posed by the questionnaire.

#### Limitations of the Study

The limitations of the study included the following:

1. Students had varying knowledge and attitudes about HIV/AIDS.
2. Students self-selected to attend the university where the study occurred.
3. Limited access to students by university.

### Definition of Terms

The following definitions of terms were provided as a reference context for the researcher. They are operational definitions designed for use in this study:

1. Acquired Immunodeficiency Syndrome (AIDS): A disease caused by a virus that attacks the immune system (McClain & Matteoli, 1989).
2. Human Immunodeficiency Virus (HIV): A virus that attacks a type of white blood cell called the T4-Lymphocyte, thus compromising the immune system (McClain & Matteoli, 1989).
3. Intravenous Drug Users: Persons who inject drugs by needle directly into a vein (McClain & Matteoli, 1989).
4. High Risk Sexual Behavior: Sexual behavior which includes homosexual activities, use of intravenous drugs, unprotected sex, and multiple sexual partners (McClain & Matteoli, 1989).
5. Behaviorally Focused AIDS Education: Education which focuses on knowledge and protection from HIV virus (Keeling, 1989).
6. College Student: One who is engaged in a course of study and instruction at a college, university or professional or technical school (Webster's New World Dictionary, 1989).

### Theoretical Framework

For the purpose of this research, The Fishbein Expectancy-Value Model of Attitude (1967) was utilized. This theoretical framework was chosen because of the literature's identification of the relationship between beliefs, attitudes, and behavior. The three concepts of the theory as defined by Fishbein are:

**Beliefs:** Cognitive information held about an object (Fishbein, 1967).

**Evaluation:** A person's feelings of favorableness or unfavorableness toward a particular object (Fishbein, 1967).

**Attitude:** A learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object (Fishbein, 1967). Fishbein described the Expectancy-value Model of Attitude theory in this manner:

1. The individual holds many beliefs about a given object, that is, the object may be seen as related to a number of attributes which can be other objects, characteristics, goals, etc. (Fishbein, 1967).
2. Associated with each of the attributes is an implicit evaluative response (attitude) (Fishbein, 1967).
3. Through conditioning (learning), the evaluative responses become associated with the attitude object (Fishbein, 1967).
4. The conditioned evaluative responses summate (Fishbein, 1967).

5. On future occasions the attitude object will elicit the summated evaluative responses (overall attitude) (Fishbein, 1967).

Therefore, a person's attitude toward any object is a function of his/her beliefs about the object and the implicit evaluative responses associated with those beliefs.

An example of attributes associated with beliefs about AIDS which an individual may hold would be (1) AIDS causes extreme weight loss, and (2) AIDS is a disease of homosexuals. An associated attitude (evaluative response) of these beliefs would indicate that individuals experiencing extreme weight loss have AIDS and are homosexual.

Fishbein's theory further postulated that beliefs about an object and the attitude toward the object are placed in a behavioral theory framework. An individual's attitude toward an object is learned, and is in a continuous, dynamic relationship. This leads to the prediction that an individual's attitude toward an object is a function of (1) the strength of his/her beliefs about the object; and (2) the evaluative aspect of those beliefs. Beliefs change in two ways: (1) new beliefs may be learned, and (2) the strength of already held beliefs may change. Attitude change will occur when: (1) an individual's belief about an object change and (2) when the evaluative aspect of beliefs about an object change. Thus, an individual's attitude

toward some concept will change only if something new is learned about the concept. Simply learning, however, will not produce attitude change. The change only occurs when the individual accepts the communication and chooses to act on it (Fishbein, 1967).

Therefore, when this theoretical basis is utilized in the current study the following ideas can be explicated:

1. People have attitudes about a concept (AIDS);
2. New information is presented related to the concept (AIDS education);
3. Attitudes may or may not be changed because of intervening variables such as societal norms, acceptance of new information and peer influence;
4. Attitudes can be operationalized through behavior (sexual behavior). It is the researcher's belief that the effects of a behaviorally focused HIV/AIDS education program on knowledge, sexual attitudes, and sexual behavior will not be significantly different between freshman and junior students based upon age, gender, and race (see Appendix A).

## CHAPTER 2

### LITERATURE REVIEW

AIDS, first diagnosed in the United States in homosexual populations in New York and California, was manifested in the form of Pneumocystis Carini Pneumonia and Kaposi's Sarcoma (Centers for Disease Control, 1981). Before the AIDS manifestation, KS was primarily a disease of elderly Mediterranean men and was rarely fatal, while PCP was found only in patients with obvious reasons for immune compromise i.e., patients receiving chemotherapy (McClain & Matteoli, 1989).

As the number of AIDS infected persons increased, doctors and researchers wondered why these previously healthy men in the prime of their lives developed conditions which often included vague states of unexplained illnesses. These illnesses progressed over several weeks into a series of further unexplained fatal infections and diseases such as Pneumocystis Carini Pneumonia and Kaposi's Sarcoma (McClain & Matteoli, 1989).

During the early stages of AIDS research, the possibility that AIDS may be caused by a retrovirus was considered by the researchers. These retroviruses, usually seen in certain species of animals, were associated with slow progressive illnesses affecting blood, lungs or the



nervous system (McClain & Matteoli, 1989). Dr. Robert Gallo at the National Cancer Institute, isolated a retrovirus from humans in 1980 (Schiltz, 1987). Dr. Gallo found this retrovirus exhibited a particular predisposition for human lymphocytes of the T type. Other researchers also were trying to solve this increasing problem. Dr. Luc Montagnier, lead scientist of a group at the Pasteur Institute in Paris and Dr. Jay Levy of the University of California, San Francisco, isolated viruses which were associated with the disease (Schiltz, 1987).

Through an analysis of these discoveries, the evidence revealed that the three retroviruses: Human T cell Lymphotropic Virus (HTLV I, II, III); Lymphadenopathy-Associated Virus (LAV); and AIDS Related Virus (ARV) were fundamentally the same retrovirus and were casually involved in the development of AIDS and AIDS related complex (Osborn, 1987). In 1983 the first heterosexual transmission of HIV was reported (Friedland & Klein, 1986), thus making it known that HIV/AIDS was not just a disease of homosexuals.

Since there is presently no cure for AIDS, education remains a critical component in the prevention of the spread of the virus. The CDC believes that at risk behavior can be decreased if people know which activities they are practicing puts them at risk and what "safe" alternatives are available (National Academy of Science, 1986). College students can be included in those at

greatest risk for contracting HIV/AIDS because of their lifestyles. College students often are away from the influence of parents for the first time. They also may have to make critical decisions about the direction of their life with only the input from peers. The feeling of immortality, often seen in this young adult age group, also puts them at greater risk for this fatal disease.

According to the Presidential Commission on the Human Immunodeficiency Virus Epidemic (1988), AIDS education programs must be expanded to include non-traditional forms of education in order to reach the total society. The college-aged population is a group that has not been highly visible in studies related to AIDS education programs. They often are included in studies according to their age groups, but not as a specific group within itself. Therefore, information pertaining to this particular group is needed. Colleges serve a diverse population on its campuses, and the influence of these populations impact on the surrounding community. There is a need for continuing education programs designed to lead to changes in behavior that will lessen or eliminate the risk of HIV transmission and to deal with HIV positive students and co-workers (Keeling, 1989).

Since there is limited information in the literature concerning the effects of college based HIV/AIDS education programs, this review will be done from the perspective of

materials that outlined areas which influence HIV/AIDS education programs.

#### Who Administers HIV/AIDS Education Programs

College administered HIV/AIDS programs are identified as the more common types of education programs. The literature documents a variety of college offices tasked with providing or monitoring HIV/AIDS education programs. According to Keeling (1989), such offices as Chief of Student Affairs, Student Health Services, and Foreign Student Affairs should and often are involved in HIV/AIDS education programs. Some colleges also use AIDS Task Forces to administer their programs (Keeling, 1989). Because of the relationship between drug, alcohol and HIV/AIDS transmission, education programs are frequently designed to operate under the context of integration of content for these related areas (Keeling, 1990).

Persons involved in HIV/AIDS education should keep in mind those developmental tasks associated with the college-aged population. Cognitive developmental theory suggests that students attending information giving sessions, although they respect and listen to the authority figure, often do not retain and understand the information.

The literature documented cases in which HIV/AIDS education programs have impacted others. According to Seigel and Glassman (1989), the impact of educational interventions by public health efforts can be seen most

clearly in gay and bisexual male populations. Data from their study revealed evidence of a significant trend toward safer sexual behavior both on the individual and aggregate level (Seigel & Glassman, 1989).

Student administered programs appear to be highly desirable. According to Keeling (1989), peer educators can be valuable in this educational process since they can use their position to positively influence their peers. However, HIV/AIDS Education administrators should view the peer influence as a long-standing source of information. Peer educators will remain among the participants and can continue to spread their positive influence. McClain and Matteoli (1989) stated that students should play a major part in the overall process of HIV/AIDS education by designing, implementing and evaluating these programs. Students do, however, need guidance and a means to include mechanisms for reliable quality assurance (Keeling, 1990).

#### Methods of Presentation of Materials

Programs which attempt only to impart knowledge from educator to learner usually do not result in consistent, sustained, risk-reducing behavior in a large number of people (Cates & Bowen, 1990). According to Keeling (1992), since it has been determined that students, although aware of the risk of HIV/AIDS, still practice at-risk behaviors, a new paradigm has been introduced. The strategies to include one-on-one individual attention, community

multiagency approaches (Dryfoos, 1990) self-esteem issues (Hawkins & Weis, 1985), and integrating subjects such as HIV and STDs together rather than separately (Keeling, 1989).

Counseling sessions have been used in some settings with positive results. Students being seen in health service agencies often ask questions which provide an opportunity for impromptu behavioral counseling about at-risk behavior (Keeling, 1992). Athletic trainers also can use opportunities during discussions about upcoming sports events to broaden discussions of safe sex. The keys to these moments are that first, the counselor is seizing the moment, second, the discussion is individually centered and third, the counselor is using an already established and trusted relationship as a basis for encouraging change (Keeling, 1992). It is further stated that those persons counseling students regarding HIV/AIDS issues should have a basic understanding of developmental theory combined with sociocultural sensitivity which also influence student behavior (Keeling, 1992).

The literature shows evidence of university program activities such as HIV/AIDS awareness week in which college populations are provided printed materials, video tapes, classroom discussions, speakers, and dramatic presentations. Evaluations of these programs are based on the number of contacts made and the amount of participation by students (Ostrow, 1989). These programs, which consist

of lecture-only sessions, often do not promote student discussion or promote bridge building between knowledge and behavior (Keeling, 1992).

The inclusion of persons from the target population when planning educational programs has been cited as a means of promoting effective program outcomes. In essence, program effectiveness can be enhanced by including experiential and skill-building components that involve the audience and positively reward people for intending and accomplishing safer behaviors (Keeling, 1992).

The Whitman-Walker Clinic, a community based non-profit organization in Washington, D.C., responded to the specialized health needs of members of the gay and lesbian community as well as intravenous drug abusers and commercial sex population. A large portion of their activity is focused on The Sunnye Sherman A.I.D.S. Education Project. This education project is designed to educate the target population about AIDS transmission, thereby changing attitudes regarding at-risk behaviors resulting in behavior changes (safe sex, not sharing needles). This project, similar to university programs, is based on the theory that knowledge changes attitudes thereby causing a change in behavior using seminars as the primary mode of education (Swales, 1987).

Small group sessions with role play will allow practice of skills needed to negotiate safe sex in opposite-sex

relationships. These sessions may prove to be expensive but peer educator groups can be used as a strategy to decrease cost (Keeling, 1989).

#### AIDS Education Program Accessibility and Availability

The success and effectiveness of AIDS education programs are affected by their accessibility and availability to students. Effective college-age programs must provide opportunities for all students to participate in this educational process whether they are commuters and/or have learning, physical or other disabilities (Keeling, 1990). The use of reading materials written in braille will assist in meeting the needs of blind students. It is important to consider physical accessibility to the meeting site as well as the materials presented. Administrators of the behaviorally focused AIDS education programs must be aware that the programs will need to be offered at a variety of times and may also need to be repeated more than once. Gay men, bisexuals and lesbians should be able to participate in education programs without fear of disclosure (Keeling, 1989).

#### Attitudes of Students Toward HIV/AIDS

According to Gaines, Iglar, Michal and Patton (1988), failure to address the individual's attitudes toward a subject will result in less effective educational endeavors. This further implies that the attitude of the

target group is vital when attempting to implement AIDS education programs.

Efforts to provide pamphlets on safe sex to students through health services on the campus of Columbia University resulted in a less than positive impact: the information was thrown away by the students (Smilgis, 1987). The number of student contacts was not stated for Columbia, but at colleges where students have died from AIDS, the frequent response of other students was that they were heterosexual and that this would not happen to them. A student from UCLA, apprehensive about the future, felt that eventually he would have to start asking his partners about their sexual history. Presently, however, he was not asking (Smilgis, 1987).

A study by Stebleton and Rothenberger (1993) examined the issue of dishonesty in dating among 171 undergraduate college students as it relates to the HIV/AIDS epidemic in the United States. The researchers found that of those students involved in monogamous relationships, 36% of the men and 21% of the women reported being sexually unfaithful to their current partner. Stebleton and Rothenberger (1993) also found that women asked more about past sexual histories of their partners than men, while more men admitted they had lied to their sexual partners.

For many college-aged students who are experiencing their sexual prime, AIDS is pushed into their subconscious. It is not that they are unaware of the danger, but instead



they choose to ignore it (Smilgis, 1987). DiIorio, Parsons, Lehr, Adame, and Carlone (1993) assessed knowledge of AIDS, and of safe sex practices among college freshmen. A total of 689 questionnaires were received. The results indicated that respondents were knowledgeable about the cause and transmission of AIDS, but were less knowledgeable about medical aspects. Few could differentiate between the effectiveness of latex and non-latex condoms. Students were, however, aware of the effectiveness of condoms in preventing the spread of AIDS. As indicated by the literature, college students are knowledgeable about the transmission of HIV/AIDS, however, behavioral changes may or may not occur.

A study conducted by Mickler (1993) addressed perceptions of vulnerability among college-aged students. The researcher found that perceptions of personal risks of contracting AIDS was estimated to be significantly lower than risk for each of a set hypothetical persons who varied in degree of similarity to respondents. Heterosexual males, homosexual males and females, and young adults not in college were perceived as more likely to contract AIDS than females, heterosexuals, and college students. AIDS knowledge, although related to accuracy of risk estimates, was not predictive of AIDS preventive behavior (Mickler, 1993).

Turner, Korpita, Mohn, and Hill (1993) conducted a study on reduction in sexual risk behavior among college-aged students following a comprehensive health education intervention project. Sexual risk behaviors of 341 students who had received comprehensive health education intervention in a first-year seminar were compared with 227 students who were not enrolled in the seminar. Data were assessed at baseline, and after three months. Compared with students who had not received the intervention, men in the seminar reported increased sexual abstinence, but no change in consistent condom use. The women in the intervention group reported no change in sexual abstinence, but an increase in consistent condom use. Women who had not received the intervention reported using a condom less frequently than women who had received the intervention. Health education intervention on a college campus was associated with short-term reduction in sexual risk behaviors which varied according to the student's gender (Turner et al., 1993).

Taylor-Nicholson, Wang, and Adame (1989) conducted a survey of 1306 students which indicated that there were no significant differences in overall knowledge scores between those who had and those who had not had AIDS education programs. All students were generally knowledgeable about the transmission of AIDS, but 52.3% perceived themselves as not susceptible to contracting AIDS. Compared with high school students in two earlier studies, current students

were more knowledgeable on 15 of 16 items, but there was no difference in perceived susceptibility (Taylor-Nicholson, et al., 1989).

### Influencing Factors

HIV/AIDS education programs are not effective with all groups (Nagy, Hunt, & Adcock, 1990). They feel that an important aspect of any education program is that of sensitivity to members of the group being addressed (Nagy et al, 1990). Keeling (1992) noted the need for cultural sensitivity in developing and implementing HIV/AIDS education. Other authors subscribe to the belief that persons providing health education must consider the influence of an individual's culture when planning health education (Braithwaite & Lythcott, 1989; Gerald, 1989; Lesnick & Pace, 1990). In discussing psychosocial theory, Keniston (1971) states that students are often torn between social and cultural norms and their personal values, and it is often very difficult to maintain a balance between the two. HIV/AIDS educators must develop means to help students determine where their support systems are for positive, risk-reduction behaviors that are contrary to prevailing norms.

Hopkins (1987) identified certain barriers to education i.e., language, fear of discrimination, and suspicions about the role of the federal government as being important when considering the development of education programs.

This reinforces findings of a study by Schilling, Schirke & Nichols (1989) who discovered that different ethnic/racial groups patronize different print media and radio channels and these must be considered when planning education programs.

Additionally, when we think of planning HIV/AIDS education programs for minorities it must be noted that people of color are not homogeneous. Plans which incorporate cultural differences with respect to concepts language, and attitudes should be addressed (Keeling, 1992). To be effective, HIV/AIDS educators must be cognizant of how people of color perceive presentations and discussions. The sensationalized early press reports which linked the origin of HIV/AIDS with Africans may offend members of the African-American population, reinforce stereotypes, and promote discriminatory attitudes (Keeling, 1992). Some African-Americans may believe that HIV was manufactured in a laboratory and is being utilized to decrease the population of undesirables. Although this theory has been discounted by scientist, many African-Americans believe that the theory is creditable especially in light of the Tuskegee study which was conducted to define the natural history of untreated syphilis on poor rural African-Americans in Alabama (Jones, 1981). Therefore, the influence of a history of discrimination and oppression should be considered as influences on attitudes

and creating special needs in understanding and preventing HIV/AIDS disease.

Responses to the need for HIV/AIDS education programs must take into account factors other than use of language and imagery. Other important factors include: (1) levels of education; (2) peer involvement; (3) community control; and (4) community attitudes about sex, sexuality, and dying (Heckler, 1985).

Falvo (1985) stated that education directed toward increasing knowledge or measures of prevention are often a means of motivation if the individual recognizes its value upon his/her life. She also reported that social groups and support systems are important motivational indicators for learning.

Redman (1985) cited four factors which must be present in order for an individual to accept health teaching: (1) believe he/she is susceptible to the disease; (2) the belief that the presence of the disease would have a serious impact upon his/her life; (3) be aware of which preventive actions should be taken and that these actions may decrease the chance of contracting the disease; and (4) the belief that the threat to self of taking action is not as great as the threat of the disease itself.

### Summary

The literature review emphasized the continuing difficulties faced by colleges and universities in

determining the most effective means and methods of providing behaviorally focused HIV/AIDS education programs. Those studies specific to the effect of college-based HIV/AIDS education programs on the knowledge, attitudes, and sexual behaviors are limited. Therefore, there is a need for studies in this area to add to this dearth of knowledge.

A variety of college offices can provide and monitor the HIV/AIDS education programs as well as provide varied presentation strategies. It was found that college-administered programs are those most likely to be found on college campuses. Offices such as Student Affairs may be tasked with providing or monitoring these programs. Additionally, HIV/AIDS education programs may be linked with other health-related programs such as drug and alcohol. The utilization of seminars, small group discussions, and activities associated with awareness programs were cited as strategies often used to present program materials. Programs administered by students were cited as highly desirable.

The need for programs that are accessible and available to all students with their special circumstances were discussed. Other important aspects to be considered in planning HIV/AIDS education programs include student attitudes toward HIV/AIDS, sensitivity to members of the target group, and the individual's cultural association.

Some of the most effective programs are those which have been established after careful assessment, use a variety of presentation strategies, include student input, are accessible and available, are culturally sensitive, and have a means of evaluating their effectiveness. It could be surmised from the literature review that there is a need for comprehensive HIV/AIDS education programs on college campuses.

### CHAPTER 3

#### RESEARCH METHODOLOGY

The research design used in this descriptive correlational study describes the relationship among variables rather than to infer cause-and-effect relationships (Polit & Hungler, 1991). In this type of study, the researcher works with preexisting groups that have not been formed by random processes. Additionally, there will be no manipulation of the independent variables. The advantages of utilizing a descriptive correlational research design are: (1) it can generally be an efficient and useful method of collecting a large amount of data in a relatively short period of time, and (2) it can be typically strong in terms of realism and has a subjective appeal for the solution of many practical problems (Polit & Hungler, 1991). Because this design tends to lack the artificiality of a laboratory setting, the results will more likely be generalizable to settings depicting occurrences in the real world.

#### Research Questions

Universities are beginning to implement innovative and behaviorally focused AIDS education programs. Presentations to students by student health services personnel are the beginning of this ongoing effort to provide current and



accurate information about AIDS, and to alleviate some of the fear and anxiety it creates for some students. Other students are less concerned about the risk of HIV infection either because of lack of education or the feeling that it really does not affect them. Presently, AIDS education programs often consist of distributing literature and open discussions. The effectiveness of such programs vary and there is little evidence that they actually increase knowledge base, or change attitudes or behaviors of the students.

MacDonald (1990) recommends the use of behaviorally focused AIDS education programs as a more effective way of increasing knowledge and changing attitudes and behavior. At Columbia University in New York, the Director of Health Services has countered youths' "immortality" feelings by installing condom dispensers in the health services building rest rooms and distributing a 31-page pamphlet on safe sex (Smilgis, 1987). Students have mostly ignored these efforts, often leaving booklets in piles by mail stations. This could also be attributed to the length of the booklets.

Students at a New Jersey high school seem to be more enlightened about AIDS and safe sex practices. Some students often use condoms as the status birth control of choice and are better able to deal with the realities than adults who came out of the '70s who enjoyed a certain sense of sexual freedom (Smilgis, 1987). This raises the

question: What transpires between high school and college that causes the change in student behavior? As stated by Fishbein & Ajzen (1975), a person may have a certain belief about an object but the resulting behavior may be influenced by other determinants such as situational variables and norm motivation.

Research questions generated from the literature review and addressed in this study are stated as follows:

Research Question 1: What difference exists between the pretest and posttest knowledge level and sexual attitude scores of freshman college students after participating in a behaviorally focused HIV/AIDS education program?

Research Question 2: What difference exists in the knowledge level, attitude scores, and sexual behavior responses between freshmen and junior college students after participating in a behaviorally focused HIV/AIDS education program?

Research Question 3: What difference exists between the freshmen and junior students' sexual attitudes based upon age, race, and gender?

In this study, the total population of one intact group was considered. The group was given a four-part questionnaire. To ensure adequate sample size and maximum participation in the investigation, the questionnaires were administered to the participating students during regular class time. The questionnaires were distributed and

collected from the subjects by the researcher within a two-month time period.

### Setting

This study was conducted in the Southeastern section of Virginia. The institution used in the study is a coeducational, nonsectarian institution of higher education comprising a community of individuals associated for the basic purpose of education of its members, creation of knowledge, and service to society. It offers the baccalaureate degree in 47 areas, master's degree in 18 areas, and a doctorate degree in physics. This institution is accredited by the Southern Association of Colleges and Schools and the Department of Education of the Commonwealth of Virginia. It holds memberships in the Council of Graduate Schools, the Council of Independent Colleges in Virginia, and the American Council on Education.

Freshmen students are the responsibility of the Office of Freshmen Studies which has as its major objective to provide comprehensive care of academic support programs to facilitate the delivery of services that significantly influence academic achievement. In addition to academic counseling, academic advisement, and social and personal counseling services, there is an ongoing orientation program that stresses institutional values and traditions. University 101, a required course, is a major component of the ongoing orientation program. This required course is

designed to provide freshmen with a common core of experiences in order to facilitate their transition to the college environment. One session of University 101 focuses on HIV/AIDS education.

Junior students included in the study will have completed the University 101 course containing the HIV/AIDS component. Any long-term effect on their sexual attitudes and behaviors should be evident in this study.

#### Permission to Conduct the Study

Permission to conduct the research study was obtained from the participating institution through a letter. The letter described the purpose of the study, expectations of the participants, and emphasized the confidentiality of information to be collected and the anonymity of the subjects participating in the research study (see Appendix B). A representative from the participating agency was required to sign a statement of permission (see Appendix B). A time was arranged for the researcher to interview the Coordinator of Freshman Studies. During the interview, additional information was provided and questions answered concerning this study.

#### Sampling Procedure

The total population of the freshman and junior classes at the institution was the sample universe in the study. No criteria for participating in the study was made except

that they needed to have participated in the institution's HIV/AIDS education program within the past three years. After permission to conduct the study was obtained from the participating institution, the students were contacted by the researcher during regular classtime, and asked to participate in the study by completing the questionnaire. Each student was asked to give his/her informed consent in writing. This signed consent granted the researcher permission to utilize the collected data, and acknowledged the student's understanding of the information given regarding confidentiality, purposes of the investigation, and personal rights regarding the use of information collected (see Appendix B). While students who elected to participate in the study were completing the questionnaire, non-participants were taking part in an independent study session.

### Questionnaire

In addition to collecting background information, the researcher used a 151-item questionnaire, Sexual Knowledge, Attitudes and Experiences of Black College Students in the AIDS Era, developed by Jemmott and Jemmott (1990) as the instrument for data collection. Section one of the questionnaire consists of 60 true and false items about the knowledge level of the students.

Section two of the questionnaire consists of 66 Likert Scale items which collected data on sexual attitudes. These items asked students to rate, on a scale of 1-7,

whether their feelings toward identified sexual behaviors that people sometimes practice were positive or negative, whether their sexual partners, parents, church and friends would approve of the behavior, and whether they planned to exhibit these behaviors in the next three months. The choices ranged from very negative to very positive, not at all important to extremely important, disapprove strongly to approve strongly, and not at all likely to very likely. Data collected from this section tested the sexual attitudes of students.

Section three of the questionnaire consists of 25 items concerning sexual behavior. The questions were a mixture of closed and open ended items. Data obtained from this section tested the sexual behaviors of the students. Section four of the questionnaire elicits background data regarding age, gender, and race. The students were instructed to consider the items from each section carefully and select the choice which best represented their level of knowledge, attitudes, and sexual behavior.

The reliability of this instrument was established in a study of 923 predominately Caucasian college students in which the investigators explored HIV transmission related behaviors, and knowledge and a variety of conceptual variables taken primarily from social cognitive theory that were thought to be potentially predictive of safer sexual behavior (O'Leary, Goodhart, Jemmott & Boccher-Lattimore, 1992). The ethnic composition of the study group was 275

caucasians, 36 Black/African-American, 28 Hispanics/Lationos and 28 Asian/Pacific Islanders. Although the sample was predominately caucasian, the possibility of cultural bias was not cited as a concern. It may, however, impact upon the generalizability of findings to other groups. The reliability (coefficient alpha statistics) was given as: Knowledge: reliability = .58; Attitude: perceived potential risk: reliability = .58, perceived social norms: reliability = .71, and negative expected outcomes of condom use: reliability = .70; Behavior: self-efficacy to discuss history/negotiate: reliability = .80, and self-efficacy to practice safer sex: reliability = .71 (O'Leary et al, 1992).

The originators of the instrument established content validity of the knowledge about AIDS and STD scales by having sex AIDS experts (scientists and clinicians involved in AIDS related research, patient care, or education efforts), examined the items to determine whether any significant facts a layperson should know were excluded. The coefficient alpha for the scale ranged from .73 to .89. Attitudes and Behavioral beliefs yield a coefficient alpha of .75 (Jemmott & Jemmott, 1990). The validity of the questionnaire has been established through its use by other researchers such as Jemmott & Jemmott, 1991, O'Leary et al. (1992), and Jemmott, Jemmott & Fong, 1992 with coefficient alpha's ranging from .67 to above .73.

Content validity of the instrument for this study was established by a panel of three members whose fields of expertise were in research, nursing, and education. Panel members were asked to review the instrument and determine if it was an appropriate data gathering tool for measuring the knowledge, attitudes and sexual behavior of college students. No modifications were made.

### Testing the Instrument

The questionnaire was administered during a pilot study using two students. These subjects were not included in the actual sample population of the study in order to avoid contamination of the original sample, and did not have any demographic limitations placed on their selection for instrument testing. The researcher conducted the instrument testing in order to (1) ascertain the amount of time required to administer the questionnaire; (2) test the questionnaire and data collection techniques; (3) test the proposed statistical and analytical procedures; and (4) detect problems in the study procedure. No revisions were necessary.

### Data Collection

The researcher requested an interview with the coordinator of Freshmen Studies one month prior to initiating data collection. During the interview the purpose of the study, and the data collection procedure



were restated. Six freshmen classroom instructors were identified and contacted in reference to a date on which the researcher would administer the 200 questionnaires. The institutions' HIV/AIDS education program was a part of a college introductory class required by all freshmen students. The class session consisted of a reading assignment and class discussion (see Appendix C). The researcher obtained permission from the instructors to conduct the class session. The instructors were informed that the researcher would obtain a signed informed consent form for each student, and administer a pretest to the class prior to students' exposure to the required reading assignment. During the regular class session, the researcher discussed the reading assignment, provided basic information about HIV/AIDS, its transmission, prevention and treatment. There was also a question and answer period which allowed students to ask those questions which were of special interest to them. Following each one-hour session, a posttest was administered.

The sample of 200 junior students was selected from intact classes. Seven junior class instructors were contacted. The purpose of the study was discussed and a date was determined when the 200 questionnaires would be administered. On the day of administration, each student received a questionnaire with a cover page which provided them with the purpose and use of the study and an assurance of confidentiality form that required signatures of their

consent. Students also were informed that the results of the study would be available upon request. After obtaining the signed informed consent the students were given the posttest, which measured their knowledge, attitudes, and sexual behavior. No prior reading assignment or instructions were provided. The average completion time of the questionnaire was approximately 15 minutes.

#### Data Analysis

Sections one, two, and three of the questionnaire were designed to measure the student's knowledge, attitudes, and sexual behavior. A frequency distribution and a percentage comparison was used to determine the direction of responses. Knowledge and attitude mean scores were calculated by computer for the subjects. A t-Test was used to determine if there was a significant difference in knowledge, attitudes, and sexual behavior between the two groups. The analysis of variance (ANOVA) was used to determine the significant relationship between and within the means of student attitude scores for the variables age, and race. A chi-square was used to determine the significant difference for the variables attitude/gender. The .05 level of significance was established to indicate the probability of making a type I error.

Section four of the questionnaire, the background data, provided a description of the sample regarding age, race, and gender. Frequencies and percentages also were calculated for responses to each item and each set of scores was placed on a summary frequency distribution table. A percentage comparison of the responses was determined.

## CHAPTER 4

### ANALYSIS OF DATA

This chapter will include a discussion of the sample demographics and addressment of research questions. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) to answer the problem statement which was to determine the effect of an HIV/AIDS behaviorally focused education program on knowledge, sexual attitudes and sexual behavior of selected college students.

Criterion validity was established through factor analysis which determined the amount of variance attributed to the AIDS/STD knowledge inventory questions and if the questions were valid for measuring knowledge. The amount of variance was determined for freshmen and juniors and both groups combined. The variables which accounted for the greatest amount of variance were sexually transmitted disease (symptoms) and AIDS transmission. For the freshmen group these variables scored the highest pure loading on Factor I and accounted for 31.2% of the variance; 37.9% of the variance for juniors; and 32.8% of the variance for the combined group. The variable protective measures loaded on Factor II and accounted for 26.4% of the variance for freshmen; 21.2% for juniors; and 19.3% for the combined group. These two factors together accounted for 57.6%

(freshmen); 59.1% (juniors); and 52.1% (combined) of the variance.

Principal component analysis without interaction was utilized to generate 12 factors with eigenvalues greater than unity based on mean scores for the questions. These factors produced from varimax rotation are summarized in Tables 1, 2, and 3. The 12 factors have been labeled: (I) Knowledge of venereal disease symptoms (7 questions); (II) transmission (21 questions); (III) etiology of AIDS (9 questions); (IV) treatment (2 questions); (V) prevention (3 questions); (VI) risk behavior (5 questions); (VII) attitudes toward AIDS (5 questions); (VIII) symptoms of AIDS (3 questions); (IX) condoms (one question); (X) Abstinence, (one question); (XI) treatment (AIDS) (2 questions); and (XII) concept of cure (one question).

For freshmen, Factor I accounted for 31.2%; for juniors 37.9%; and 32.8% combined of the variance. Factor II, accounted for 26.4% freshmen; 21.2% juniors; and 19.3% combined of the variance. The total variance accounted for by the 12 factors for freshmen was 70.6%; for juniors 71% and combined 60.6%. The communality of the variables ranged from 0.73 to 0.00 (freshmen); 0.78 to 0.00 (juniors); and 0.83 to 0.00 (combined).

### Research Questions

The following research questions were developed:

1. What difference exists between the pretest and posttest knowledge and sexual attitude scores of freshmen

**Table 1**  
**Factor Scores for STD/AIDS Knowledge**  
**Inventory Questions (Freshmen)**

QUESTIONS	FACTORS											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
1							-0.49	0.43				
2												
3			0.51									
4						-0.42						
5							0.47	0.41		-0.42		
7	0.48	0.49										
8			0.43									
9		0.54										
10			-0.41									
11											-0.61	0.43
12					0.45			0.47				
13	0.59											
15	-0.59											
16									-0.43			
17					-0.42							
18	-0.60											
19							0.44			0.59		
20	0.66											
21	0.63		-0.44									
22	-0.51											

Table 1 (continued)

QUESTIONS	FACTORS											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
24				-0.58			-0.49					
25		0.53		-0.47								
26		0.57										
27		0.43										
28		0.58		-0.49								
29	0.58											
30	0.53											
31		-0.49										
32		0.65										
33	0.77											
34	-0.40	0.73										
35		0.82										
36		0.52										
37										0.62		
38	0.71											
39		0.57		-0.41								
40	-0.80											

Table 1 (continued)

QUESTIONS	FACTORS								
	I	II	III	IV	V	VI	VII	VIII	IX
41	0.53								
42	0.97								
43		0.64							
44		0.62							
45	0.89								
46	0.68	0.44							
47	0.65								
48			0.54						
49			0.51	0.66					
51									-0.57
52	0.46	-0.44							
53					0.46	0.44			
55	0.45	-0.53		0.41					



Table 1 (continued)

FACTORS

QUESTIONS	I	II	III	IV	V	VI	VII	VIII	IX
56									0.49
57			0.68						
58			0.53						
59					-0.49				
60			0.48						

Legend: Questions 6, 14, 23, 50, and 54 did not load sufficiently high enough to be included in the analysis.

**Table 2**  
**Factor Scores for AIDS/STD Knowledge**  
**Inventory Questions (Juniors)**

FACTORS											
QUESTIONS	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
1								0.41		-0.52	
2						0.53					
6						0.55					
7							-0.45				
8			0.42								
9					-0.51						
10	-0.49								0.43		
11				0.43						0.44	
12								0.42			
13	-0.53										
14	-0.56		0.54				0.45				
15	0.51								-0.50		
16	0.44	0.75									
17				0.52							
18	0.44	0.75									

Table 2 (Continued)

QUESTIONS	FACTORS										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
19					-0.44	-0.42	0.57				
20	0.57	-0.43									
21	0.75										
22	0.43		0.59								
23				0.49							
24											0.68
25		0.53									
26				0.56							
28	0.68										
29	-0.52		-0.54								
30	-0.41	-0.63								0.43	
31											
32	0.42	0.48		-0.46							
33	-0.90										
34	0.83										

Table 2 (Continued)

QUESTIONS	FACTORS								
	I	II	III	IV	V	VI	VII	VIII	IX
35		0.56							
36		0.42				0.71			
37							0.41		
38	-0.76								
39	0.78								
40	-0.84								
41		-0.42						0.46	
43	0.57								
44		0.61							
45	-0.82	0.41							
46		-0.55						0.50	
47		-0.58							
48	0.53								
49	0.51	0.48							

Table 2 (Continued)

FACTORS

QUESTIONS	I	II	III	IV	V	VI	VII	VIII	IX
50			0.45						
51			0.44						
52	-0.79								
53							-0.49		
54	0.49		0.41						
55	-0.49		0.46						
56					0.48		-0.43		
57			0.49		0.69				
58			0.58						
59	0.68								0.54
60									

Legend: Questions 3, 4, 5, 27, and 42 did not load sufficiently high enough to be included in the analysis.

**Table 3**  
**Factor Scores for STD/AIDS Knowledge**  
**Inventory Questions (Combined)**

FACTORS										
QUESTIONS	I	II	III	IV	V	VI	VII	VIII	IX	X
1					0.56				-0.41	
2					-0.56					
4							-0.49			
5							0.62			
6		0.42								
7		0.50			.71				0.42	
9	0.49	0.42								
10										
12						0.44		0.45		
13	0.53	-0.54								
14	0.49		0.50							
15	-0.57									
16				0.52						
17					0.46					
18	-0.48			0.55						
19										-0.41
20	-0.62		-0.44							
21	0.71									
22	-0.51		0.45							
23					0.43					

Table 3 (continued)

QUESTIONS	FACTORS									
	I	II	III	IV	V	VI	VII	VIII	IX	X
26		0.59								
28	-0.49			-0.48						-0.42
29	0.55		-0.52							
30				-0.59						
31		0.44								
32	0.44									
33	-0.83									
34	0.79									
35		0.57	-0.41							
36			-0.44							
37							0.41			
38	-0.73									
39	0.63									
40	-0.71	0.44								
41		0.44		-0.42						
42										
43	0.41	0.43								
44		0.54		0.41						
45	-0.69	0.55								

Table 3 (continued)

QUESTIONS	FACTORS							
	I	II	III	IV	V	VI	VII	VIII
46		0.73						
47		0.42		-0.47				
48	0.51							
49	0.41			0.46				
50							-0.44	
52	-0.68							
53								
55	-0.56			0.43				0.49
57			0.58					
58			0.56		0.49			
59	0.55							
60						-0.43		0.41

Legend: Questions 3, 8, 11, 24, 25, 27, 51, 54, and 56 did not load sufficiently high enough to be included in the analysis.



college students after participating in a behaviorally focused HIV/AIDS education program?

2. What difference exists in the knowledge and sexual attitude scores and sexual behavior responses between freshmen and junior college students after participating in a behaviorally focused HIV/AIDS education program?

3. What difference exists in attitude scores between freshmen and junior college students based upon age, race, and gender?

### Sample Demographics

Part four of the questionnaire elicited background data utilized to provide a description of the sample. Responses to each item on the questionnaire were plotted on a chart and tallied for each student according to their classification. Each group's scores were then placed on a summary frequency distribution table. A percentage comparison of responses was determined. The background information of the sample is shown in Table 4.

### Age

Students participating in the study were grouped in categories of approximately five-year age periods (see Table 4). The freshmen college students (group I), was the largest number of students, 133 (89.3%), and were in the 16-22 age group. There were 5 students (3.4%) in the 23-29

Table 4

Frequency and Percentage of Demographic Characteristics of Each Group.

	Group I Freshmen College Students (N = 149)		Group II Junior College Students (N = 149)	
	Freq.	%	Freq.	%
<b>AGE</b>				
No Response	4	2.7	4	2.7
16-22	133	89.3	97	65.5
23-29	5	3.4	36	24.3
30-36	6	4.0	9	6.1
37-43	1	0.7	2	1.4
<b>GENDER</b>				
No Response	4	2.7	0	0
Female	84	56.4	109	73.6
Male	61	40.9	39	26.4
<b>RACE</b>				
No Response	4	2.7	0	0
African Americans	136	91.3	133	89.9
Caucasian	6	4.0	11	7.4
Hispanic	0	0	1	0.27
Asian	2	1.3	1	0.7
Others	1	1.7	2	1.4
<b>MARITAL STATUS</b>				
No Response	5	3.4	2	1.4
Never Married to each other	134	89.9	117	79.1
Married to each other	8	5.4	21	14.2
Divorced	1	0.7	8	5.4
Separated or Widowed	1	0.7	0	0

Table 4 (cont.)

	Group I Freshmen College Students (N = 149)		Group II Junior College Students (N = 149)	
	Freq.	%	Freq.	%
<b>RELIGION</b>				
No Response	13	8.7	7	4.7
Protestant	93	62.4	98	66.3
Catholic	20	13.4	19	12.8
Muslim	2	2.3	0	0
Other	8	5.4	21	14.2
None	13	8.7	3	4.7
<b>LEVEL OF EDUCATION (MOTHER)</b>				
No Response	11	7.4	2	1.4
Elem. (6-9)	6	4.0	1	0.7
High School (9-12)	34	22.8	38	25.7
College/Special School (13-16)	58	38.9	76	51.4
Grad/Prof. School 17-20)	40	26.8	31	20.9
<b>LEVEL OF EDUCATION (FATHER)</b>				
No Response	18	12.1	3	2.0
Elem. (6-9)	3	2.0	4	2.7
High School (9-12)	42	28.2	43	29.1
College/Special School (13-16)	49	32.9	64	43.2
Grad/Prof. School 17-20)	37	24.8	34	23.0

Note: Totals do not add up to 153 or 149 in every case because students did not respond to every question.

age group; 6 students (4.0%) in the 30-36 age group; 1 student (0.7%) in the 37-43 age group; and 4 students (2.7%) chose not to respond.

Junior college students (group II) consisted of 97 students (65.5%) in the 16-22 age group; 36 students (24.3%) in the 23-29 age group; 9 students (6.1%) in the 30-36 age group; 2 students (1.4%) in the 37-43 age group; and 4 students (2.7%) chose not to respond. Within both groups the largest number of students were in the 16-22 year age group.

#### Race

One hundred thirty-six (91.3%) of the freshmen group were African American; 6 (4.0%) were Caucasian; 2 (1.3%) were Asian; 1 (0.7%) was listed as others; and 4 students (2.7%) chose not to respond.

One hundred thirty-three students (89.9%) in the junior college student group were African-American; 11 students (7.4%) were Caucasian; 1 student (0.7%) was Hispanic; 1 (0.7%) was Asian; and 2 students (1.4%) were listed as others. All subjects (100%) chose to respond.

#### Gender

The gender of the sample was not distributed equally (See Table 4).

In the freshmen group, 84 (56.4%) were female 61 (40.9%) were male and 4 (2.7%) chose not to respond. The junior student group was composed of 109 (73.6%) female, 39

(26.4%) male. All of the junior students responded to the question.

### Marital Status

The students were asked to choose their responses from the following categories: never married to each other; married to each other; divorced; separated or widowed. Of the 149 valid cases in the freshman group, 134 (89.9%) were never married. In the junior group 79.1% of the students had never been married (see Table 4).

### Religion

Freshmen and junior students were asked to choose their responses from the following categories: Protestant; Catholic; Muslim and other which allowed students to write in their religious preference. The largest number of students in each group identified themselves as Protestants (freshmen, 62.4%; juniors, 66.3%) (see Table 4).

All subjects were selected from a population of 400 college freshmen and junior students from a four-year university in the Southeastern section of Virginia. The population consisted of 200 freshmen students and 200 junior students. Therefore of the original 400 students surveyed, 306 students completed questionnaires that could be used in the study. The sample consisted of two groups; group I, freshmen college students, included 153 subjects,

and group II, junior college students included 153 subjects, constituting a total sample population of 306 subjects. The response rate was 76% for the freshmen students and 76% for the junior students. During the analysis of data questionnaires containing a large number of zero scores were not included, thereby causing variations in the number of valid cases.

#### **Addressment of Research Questions**

**Research Question 1: What difference exists between the pretest and posttest knowledge and sexual attitude scores of freshmen college students after participating in a behaviorally focused HIV/AIDS education program?**

Parts one and two of the questionnaire, AIDS/STD Knowledge Inventory (see Appendix D), were designed to measure the subject's knowledge about AIDS/STD and the sexual attitudes of the students. The AIDS/STD knowledge Inventory contained 60 items. Students were asked to circle true or false to answer the questions. The questions assessed the basic knowledge level of the subjects and was representative of the content presented in the education program. The AIDS/STD knowledge inventory was used as a pretest and posttest for the freshmen group.

There were 149 valid cases for pretest analysis and 150 valid cases for posttest analysis. The cases not included reflected a large number of 0 scores, therefore, they were not computed in the analysis. Data for the AIDS/STD

knowledge inventory indicated that 93% of the questions were correctly answered, while 6.6% were answered incorrectly. Question 42 was answered incorrectly by freshman students on pretest and posttest (see Table 5).

Part two of the questionnaire, sexual attitudes, contained 66 Likert scaled items which were used to collect data for addressing research question one. The data indicated that of the five questions which asked students to rate whether their feelings toward their sexual behaviors sometimes practiced were positive or negative, two questions (1 & 3) were rated positive and three (25, 37, and 49) were rated negative by the students.

Responses for the remaining 61 sexual attitudes questions indicated that students (42.3% of the pretest and 44.7% of the posttest) would very likely have sex in the next three months. Responses also indicated that students (63.1% pretest and 72.0% posttest) were likely to use a condom. Students (53.7% pretest and 62.0% posttest) were not likely to have sex with different people. Additional responses indicated that students (55.7% pretest and 55.3% posttest) were not likely to have sex with someone involved in a sexual relationship with other people in the next three months. Student responses indicated that they were not likely (73.2% pretest and 91.3% posttest) to have sex with a person who uses drugs in the next three months.

The data indicated that students disagreed strongly that condoms cost too much money (51.7% pretest and 57.3%

**Table 5**  
**Comparison of Pretest and Posttest Knowledge Inventory Question**  
**Incorrectly Answered by Study Respondents**

42. A new vaccine has recently been developed for the treatment of AIDS. (F)

PRETEST (N = 149)		Responses	POSTTEST (N = 150)	
Freq.	%.		Freq.	%.
25	16.8	No Response	11	7.3
87	58.4	True	78	52.0
37	24.8	False	61	40.7



posttest); that sex does not feel as good when you use a condom (32.9% pretest and 39.3% posttest); that it is too much trouble to carry condoms around (60.4% pretest and 73.3% posttest). Responses regarding the importance of the opinions of sexual partners, mothers, fathers, churches and friends varied from not at all important to extremely important (see Appendix E).

To determine if there was a difference in the pretest and posttest AIDS/STD Knowledge Inventory scores, a t-test was utilized. The t-value was  $-.58$  with 125 degrees of freedom and  $.564$  2-tailed probability. The critical value of  $t=1.98$  was larger than the computed  $t=-.58$  at  $.05$  level of significance. The mean for the posttest (84.2549) was higher than the mean for the pretest (83.5359). The probability that the mean difference of  $-.7190$  points between pretest and posttest scores was the result of chance factors is greater than 5 in 100 ( $p>.05$ ). In answer to research question one, the data indicated that apparently there was not a significant difference in pretest and posttest HIV/AIDS Knowledge Inventory scores of freshmen students (see Table 6).

To determine if there was a difference in the pretest and posttest sexual attitude scores, a t-test was utilized. The t-value was  $-1.28$  with 152 degrees of freedom and  $.204$  2 tailed probability. Therefore, there was not a statistically significant difference in the pretest and posttest sexual attitude scores of freshman students.

**Table 6**  
**Summary of t-Test, and Collective Means for Pretest and Posttest**  
**AIDS/STD Knowledge Scores of Freshmen Students Participating in**  
**a Behaviorally-focused HIV/AIDS Education Program**

	Number of Cases	Means	t-Value	Degree of Freedom	2-tail Prob.
<b>Pretest Scores</b>	<b>153</b>	<b>83.5359</b>			
			<b>-.58</b>	<b>152</b>	<b>.564</b>
<b>Posttest Scores</b>	<b>153</b>	<b>84.2549</b>			

\*A t-value of 1.98 at the .05 level of significance was necessary to indicate a significant difference.

The critical value of  $t=1.98$  was larger than the computed  $t=-1.28$  at .05 level of significance. The mean for the posttest (100.9869) was higher than the mean for the pretest (97.9542). The probability that the mean difference of -3.03 points between the pretest and posttest scores was the result of chance factors is greater than 5 in 100 ( $p>.05$ ).

The data indicated that apparently there was not a significant difference in the pretest and posttest sexual attitude scores of the freshmen students (see Table 7). Thus, in answering research question one, there was no significant difference in the pretest and posttest AIDS/STD Knowledge Inventory and sexual attitude score of freshmen students after participating in a behaviorally focused HIV/AIDS education program.

**Research Question II: What difference exists in scores on knowledge level and sexual attitudes and sexual behavior responses between freshmen and junior college students after participating in a behaviorally focused HIV/AIDS education program?**

To determine if there was a difference in the freshmen posttest and junior scores on AIDS/STD knowledge Inventory questions, a t-test for independent groups was utilized. The t-value of the pooled variance estimate was -2.86 with 300 degrees of freedom and .004 2-tailed probability. The critical value of  $t=1.98$  was smaller than the computed

**Table 7**  
**Summary of t-Test, and Collective Means for Pretest and Posttest Sexual Attitude Scores of Freshmen Students Participating in a Behaviorally-focused HIV/AIDS Education Program**

	Number of Cases	Means	t-Value	Degree of Freedom	2-tail Prob.
<b>Pretest Scores</b>	<b>153</b>	<b>97.9542</b>			
			<b>-1.28*</b>	<b>152</b>	<b>.204</b>
<b>Posttest Scores</b>	<b>153</b>	<b>100.9869</b>			

\*A t-value of 1.98 at the 0.05 level of significance was necessary to indicate a significant difference.

$t=-2.86$  at .05 level of significance. The mean for the junior group (87.1733) was higher than the mean for the freshmen group (84.6776). The probability that the mean difference of -2.4957 points between the freshmen and junior scores was the result of chance factors is less than 5 in 100 ( $p<.05$ ). The data indicated that apparently there was a significant difference in the freshmen and junior groups' AIDS/STD knowledge inventory scores (see Table 8).

To determine if there was a difference in the freshmen and junior groups' sexual attitude scores a t-test for independent groups was utilized. The t-value was 0.96 with 300 degrees of freedom and .215 2-tailed probability. The critical value of  $t=1.98$  was larger than the computed  $t=0.96$  at .05 level of significance. The mean for the freshmen group (101.2303) was higher than the mean for the junior group (99.3933). The probability that the mean difference of 1.677 points between the freshmen and junior groups was the result of chance factors is greater than 5 in 100 ( $p>.05$ ). The data indicated that apparently there was not a significant difference in the freshmen and junior groups' attitude scores (see Table 9).

Data collected from the freshmen posttest AIDS/STD knowledge inventory, part one of the questionnaire, and sexual attitude items, part two, were utilized in addressing research question two (see Tables 6 & 7). Part III, sexual behavior, of the questionnaire also was used to collect data for addressing research question two. This

**TABLE 8**  
**Summary of t-Test, and Collective Means for AIDS/STD Knowledge Scores Between Freshman and Junior Students**

	Number of Cases	Means	t-Value	Degree of Freedom	2-tail Prob.
<b>Freshmen Scores</b>	<b>152</b>	<b>84.6776</b>	<b>-2.86*</b>	<b>300</b>	<b>.004</b>
<b>Junior Scores</b>	<b>150</b>	<b>87.1733</b>			

\*A t-value of 1.98 at the 0.05 level of significance was necessary to indicate a significant difference.

**Table 9**  
**Summary of t-Test, and Collective Means for Sexual Attitude Scores**  
**Between Freshman and Junior Students**

	Number of Cases	Means	t-Value	Degree of Freedom	2-tailed Prob.
<b>Freshmen Scores</b>	<b>153</b>	<b>101.2303</b>	<b>0.96</b>	<b>300</b>	<b>.215</b>
<b>Junior Scores</b>	<b>153</b>	<b>99.3933</b>			

\*A t-value of 1.98 at the 0.05 level of significance was necessary to indicate a significant difference.

section of the questionnaire contained 25 items which were a combination of categorical, Likert-scaled, and open-ended questions. Freshmen students were asked to answer the questions about their sexual behavior. There were 150 valid cases. The three missing cases were not computed based on the possibility of a large number of zero scores. Data from the sexual behavior questions indicated that the majority of the sample, (76%), had sex at some point in their lives and are presently still sexually active.

Of the 150 students who responded, 101 (67.3%) stated they had had sex with men only. This is congruent with this predominantly female sample.

Junior students were asked to respond to part one of the questionnaire, AIDS/STD Knowledge Inventory by circling their answer. There were 150 valid cases. The three missing cases were possibly due to a large number of unanswered questions which constituted zero scores that were not computed in the analysis. Data from this section indicated that 100% of the questions answered were correct. Part two of the questionnaire, sexual attitudes, collected data about the sexual attitudes of junior students. Five questions asked students to rate whether their feelings toward the sexual behaviors sometimes practiced were positive or negative. The responses of junior students were the same as those of freshmen students; two questions (1 & 13) were rated positive and three (25, 37 and 49) were rated negative.



Responses for the remaining 61 questions indicated that 88 (59.5%) junior students would very likely have sex in the next three months and that their sexual partners 95 (64.2%); mothers 59 (39.8%); fathers 44 (29.7%); and friends 57 (38.5%) would somewhat approve. Eighty-seven junior students (38.5%) felt their church would not approve. Data indicated that the sexual partner's opinion 66 (44.6%) was important; friend's 67 (45.3%) was not at all important; and that mothers' 63 (42.5%); fathers' 68 (45.9%); and church members' opinion 59 (39.9%) were somewhat important in their decision to have sex in the next three months.

In responding to the questions about condom use, junior students indicated they are very likely to decide to use a condom when having sex in the next three months. It was further indicated that students felt that sexual partners 52 (35.1%); mothers 97 (65.5%); fathers 81 (54.7%); church 82 (55.4%); and friends 71 (48.0%) would approve of them using condoms during sexual activities in the next three months. The opinions of sexual partners 50 (33.8%), and mothers 69 (46.6%) were considered important while those of fathers 49 (33.1%), the church 58 (39.1), and friends 52 (35.2%) were somewhat important.

Students 107 (72.3%) were not at all likely to have sex with different people and they indicated this behavior would be disapproved by their sexual partners 123 (83.1); mothers 121 (81.8%); fathers 108 (73.0%); church 116

(78.4%); and friends 61 (41.2%). The opinions of sexual partners 69 (12.9%) and mothers 69 (49.6%) were considered extremely important, and church opinions 45 (30.5%) were somewhat important. The father's opinion was identified as not at all important by 48 (32.4%) of the students, while the opinions of friends were indicated as not at all important and extremely important by 46 (31.1%) in their decision to have sex with different people.

Responses indicated that 91 (61.5%) students are not likely to have sex with someone involved in a sexual relationship with other people in the next three months. Responses indicated that their sexual partners 115 (77.7%); mothers 120 (81.1%); fathers 107 (72.3%); church 118 (79.7%); and friends 74 (50.0%) would disagree with them having sex with someone involved in sexual relationships with other people. The opinions of sexual partners 93 (62.8%); mothers 71 (48.0%); fathers 56 (37.8%); and church 44 (29.7%) were very important. The opinion of friends 54 (36.5%) was indicated as somewhat important.

Junior students 129 (87.2%) responses indicated that they were not at all likely to decide to have sex with a person who uses drugs in the next three months, and that their mothers 131 (88.5%); fathers 119 (80.4%); church 122 (82.4%); friends 116 (78.4%) would disagree with this behavior. The opinions of mothers 66 (44.6%); fathers 60 (40.5%); church 59 (39.9%); and friends 50 (33.8%) were very important.

The data further indicated that junior students disagree strongly that condoms cost too much 81 (54.7%); that it is too much trouble to carry condoms around 109 (73.6%); sex does not feel as good when you use a condom 58 (39.2%); and they feel funny saying to their partners "let's use a condom" 99 (66.9%). Seventy-one (48%) of the students indicated that they somewhat agree that sex is more fun when a condom is used. The students somewhat agreed that males 50 (33.8%) and females 68 (46%) do not want to use a condom.

Data from part three of the questionnaire, sexual behavior, (148 valid cases) indicated that the majority of the sample, 134 (90.5%) had sex at some point. The two most common years of age when students had their first sexual experience were 17 years 34 (23%) and 16 years 18 (12.2%). The data indicated that 93 (62.8%) of those who have had sex stated they used birth control during that first sexual experience. Sixty-two (41.9%) used condoms; 35 (23.6%) used birth control pills; 22 (14.9%) used withdrawal method; 4 (2.7%) used a condom and foam; 2 (1.4%) used foam or jelly; and 1 (0.7%) used a diaphragm or sponge. Ninety-eight (66.2%) of those who responded stated they had sex with men only which reflects the large number of females 109 (73.6%) in the sample. One hundred and nine junior students (73.6%) stated they had used birth control during their last sexual experience; birth control pills 61 (41.2%); 52 (35.1%) used condoms; 3 (2.0%) used a diaphragm

or sponge; 3 (2.0%) used foam or jelly; 1 (0.7%) used a condom and foam; and 17 (11.5%) used the withdrawal method.

The findings indicated that 112 (75.7%) of the junior students had sex in the past three months and 30 (20.3%) used a condom as a means of birth control. Data also indicated that during the past three months, junior students had sex 1-70 times; had sex with 1-60 different people; had sex 1-70 days; had sex without using a condom 1-60 days; and had sex with a person who was having sex with someone else 1-20 days. In the past 12 weeks, data indicated that sex was practiced 1-5 weeks with more than one person in the same week.

Forty-three (29.1%) of the students indicated they had sex while under the influence of an alcoholic drink or a drug, and that the method of birth control was birth control pills 23 (15.5%); condoms 22 (14.9%); withdrawal 9 (6.1%); condom and foam 2 (1.4%); 1 (0.7%) used a diaphragm or sponge and 1 (0.7%) used foam or jelly. Data also indicated students, 15 (10.1%) had sex one day during the past three months while high on an alcoholic drink or drug; 1 (0.7%) had sex with someone who uses drugs; and 2 (1.4%) practiced this behavior on two occasions.

Responses to the questions which asked information about the practice of anal sex, 125 (84.5%) of the junior students said "no" they had not had anal sex; 15 (10.1%) said "yes" they had had anal sex; and 8 (5.4%) chose not to respond. Of those who answered "yes," the age at which

this experience first occurred ranged in age from 10-21 years with 18 years, 6 (4.1%) having the largest percentage. Seven (4.7%) stated they used a condom the first time they had anal sex; and 8 (5.4%) stated they used condoms the last time they had anal sex. In the past three months, 4 (2.7%) of the junior students had sex 2-3 times with one person, 5 (3.4%). Four (2.7%) always used condoms while 4 (2.7%) sometimes used vaseline. Data indicated that 3 (2.0%) had anal sex on one day during the past three months; and 1 (0.7%) had anal sex 2 days during the past three months.

The remaining data collected on research question two was information about the sexual behavior of freshmen and junior students, part three of the questionnaire. To determine if the responses were different between freshmen and junior students, a t-test for independent groups was to be used. During the analysis of data, the researcher found that some of the items in this section of the questionnaire were not answered, thus creating a large number of zeros in the cells when statistical analysis was attempted. The fact that this occurred may indicate a reluctance on the part of students to answer questions of such a personal nature. Because the statistics of significance could not be done, the researcher chose to present this data in frequency distribution percentage comparison tables. The results of the frequency distribution percentage

comparisons show little differences between the two groups in their responses to the questions. However, because no statement regarding the significance of these differences can be made, the researcher can not state if there is a significant difference between the two groups (see Table 10).

**Research Question III: What difference exists between freshmen and junior students' sexual attitudes based on their age, race, and gender?**

Data from the freshmen and junior students' posttest responses to sexual attitude items were utilized in addressing research question three. An Analysis of Variance (ANOVA) was utilized to determine if several population means are equal. An analysis of variance is a parameter procedure utilized to test the significance of differences between means. The statistic computed in an ANOVA is the F-ratio statistic which was done by computer. An ANOVA was computed for freshmen students and junior students between the means of sexual attitude scores selected by the variable race used to collect demographic data for answering research question three.

The Friedman test determines whether it is likely that the different columns of ranks (samples) came from the same population (Siegel, 1956). The Friedman two-way Analysis of Variance was computed for freshmen students and junior students attitude scores to determine whether rank totals

**Table - 10**  
**Frequency and Percentage Comparison of Sexual Behavior**  
**Responses Between Freshmen and Junior Students**

Questions	Freshmen Valid Cases = 150			Juniors Valid Cases = 148	
	Freq.	%	Responses	Freq.	%
1. Have you ever had sex?	7	4.7	No Response	1	0.7
	29	19.3	No	13	8.8
	114	76.0	Yes	134	90.5
2a. The main reason I have sex is to please my partner.	27	0.18	No Response	13	8.8
	33	0.22	Disagree Strongly	59	39.9
	18	0.12	Disagree	9	6.1
	56	37.4	Agree Somewhat	52	35.1
	9	6.0	Agree	6	4.1
	7	4.7	Agree Strongly	9	6.1
2b. The main reason I have sex is to please myself.	27	0.18	No Response	14	9.5
	9	6.0	Disagree Strongly	13	8.8
	4	2.7	Disagree	1	0.7
	39	0.26	Agree Somewhat	58	39.2
	35	23.3	Agree	20	13.5
	36	0.24	Agree Strongly	42	28.4
2c. I would rather not have sex.	26	17.3	No Response	15	10.1
	60	40	Disagree Strongly	64	43.1
	19	12.7	Disagree	29	19.6
	32	21.3	Agree Somewhat	25	16.9
	7	4.7	Agree	5	3.4
	6	4.0	Agree Strongly	10	6.8
3. How old were you when you first had sex?	31	20.7	No Response	17	11.5
	53	35.4	10-15 years	52	35.1
	63	42.1	16-20 years	89	60.2
	2	1.3	21-25 years	6	4.1
	0	0	26-30 years	1	0.7
	1	1.7	31 + years	0	0.0
4. The first time you had sex, was birth control used?	29	19.3	No Response	15	10.1
	38	25.3	No	40	27.0
	83	55.3	Yes	93	62.8

Table 10 (cont.)

Questions	Freshmen Valid Cases = 150			Juniors Valid Cases = 148	
	Freq.	%	Responses	Freq.	%
What methods of birth control used:					
4a. Birth control pills	90	60	No Response	65	43.9
	39	26.0	No	48	32.4
	21	14.0	Yes	35	23.6
4b. Condom	69	46	No Response	60	40.5
	10	6.7	No	26	17.6
	71	47.3	Yes	62	41.9
4c. Diaphragm or Sponge	96	64	No Response	78	52.7
	52	34.7	No	69	46.6
	2	1.3	Yes	1	0.7
4d. Foam or jelly	98	65.3	No Response	78	52.7
	51	34	No	68	45.9
	1	0.7	Yes	2	1.4
4e. Condom and foam	97	64.7	No Response	76	51.4
	48	32.0	No	68	45.9
	5	3.3	Yes	4	2.7
4f. Withdrawal	95	63.3	No Response	73	49.3
	39	26	No	53	35.8
	16	10.7	Yes	22	14.9



Table 10 (cont.)

Questions	Freshmen Valid Cases = 150			Juniors Valid Cases = 148	
	Freq.	%	Responses	Freq.	%
5. The last time you had sex, was birth control used?	28	18.7	No Response	16	10.8
	18	12	No	23	15.5
	104	69.3	Yes	109	73.6
What methods of birth control was used:					
5a. Birth control pills	82	54.7	No Response	49	33.1
	37	24.7	No	38	25.7
	31	20.7	Yes	61	41.2
5b. Condom	57	38	No Response	53	35.8
	13	8.7	No	43	29.1
	80	53.3	Yes	52	35.1
5c. Diaphragm or Sponge	93	62	No Response	67	45.3
	56	37.3	No	78	52.7
	1	0.7	Yes	3	2.0
5d. Foam or jelly	94	62.7	No Response	66	44.6
	52	34.7	No	79	53.4
	4	2.7	Yes	3	2.0
5e. Condom and foam	92	61.3	No Response	67	45.3
	50	33.3	No	80	54.1
	8	5.3	Yes	1	0.7

Table 10 (cont.)

Questions	Freshmen Valid Cases = 150			Juniors Valid Cases = 148	
	Freq.	%	Responses	Freq.	%
5f. With- drawal	88	58.7	No Response	65	43.9
	48	32.0	No	66	44.6
	14	9.3	Yes	17	11.5
6. In the past 3 months, did you have sex with a person?	30	20.0	No Response	16	10.8
	31	20.7	No	20	13.5
	89	59.3	Yes	112	75.7
How often was each of the following birth control methods used?					
6a. Birth control pills	79	52.7	No Response	43	29.1
	35	23.3	Never	41	27.7
	6	4.0	Sometimes	0	0
	3	2.0	Often	0	0
	4	2.7	Usually	9	6.1
	23	15.3	Always	55	37.2
6b. Condom	63	42	No Response	43	28.4
	14	9.3	Never	36	24.3
	11	7.3	Sometimes	28	18.9
	3	2.0	Often	3	2.0
	12	8.0	Usually	9	6.1
	47	31.3	Always	30	20.3
6c. Diaph- ragm or Sponge	87	58	No Response	55	37.2
	60	40	Never	87	58.8
	1	0.7	Sometimes	1	0.7
	1	0.7	Often	1	0.7
	1	0.7	Usually	4	2.7
6d. Foam or jelly	88	58.7	No Response	56	37.8
	59	39.3	Never	81	54.7
	1	0.7	Sometimes	6	4.1
	1	0.7	Often	1	0.7
	1	0.7	Usually	4	2.7

Table 10 (cont.)

Questions	Freshmen Valid Cases = 150			Juniors Valid Cases = 148		
	Freq.	%	Responses	Freq.	%	
6e Condom and foam	84	56	No Response	57	38.5	
	57	38	Never	86	58.1	
	1	0.7	Sometimes	3	2.0	
	2	1.3	Often	0	0	
	3	2.0	Usually	2	1.4	
	3	2.0	Always			
6f. With- drawal	81	54	No Response	53	35.8	
	39	26	Never	66	44.6	
	11	7.3	Sometimes	10	6.8	
	0	0	Often	4	2.7	
	8	5.3	Usually	5	3.4	
	11	7.3	Always	10	6.8	
7. In the past 3 months, how many times have you had sex?	66	44	No Response	43	29.1	
	56	37.4	1-10 times	57	67.7	
	14	9.4	11-20 times	29	19.4	
	6	4.0	21-30 times	11	7.5	
	1	0.7	31-40 times	1	0.7	
	7	4.8	41+ times	7	4.9	
8. In the past 3 months, how many different persons have you had sex with?	65	43.3	No Response	38	25.7	
	84	56.1	1-10 different persons	107	72.4	
	1	0.7	11+ different persons	3	2.1	
9. In the past 3 months, on how many days did you have sex?	71	47.3	No Response	43	29.1	
	56	37.3	1-10 days	65	43.9	
	9	6.1	11-20 days	26	17.6	
	4	2.7	21-30 days	7	4.8	
	3	2.0	31-40 days	1	0.7	
	7	4.7	41+ days	6	4.2	

Table 10 (cont.)

		Freshmen Valid Cases = 150		Juniors Valid Cases = 148	
Questions	Freq.	%	Responses	Freq.	%
10. In the past 3 months, on how many days did you have sex without using a condom?	109	72.7	No Response	77	52
	26	17.4	1-10 days	41	27.9
	5	3.4	11-20 days	16	10.8
	5	3.4	21-30 days	7	4.7
	0	0	31-40 days	1	0.7
	5	3.4	41+ days	6	4.1
11. In the past 3 months, on how many days did you have sex with a person who was having sex with someone else?	138	92	No Response	133	89.9
	0	0	1-10 days	10	6.8
	12	8.1	11- 20 days	5	3.4
12. In the past 12 weeks, on how many weeks did you have sex with more than one person in the same week?	138	92	No Response	139	93.9
	9	6.7	1-5 weeks	9	6.2
	3	2.1	6-10 weeks	0	0
13. Have you ever had sex while you were high on an alcoholic drink or a drug?	28	18.7	No Response	17	11.5
	79	52.7	No	88	59.5
	43	28.7	Yes	43	29.1

Table 10 (cont.)

Questions	Freshmen Valid Cases = 150			Juniors Valid Cases = 148	
	Freq.	%	Responses	Freq.	%
What method of birth control did you use?					
13a. Birth Control Pills.	122	81.3	No Response	109	73.6
	13	8.7	No	16	10.8
	15	10.0	Yes	23	15.5
13b. Condom	118	78.7	No Response	111	75
	12	8.0	No	15	10.1
	20	13.3	Yes	22	14.9
13c. Diaphragm or Sponge	124	82.7	No Response	120	81.1
	21	14.0	No	27	18.2
	5	3.3	Yes	1	0.7
13d. Foam or Jelly	126	84.0	No Response	121	81.8
	23	15.3	No	26	17.6
	1	0.7	Yes	1	0.7
13e. Condom and Foam	125	83.3	No Response	120	81.1
	24	16.0	No	26	17.6
	1	0.7	Yes	2	1.4
13f. With-drawal	122	81.3	No Response	117	79.1
	18	12.0	No	22	14.9
	10	6.7	Yes	9	6.1

Table 10 (cont.)

Questions	Freshmen Valid Cases = 150			Juniors Valid Cases = 148	
	Freq.	%	Responses	Freq.	%
14. In the past 3 months, on how many days did you have sex while you were high on a alcoholic drink or drug?	130	86.7	No Response	121	81.8
	19	12.6	1-5 days	23	15.5
	1	0.7	6-10 days	4	2.8
15. Have you ever had sex with someone who shoots up drugs?	36	24.0	No Response	22	14.9
	108	72.0	No	125	84.5
	1	0.7	Yes	1	0.7
16. In the past 3 months, on how many days did you have sex with someone who shoots up drugs?	144	96	No Response	140	94.6
	5	3.3	1 day	6	4.1
	1	0.7	2 days	2	1.4
17. Have you ever had anal sex?	14	9.3	No Response	8	5.4
	124	82.7	No	125	84.5
	12	8.0	Yes	15	10.1
18. How old were you when you first had anal sex?	137	91.3	No Response	131	88.5
	3	2.0	10-16 years	4	2.8
	9	6.0	17-23 years	13	8.9
	1	0.7	24+ years	0	0

Table 10 (cont.)

Questions	Freshmen Valid Cases = 150			Juniors Valid Cases = 148	
	Freq.	%	Responses	Freq.	%
19. The first time you had anal sex, was a condom used?	137	91.3	No Response	133	89.9
	6	4.0	No	8	5.4
	7	4.7	Yes	7	4.7
20. The last time you had anal sex was a condom used?	138	92.0	No Response	133	89.9
	7	4.7	No	7	4.7
	5	3.3	Yes	8	5.4
21. In the past 3 months, did you have anal sex?	132	88	No Response	132	89.2
	16	10.7	No	12	8.1
	2	1.3	Yes	4	2.7
How often was each of the following used?					
21a. Condom	147	98	No Response	143	96.6
	1	0.7	Never	0	0
	1	0.7	Often	0	0
	0	0	Usually	1	0.7
	1	0.7	Always	4	2.7
21b. Vaseline	148	98.7	No Response	143	96.6
	1	0.7	Never	4	2.7
	0	0	Sometimes	1	0.7
	1	0.7	Always	0	0
22. In the past 3 months, how many times did you have anal sex?	148	98.7	No Response	144	97.3
	0	0	2 times	2	1.4
	1	0.7	3 times	2	1.4
	1	0.7	4 times	0	0

Table 10 (cont.)

Questions	Freshmen Valid Cases = 150			Juniors Valid Cases = 148	
	Freq.	%	Responses	Freq.	%
23. In the past 3 months, how many different persons did you have anal sex with?	146	97.3	No Response	143	96.6
	4	2.7	1 Person	5	3.4
24. In the past 3 months, on how many days did you have anal intercourse?	146	97.3	No Response	144	97.3
	3	2.0	1-3 days	4	2.7
	1	0.7	4-6 days	0	0
25. Do you have sex with	14	9.3	No Response	8	5.4
	101	67.3	Men	98	66.2
	24	16.0	Women	32	21.6
	0	0	Both	2	1.4
	11	7.3	Neither	8	5.4



differed significantly based upon age. A chi-square value of 152 with 1 degree of freedom was significant at the .05 level of significance ( $p < .05$ ) for the freshmen group. A chi-square value of 150 with 1 degree of freedom was significant ( $p < .05$ ) for the junior group. It was determined from the data analysis that there was a significant difference in sexual attitude scores/age.

The findings indicated that there was not a significant difference in the sexual attitudes of freshmen and junior students by virtue of their race, [ $F(3, 302) = 0.8031, p > .05$ ].

A chi-square was used to determine if there was a significant difference between the mean sexual attitude scores/gender. The computed pearson chi-square value was 108.9 with 120 degrees of freedom and an associated level of significance of .75564 for the freshmen group. The computed pearson chi-square value for the junior group was 44.3 with 55 degrees of freedom and an associate level of significance of .84763. The data indicated there were significant differences between sexual attitude scores/gender of freshmen and junior students.

The reliability of the questionnaire was established by the researcher through the coefficient alpha method of measuring internal consistency. The coefficient alpha for the freshmen group was .73 and for the junior group .64. This method of establishing internal consistency is preferable to the split-half procedure because it gives an

estimate of the split-half correlation for all possible ways of dividing the questionnaire into two halves (Polit & Hungler, 1991).

#### SUMMARY

The findings of the demographic data indicated that all students were selected from a population of college freshmen and junior students from one four-year university in southeastern Virginia. The total population consisted of 200 freshmen students and 200 junior students. The sample consisted of two groups: Group I included 153 freshmen students, and group II included 153 junior students, constituting a total sample population of 306 students from the 400 surveyed. The response rate was 76 percent for the freshmen group and 76 percent for the junior group. The profile of both groups indicated that the majority of the subjects were African-American, between the age of 16-22 years, female, never been married, and Protestant.

The t-test for paired groups, t-test for independent groups, one-way ANOVA, Friedman ANOVA and Chi-Square were used to address research questions. Factor analysis also was used to assess the descriptive power of the instrument. When the freshmen pretest and posttest scores were compared, the computed value of t was larger than the critical value of t for a non-directional, 2 tailed probability, at .05 level of significance when the freshmen pretest and posttest scores were compared. In response to

research question one there was no significant difference between the pretest and posttest AIDS/STD Knowledge Inventory and sexual attitude scores of the freshmen students.

Data generated to address research question two was analyzed utilizing a t-test for independent groups. The findings revealed that there was a significant difference between freshmen posttest and junior posttest only AIDS/STD knowledge inventory scores.

To determine if the sexual attitudes of freshmen and junior students were significantly different, a t-test was utilized. It was determined from the data analysis that apparently there was not a significant difference in the freshmen and junior student sexual attitude scores.

Procedures of significance for the third variable in research question two produced no statistical significance. This was due to a large degree of unanswered items in this section of the questionnaire which gathered information about students' sexual behavior. This information was displayed as frequencies and percentage distribution. From the display of data, it was noted that very little difference was shown between the responses of the two groups.

ANOVAs were utilized to address research question three to determine if the difference in sexual attitudes between freshmen and junior students were significant by virtue of age and race. Data analysis established that there was a

significant difference between sexual attitudes/age, but no significant difference between sexual attitude scores/race.

A chi-square was utilized to address research question three to determine if the difference in sexual attitudes between freshmen and junior students was significant by gender. Data analysis established that there was a significant difference between sexual attitudes/gender.

## CHAPTER 5

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary

This study was conducted to determine whether a behaviorally focused HIV/AIDS education program affects the knowledge, sexual attitudes, and sexual behavior of college students. A descriptive correlational study design was used to address the research questions:

1. What difference exists in pretest and posttest knowledge and sexual attitude scores of freshmen college students after participating in a behaviorally focused HIV/AIDS education program?
2. What difference exists in the knowledge level and attitude scores and sexual behavior responses between freshmen and junior college students after participating in a behaviorally focused HIV/AIDS education program?
3. What difference exists between freshmen and junior students' sexual attitudes based upon age, race and gender?

The conceptual framework for the research was based on concepts extrapolated from the behavioral sciences. The researcher chose to study attitudes from a behavioral point of view, thus, a modified Fishbein Expectancy-Value Model of Attitude was developed. This model originally identified three concepts: beliefs, evaluations, and attitude which explained the foundation of the theory. The modified Fishbein Expectancy-Value Model of Attitude

included the influencing factors of age, race and gender on the three original concepts. These variables were subsequently included in one of the research questions of this study. The conceptual framework provided directions for the development of the data gathering instrument, and data gathering and analysis procedures. A questionnaire, Sexual Knowledge, Attitudes, and Experiences of Black College Students in the AIDS Era, developed by Jemmott & Jemmott (1990) was used to elicit responses from students participating in the dissertation research which reflected their attitudes and behavior in relations to the theoretical concepts, beliefs, evaluation, and attitude.

The descriptive correlational design was selected for this study. Since randomization was not possible, the researcher pretested the responses of the freshmen group. The junior student group was not pretested since the researcher was only interested in their responses three years after participating in the university's HIV/AIDS education program.

Freshmen students were pretested and then instructed to read the assigned chapter in their textbook prior to returning to class. During the regular class session, a presentation of general HIV/AIDS education material was made by the researcher. During the discussion concepts of the theoretical framework used in the study were integrated into the content. Students were given an example of how a belief influences attitudes and is exhibited in behavior:

- Belief:** Only those persons who smoke unfiltered cigarettes develop cancer in old age.
- Attitude:** "This does not affect me because I am young and smoke filtered cigarettes only."
- Behavior:** The person continues to smoke one pack of filtered cigarettes every day.

Two students were asked to share their beliefs, or those of their peers about HIV/AIDS. These beliefs and/or attitudes were discussed to determine how they may be exhibited in behavior. Additionally, the HIV/AIDS cases found in the reading assignment were discussed in terms of how these individual's beliefs and attitudes may have influenced their behavior. The freshmen group could easily identify with individuals cited in the reading since they were young college-age, and learning to make choices about life. Following the discussion a question and answer period was provided and a posttest administered. Junior students were given the posttest only.

**Subjects:**

Three hundred and six undergraduate college freshmen and junior students were selected for inclusion in the study from a university located in southeastern Virginia. The sample was predominately female, African-American, and mainly between the ages of 16-22.

To study the knowledge, sexual attitudes, and sexual behavior of the students, a 151-item sexual knowledge, attitudes and behavior questionnaire was utilized. The

questionnaire consisted of four parts which included items that specifically elicited information to assess the knowledge, sexual attitudes, and sexual behavior of the study group. The questionnaire was used as a pretest and posttest for the freshmen group and posttest for the junior group.

The first research question was stated as: what difference exists in the pretest and posttest scores on knowledge level and sexual attitude scores of freshmen college students after participating in a behaviorally focused HIV/AIDS education program?

The computed cumulative mean AIDS/STD knowledge score for the freshmen pretest was 83.5359, standard deviation 11.526 in comparison to a mean AIDS/STD knowledge score of 84.2549, standard deviation 9.985 for freshmen posttest. In order to determine if this  $-.7190$  difference in mean AIDS/STD knowledge scores was significant, the paired  $t$ -test was used. The computed value of  $t$  was determined to be  $-.58$  at  $.05$  level of significance. The table  $t$ -value used by the researcher was 1.98 (Hopkins & Glass, 1978). Therefore, the calculated  $t = -.58$  was not statistically significant. The probability that the mean difference of  $-.7190$  was the result of chance factors was greater than 5 in 100 ( $p > .05$ ). The analysis of data collected to address research question I indicated there was no significant difference in the AIDS/STD knowledge between the pretest and posttest scores of freshmen college students. These



findings are congruent with the researcher's conjecture regarding the knowledge level of students.

To test the second variable in research question one, a t-test was used. The computed cumulative mean sexual attitude score for the freshmen pretest was 97.9542, standard deviation 22.632 in comparison to a mean sexual attitude score for freshmen posttest was 100.9869, standard deviation 17.570. In order to determine if this -3.03 difference in mean sexual attitude scores was significant, the paired t-test was used. The computed value of t was determined as -1.28 at .05 level of significance. The table value of t used by the researcher was 1.98 (Hopkins & Glass, 1978). Therefore, the calculated t of -1.28 was not statistically significant. The probability that the mean difference of -3.03 was the result of chance factors was greater than 5 in 100 ( $p > .05$ ). These findings indicated that there was no significant difference in sexual attitude pretest and posttest scores of freshmen college students.

The second research question stated what difference exists in the knowledge level and sexual attitude scores and sexual behavior responses between freshmen and junior college students after participating in a behaviorally focused HIV/AIDS education program?

The computed cumulative mean for the freshman posttest AIDS/STD knowledge scores was 84.6776, standard deviation of 9.737 and for the junior students 87.1733 with a

standard deviation of 4.401. In order to determine if this -2.4957 difference in mean AIDS/STD knowledge score was significant, the t-test for independent groups was used. The computed t-value was determined to be -2.86. The table value of t used by the researcher was 1.98 (Hopkins & Glass, 1978). Therefore, the calculated t-value of -2.86 was statistically significant. The probability that the mean difference of -2.4957 was the result of chance factors was less than 5 in 100 ( $p < .05$ ). These findings indicated that there was a significant difference in the AIDS/STD knowledge level between freshmen and junior student responses.

The computed cumulative mean for freshmen posttest sexual attitude scores was 101.2303, standard deviation 17.368 compared with a mean of 99.3933, standard deviation of 15.691 for junior students. In order to determine if this 1.837 difference in mean sexual attitude scores was significant, the t-test for an independent group was used. The computed value of t was determined to be 0.96. The table value of t used by the researcher was 1.98 (Hopkins & Glass, 1978). Therefore, the calculated t of 0.96 was not statistically significant. The probability that the mean difference of 1.837 was the result of chance factors was more than 5 in 100 ( $p > .05$ ). These findings indicated that there was not a significant difference in the sexual attitudes between freshmen and junior student responses.

The third variable in research question, sexual behavior, was summarized by frequency distribution and percentage comparison. The items in this section of the questionnaire were a mixture of true and false, Likert scale, and open-ended questions. Because some subjects chose not to answer all items, statistical computations could not be done because of a large number of empty cells.

The third research question stated: what difference exists between freshmen and junior students' sexual attitude scores based upon age, race and gender?

A Chi-Square and ANOVAS were used to address research question three. From the data it was determined that there was a significant difference between mean attitude scores of freshmen and junior students of the following demographic variables: sexual attitudes/age. There was no significant difference between mean attitude scores of freshmen and junior students of the demographic variable, race. A Chi-Square was also used to address research question three. Data indicated that there was a significant difference between mean attitude scores of freshmen and junior students for the demographic variable gender.

### **Conclusions**

The implications of this study focused not only upon the outward behavioral responses displayed by the two groups of students involved, but also focused on the more complex makeup of attitudes themselves. Although the study

was confined to the southeastern part of Virginia, nothing in the study design prevents its replication.

It was found that students are knowledgeable about AIDS/STD in terms of general information, however, that information is not as readily seen in their sexual behavior as evident by their responses to the questions on sexual behaviors. Since a person's developmental level impacts upon their behavior, the findings of this study may indicate a need for those in a position to make policy about HIV/AIDS education programs to consider this point of view. A key finding of the study was that mean posttest scores of the junior student group were higher than those of the freshmen group. This difference maybe attributed to long term effects of the freshmen HIV/AIDS education program. It may also be due to continuous exposure and participation in HIV/AIDS education programs by the junior students. Additionally, these students are three years older and may have matured in their ability to make life choices.

The results of the study can be related to Fishbein's Expectancy-Value Model of Attitudes. The data indicated that students held many different beliefs and attitudes about HIV/AIDS but conditioning (learning through an HIV/AIDS education program) did not result in the formation of new summated evaluative responses (overall attitudes) as described in the theory. These findings follow another aspect of the theory regarding attitude changes. According

to Fishbein (1967) simply learning will not produce attitude changes. The change only occurs when the individual accepts the communication and chooses to act on it. As indicated by the data, both the freshmen and junior student groups were knowledgeable about STD/AIDS. This knowledge, however, was not reflected in their sexual behavior which consisted of unsafe sexual practices. Therefore, the key to an effective HIV/AIDS education program would be to determine and include motivators which promote use of the information gained by students during these sessions.

This study emphasized the need for a more in-depth study of the needs and motivations of college students to internalize and put into practice the information provided by HIV/AIDS education programs.

### **Recommendations**

The following recommendations were derived as a result of this study:

1. Based on the findings there is a need for further research in the area of attitude assessment and sexual behavior. As was stated in the conceptual framework, an attitude change will occur when the individual accepts the communication and chooses to act on it (Fishbein, 1967).
2. Increase the size of the sample to more than one college or university.

3. Increase the representation of the sample so that it would include a cross-section of male and female students and various races.
4. Utilize a developmental conceptual framework to focus on the problem from a different perspective. This would allow the exploration of attitudes and sexual behavior from a psychological and sociological aspect.

The study focused on knowledge, sexual attitudes and sexual behavior of college students. Research of this type generates further concerns regarding this issue, some of which may be:

1. To expand the focus to include factors that would motivate college students to practice safer sex.
2. To determine deficits present in current HIV/AIDS education programs that college students perceive would make programs more beneficial if they were corrected.

In summary, the HIV/AIDS education program is a critical strategy in the process for addressing a health-care problem that is integral to the survival of the species. As more information is ascertained from the public regarding their knowledge, attitudes, and sexual behaviors, programs can be developed and refined to meet the needs of the college-aged population.

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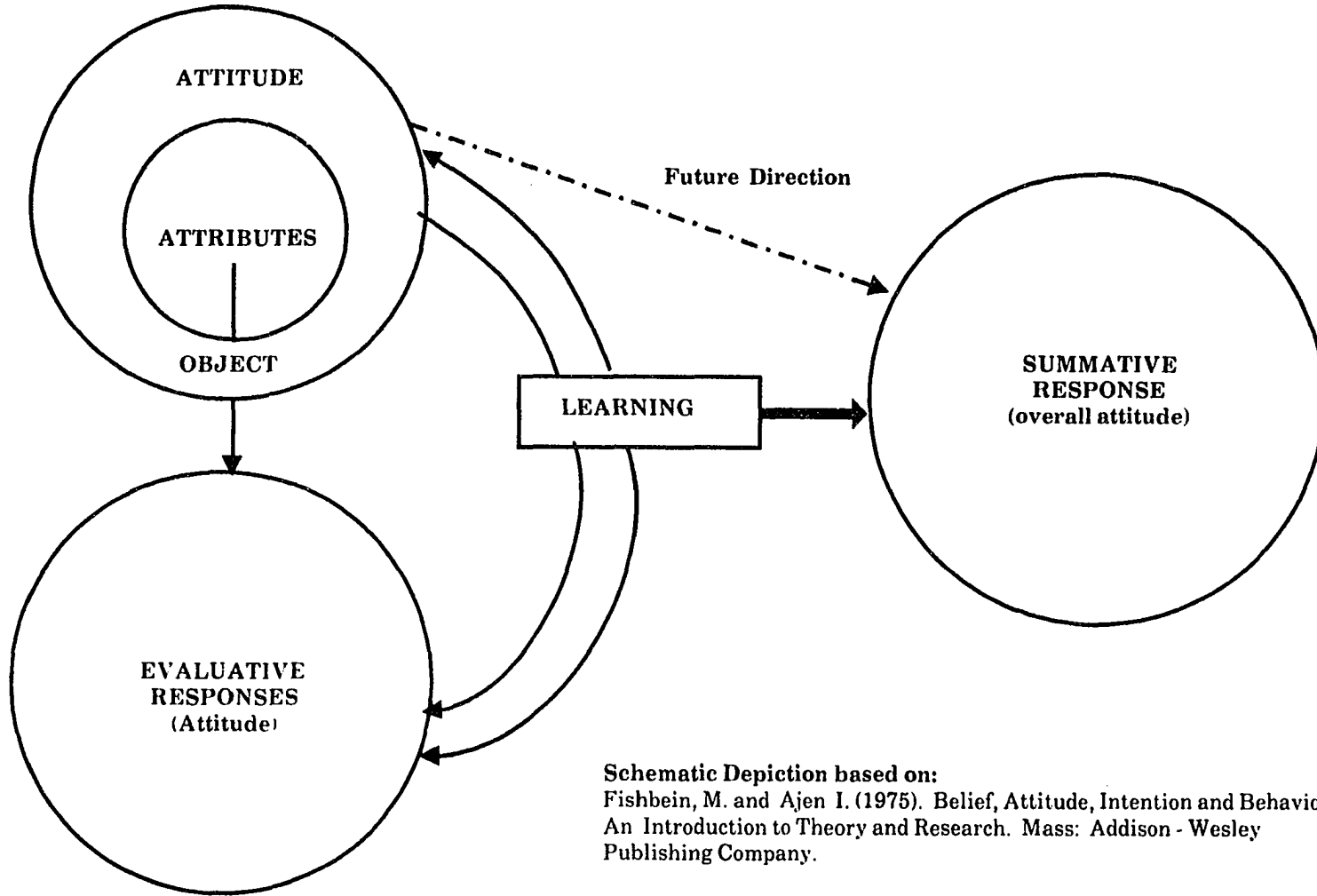
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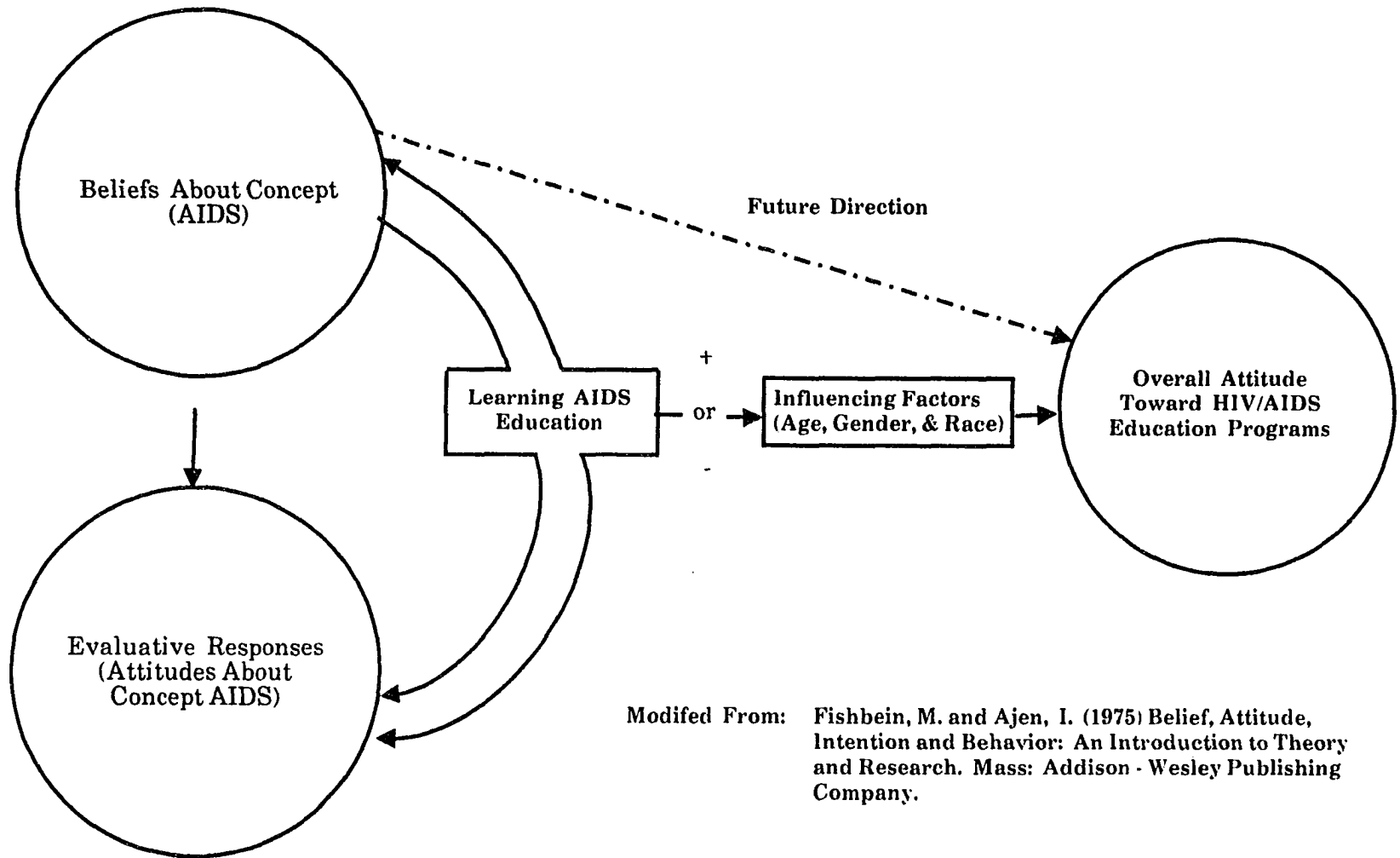
## **APPENDIX A**

**FISHBEIN EXPECTANCY - VALUE MODEL OF ATTITUDES**



Schematic Depiction based on:  
Fishbein, M. and Ajen I. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Mass: Addison - Wesley Publishing Company.

**MODIFIED FISHBEIN EXPECTANCY - VALUE MODEL OF ATTITUDES**



Modified From: Fishbein, M. and Ajzen, I. (1975) *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Mass: Addison - Wesley Publishing Company.

## **APPENDIX B**

208 Telford Drive  
Newport News, VA 23602  
October 1, 1993

Institutional Review Board  
Hampton University  
Hampton, Virginia 23668

Dear Dr. Petty:

I am a graduate student currently enrolled in the Urban Services-Health Concentration PhD Program at Old Dominion University. I would like to request the participation of your undergraduate students in a research study that I am conducting.

The focus of my research endeavor will be to determine the effect of a behaviorally focused HIV/AIDS education program on knowledge, attitudes and sexual behavior of college students. This will involve the administration of a questionnaire which is designed to measure knowledge, attitudes and sexual behavior of this group.

The questionnaire will consist of a list of items, and I would like to administer and collect it during regular class time if that is permissible. The approximate administration time is 15 minutes. The confidentiality of information gathered from your students will be protected. All participation will be voluntary.

Upon completion, results of this study will be made available upon request. This study will be beneficial to your institution because results can be used by those persons planning and implementing HIV/AIDS education programs.

If you need further clarification of this request, please contact me at 727-5251 or 727-5672. I look forward to your reply.

Sincerely,

  
Arlene J. Jackson Montgomery



HAMPTON UNIVERSITY  
HAMPTON, VIRGINIA  
INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL FORM

Title of Proposed Research  
Project/Thesis/Course: The Effect of Human Immunodeficiency Virus/Acquired Immune

Deficiency Syndrome Education Programs on Knowledge, Attitudes and Sexual Behavior of  
Selected University Students

Investigator: Arlene J. Jackson Montgomery

Department/Area: School of Nursing

Arlene J. Montgomery 11/16/93 N/A  
Signature (Investigator) Date Signature (Instructor or Advisor) Date

Remond U. Hammond 11/8/93 [Signature]  
Signature (Department Chair) Date Signature (Dean/Area Administrator) Date

The investigator has certified that the potential risk is outweighed by the expected benefits and adequate steps have been taken to assure the protection of human subjects.

- 1. Linda C. Petty Yes  No  6. \_\_\_\_\_ Yes  No   
Dr. Linda Petty Chairperson Dr. Hannibal Howell Practitioner Representative
- 2. \_\_\_\_\_ Yes  No  7. \_\_\_\_\_ Yes  No   
Rev. Michael A. Battle Ethicist Representative Mr. Angle B. Owens Consumer Representative
- 3. \_\_\_\_\_ Yes  No  8. \_\_\_\_\_ Yes  No   
Dr. Robert Bonner Science Representative Dr. Charles Wooding Lawyer Representative
- 4. \_\_\_\_\_ Yes  No  9. \_\_\_\_\_ Yes  No   
Dr. Elnora Daniel Health Care Representative

A written review on the involvement of human subjects in this research is required at the times given below. No changes can be made in this research activity without prior written approval by IRB. All unanticipated risks to human subjects should be reported immediately to the Chairperson of the IRB.

Frequency of Required Review Annual  Other

Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature Linda C. Petty Date 11/9/93  
12/1/91

208 Telford Drive  
Newport News, Virginia 23602  
September 21, 1993

Rutgers University  
College of Nursing  
Ackerson Hall  
180 University Ave.  
Newark, N.J. 07102  
ATTN: Dr. L. Sweet-Jemmott

Dear Dr. Sweet-Jemmott:

I am a PhD student at Old Dominion University in the area of Urban Services-Health Services Concentration and I am in the process of developing a study to assess the effect of HIV/AIDS education programs on the attitudes of college students for my dissertation research.

Realizing that you have conducted research in this area, I would like to request a copy of your measurement tool along with a copy of your article. Additionally, I am requesting your permission to use the tool to collect data for my study.

Thank you for your consideration of this request.

Sincerely,

  
Arlene J. Jackson-Montgomery

College of Nursing  
University Heights • Newark • New Jersey 07102 • 201/648-5293

Arlene J. Jackson-Montgomery  
208 Telford Drive  
Newport News, Virginia 23602

Dear Mrs. Jackson- Montgomery,

Thank you for your interest in my research. Enclosed is the instrument you requested entitled "Sexual Knowledge, Attitudes, and Experiences of Black College Students in the AIDS Era. In addition, I have included the article in which this instrument was used. Insofar as your inquiry with regards to the reliability/validity of the instrument, I must refer you to the article. I hope this information will be of value to you in your dissertation research. You have my permission to utilize this instrument in your study, however I request that you reference it in your paper. If you require any further assistance, please feel free to contact my office. We are interested in assisting any researchers in their endeavors.

Again, thank you for your interest.

Sincerely,



Loretta Sweet Jemmott PhD, RN  
Associate Professor

**INFORMED CONSENT**

**Sexual Behavior of Selected College Students.**

**Investigator: Arlene J. Jackson Montgomery**

The purpose of this study has been explained to me and I am willing to participate in the research of the investigator by answering the questionnaire which takes approximately 15 minutes. I give permission to the investigator to use the data thereby obtained for research purposes only. I also understand that my identity will be protected and that the questionnaire will be used for data analysis purposes. I also understand that a copy of the results of the study will be made available upon my request. I know that my participation in the study is strictly voluntary. I know that I have the right to withdraw at any time and that my student status will not be affected.

If I have any questions about the study or about being a subject, I know I can call Mrs. Montgomery at 727-5251 or 727-5672.

Subject \_\_\_\_\_

Investigator \_\_\_\_\_

Date \_\_\_\_\_

## **APPENDIX C**

**CONTENT OUTLINE  
HIV/AIDS INFORMATION PRESENTATION**

Time: 1 hr.

**I. Introduction**

- A. Purpose of Study
- B. Why Content is important
- C. Statistics

**2. Review of Reading Assignment**

- A. Comments, Questions and Answers

**3. General Information on HIV/AIDS**

- A. Beliefs:
  - 1. History
  - 2. Relationships between STD/HIV/AIDS
  - 3. At-Risk populations/risk factors
- B. Attitudes:
  - 1. Transmission
  - 2. Prevention
  - 3. Treatment
- C. Behavioral Responses:
  - 1. At risk behaviors
- D. Treatment
  - 1. STD/AIDS
- E. HIV Testing.

**4. Questions and Answers**

**5. Posttest**

## **APPENDIX D**

This survey is being done to study the sexual knowledge, attitudes and behaviors of selected college students as they pertain to the prevention of sexually transmitted diseases and HIV/AIDS. It asks questions about your knowledge, attitudes and behavior regarding sex and AIDS. Your responses will be held in the strictest confidence and will combine with those of other students in statistical analyses. Please answer all of the questions. **PLEASE DO NOT WRITE YOUR NAME ON THE QUESTIONNAIRE.**

#### AIDS/STD KNOWLEDGE INVENTORY

TRUE OR FALSE. Some of the statements below are true: some are false. Please circle T for each statement that you think is TRUE: circle F for each one you think is FALSE: and circle "?" if you DO NOT KNOW whether the statement is true or false.

- T ? F 1. A common symptom of Venereal Disease (VD) or Sexually Transmitted Disease (STD) in a man is discharged (drip) from his penis.
- T ? F 2. A common symptom of VD is burning with urination (peeing).
- T ? F 3. A common symptom of VD is a sore on the penis or vagina.
- T ? F 4. A common symptom of VD is a woman has discharge from her vagina that causes itching or burning.
- T ? F 5. You can not have VD if you feel perfectly fine.
- T ? F 6. A woman who has VD can get an infection in her uterus and tubes.
- T ? F 7. VD can cause a woman to have trouble getting pregnant later in life.
- T ? F 8. A pregnant woman who has VD can give it to her baby.
- T ? F 9. There are medicines to cure all types of VD.
- T ? F 10. Using a rubber (condom) when you have sex will help protect you against VD.
- T ? F 11. Contact with a dirty toilet seat is a common cause of VD.
- T ? F 12. If you have VD your sexual partner probably also has the same infection.
- T ? F 13. AIDS is a medical condition in which your body cannot fight off diseases.
- T ? F 14. AIDS is caused by a virus.
- T ? F 15. AIDS is a condition you are born with.
- T ? F 16. Stress causes AIDS.
- T ? F 17. If you kiss someone with AIDS you will get the disease.
- T ? F 18. If you touch someone with AIDS you can get AIDS.
- T ? F 19. All gay men have AIDS.
- T ? F 20. What you eat can give you AIDS.
- T ? F 21. Anyone can get AIDS.
- T ? F 22. AIDS can be cured.
- T ? F 23. Women are more likely to get AIDS during their period.
- T ? F 24. AIDS can be spread by using someone's personal belongings like a comb or hairbrush.
- T ? F 25. AIDS is not at all serious, it is like having a cold.
- T ? F 26. AIDS is caused by the same virus that causes VD.



- T ? F 27. The cause of AIDS is unknown
- T ? F 28. Just being around someone with AIDS can give you the disease.
- T ? F 29. Having sex with someone who has AIDS is one way of getting it.
- T ? F 30. If a pregnant woman has AIDS, there is a chance it may harm her unborn baby.
- T ? F 31. Most people who get AIDS usually die from the disease.
- T ? F 32. Using a condom during sex can lower the risk of getting AIDS.
- T ? F 33. You can get AIDS by shaking hands with someone who has it.
- T ? F 34. Receiving a blood transfusion with infected blood can give a person AIDS.
- T ? F 35. You can get AIDS by sharing a needle with a drug user who has the disease.
- T ? F 36. AIDS is a life-threatening disease.
- T ? F 37. People with AIDS usually have lots of other diseases as a result of AIDS.
- T ? F 38. All gay women have AIDS.
- T ? F 39. There is no cure for AIDS.
- T ? F 40. I can avoid getting AIDS by exercising regularly.
- T ? F 41. AIDS can be cured if treated early.
- T ? F 42. A new vaccine has recently been developed for the treatment of AIDS.
- T ? F 43. One good way to prevent getting AIDS is to not have sex.
- T ? F 44. A person can have the AIDS virus and give it to other people even if he does not look sick or have the disease.
- T ? F 45. Only gay men and people who shoot up drugs get AIDS.
- T ? F 46. AIDS is not a problem among Blacks and Hispanics.
- T ? F 47. Condoms are 100% effective against AIDS.
- T ? F 48. Having sex with a man who shoots drugs is a way many women get AIDS.
- T ? F 49. There is a bigger chance of getting AIDS if you have sex with many different guys.
- T ? F 50. There is a bigger chance that a woman will get AIDS if she has sex with many other women.
- T ? F 51. Allowing a guy to do anal intercourse to you increases your change of getting AIDS.
- T ? F 52. Using a vasoline as a lubricant when you have sex lowers the chance of getting AIDS.
- T ? F 53. Using a spermicide when you have sex lowers the chance of getting AIDS.
- T ? F 54. Doing oral sex on a guy increases your change of getting AIDS.
- T ? F 55. You can catch AIDS like you catch a cold because the AIDS virus can be carried in the air.
- T ? F 56. You can not get AIDS from sex if you have sex with only one person during your whole life.

- T ? F 57. There is a good chance you will get AIDS if you share a sink, shower, or toilet seat with someone who has AIDS.
- T ? F 58. There is a good chance chance you will get AIDS if your drink from the same glass or eat from the same plate as someone who has AIDS.
- T ? F 59. The AIDS virus is present in certain body fluids, mainly semen and blood.
- T ? F 60. Persons infected with the AIDS virus through IV drug abuse are not likely to pass the virus to sex partners unless the partner also abuses IV drugs.

### SEXUAL ATTITUDES

**Instructions.** This questionnaire concerns sexual behaviors that people sometimes do. Please rate whether your feelings toward the behaviors are positive or negative, whether your sexual partner, parents, church, and friends would approve of the behavior, and whether you plan to do these behaviors in the next 3 months.

- How negative or positive is your attitude toward having sex in the next 3 months.
 

1	2	3	4	5	6	7
Very negative						Very positive
- Rate how strongly your sexual partner would approve of having sex with you in the next 3 months.
 

1	2	3	4	5	6	7
Disapprove Strongly						Approve Strongly
- How important to you is your sexual partner's opinion about having sex?
 

1	2	3	4	5	6	7
Not at all Important						Extremely Important
- Rate how strongly your mother would approve of your having sex in the next 3 months.
 

1	2	3	4	5	6	7
Disapprove Strongly						Approve Strongly
- How important to you is your mother's opinion about your having sex?
 

1	2	3	4	5	6	7
Not at all Important						Extremely Important
- Rate how strongly your father would approve of your having sex in the next 3 months.
 

1	2	3	4	5	6	7
Disapprove Strongly						Approve Strongly
- How important to you is your father's opinion about your having sex?
 

1	2	3	4	5	6	7
Not at all Important						Extremely Important
- Rate how strongly your church would approve of your having sex in the next 3 months.
 

1	2	3	4	5	6	7
Disapprove Strongly						Approve Strongly

9. How important to you is your church's opinion about your having sex?
- 1 2 3 4 5 6 7  
Not at all Extremely  
Important Important
10. Rate how strongly your friends would approve of your having sex in the next 3 months.
- 1 2 3 4 5 6 7  
Disapprove Approve  
Strongly Strongly
11. How important to you are your friend's opinions about your having sex?
- 1 2 3 4 5 6 7  
Not at all Extremely  
Important Important
12. How likely is it that you will decide to have sex in the next 3 months.
- 1 2 3 4 5 6 7  
Not at all Very  
Likely Likely
13. How negative or positive is your attitude toward using a condom when you have sex in the next 3 months.
- 1 2 3 4 5 6 7  
Very negative Very positive
14. Rate how strongly your sexual partner would approve of using a condom when the two of you have sex in the next 3 months.
- 1 2 3 4 5 6 7  
Disapprove Approve  
Strongly Strongly
15. How important to you is your sexual partner's opinion about using a condom?
- 1 2 3 4 5 6 7  
Not at all Extremely  
Important Important
16. Rate how strongly your mother would approve of your using a condom when you have sex in the next 3 months.
- 1 2 3 4 5 6 7  
Disagree Agree  
Strongly Strongly
17. How important to you is your mother's opinion about your using a condom?
- 1 2 3 4 5 6 7  
Not at all Extremely  
Important Important
18. Rate how strongly your father would approve of your using a condom when you have sex in the next 3 months.
- 1 2 3 4 5 6 7  
Disagree Agree  
Strongly Strongly

19. How important to you is your father's opinion about your using a condom?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
20. Rate how strongly your church would approve of your using a condom when you have sex in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
21. How important to you is your church's opinion about your using a condom?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
22. Rate how strongly your friends would approve of your using a condom when you have sex in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
23. How important to you are your friends' opinions about your using a condom?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
24. How likely is it that you will decide to use a condom when you have sex in the next 3 months.
- |                      |   |   |   |   |   |                |
|----------------------|---|---|---|---|---|----------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7              |
| Not at all<br>Likely |   |   |   |   |   | Very<br>Likely |
25. How negative or positive is your attitude toward having sex with different people in the next 3 months.
- |               |   |   |   |   |   |               |
|---------------|---|---|---|---|---|---------------|
| 1             | 2 | 3 | 4 | 5 | 6 | 7             |
| Very negative |   |   |   |   |   | Very positive |
26. Rate how strongly your sexual partner would approve your having sex with different people in the next 3 months.
- |                        |   |   |   |   |   |                     |
|------------------------|---|---|---|---|---|---------------------|
| 1                      | 2 | 3 | 4 | 5 | 6 | 7                   |
| Disapprove<br>Strongly |   |   |   |   |   | Approve<br>Strongly |
27. How important to you is your sexual partner's opinion about your having sex with different people?
- |                         |   |   |   |   |   |                   |
|-------------------------|---|---|---|---|---|-------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                 |
| Not at all<br>Important |   |   |   |   |   | Very<br>Important |
28. Rate how strongly your mother would approve of your having sex with different people in the next 3 months.
- |                        |   |   |   |   |   |                     |
|------------------------|---|---|---|---|---|---------------------|
| 1                      | 2 | 3 | 4 | 5 | 6 | 7                   |
| Disapprove<br>Strongly |   |   |   |   |   | Approve<br>Strongly |

29. How important to you is your mother's opinion about your having sex with different people?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
30. Rate how strongly your father would approve of your having sex with different people in the next 3 months.
- |                        |   |   |   |   |   |                     |
|------------------------|---|---|---|---|---|---------------------|
| 1                      | 2 | 3 | 4 | 5 | 6 | 7                   |
| Disapprove<br>Strongly |   |   |   |   |   | Approve<br>Strongly |
31. How important to you is your father's opinion about your having sex with different people?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
32. Rate how strongly your church would approve of your having sex with different people in the next 3 months.
- |                        |   |   |   |   |   |                     |
|------------------------|---|---|---|---|---|---------------------|
| 1                      | 2 | 3 | 4 | 5 | 6 | 7                   |
| Disapprove<br>Strongly |   |   |   |   |   | Approve<br>Strongly |
33. How important to you is your church's opinion about your having sex with different people?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
34. Rate how strongly your friends would approve of your having sex with different people in the next 3 months.
- |                        |   |   |   |   |   |                     |
|------------------------|---|---|---|---|---|---------------------|
| 1                      | 2 | 3 | 4 | 5 | 6 | 7                   |
| Disapprove<br>Strongly |   |   |   |   |   | Approve<br>Strongly |
35. How important to you are your friends' opinions about your having sex with different people?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
36. How likely is it that you will decide to have sex with different people in the next 3 months.
- |                      |   |   |   |   |   |                |
|----------------------|---|---|---|---|---|----------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7              |
| Not at all<br>Likely |   |   |   |   |   | Very<br>Likely |
37. How negative or positive is your attitude toward having sex with a person who is involved in sexual relationships with other persons in the next 3 months.
- |               |   |   |   |   |   |               |
|---------------|---|---|---|---|---|---------------|
| 1             | 2 | 3 | 4 | 5 | 6 | 7             |
| Very negative |   |   |   |   |   | Very positive |
38. Rate how strongly your sexual partner would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |

39. How important to you is your sexual partner's opinion about your having sex with a person who is involved in sexual relationships with other people?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
40. Rate how strongly your mother would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
41. How important to you is your mother's opinion about your having sex with a person who is involved in sexual relationships with other people?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
42. Rate how strongly your father would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
43. How important to you is your father's opinion about your having sex with a person who is involved in sexual relationships with other people?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
44. Rate how strongly your church would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
45. How important to you is your church's opinion about your having sex with a person who is involved in sexual relationships with other people?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
46. Rate how strongly your friends would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
47. How important to you are your friends' opinions about your having sex with a person who is involved in sexual relationships with other people?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
48. How likely is it that you will decide to have sex with a person who is involved in sexual relationships with other people?
- |                      |   |   |   |   |   |                     |
|----------------------|---|---|---|---|---|---------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                   |
| Not at all<br>Likely |   |   |   |   |   | Extremely<br>Likely |

49. How negative or positive is your attitude toward having sex with a person who shoots drugs in the next 3 months.
- |               |   |   |   |   |   |               |
|---------------|---|---|---|---|---|---------------|
| 1             | 2 | 3 | 4 | 5 | 6 | 7             |
| Very negative |   |   |   |   |   | Very positive |
50. Rate how strongly your mother would approve of your having sex with a person who shoots drugs in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
51. How important to you is your mother's opinion about your having sex with a person who shoots drugs?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
52. Rate how strongly your father would approve of your having sex with a person who shoots drugs in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
53. How important to you is your father's opinion about your having sex with a person who shoots drugs?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
54. Rate how strongly your church would approve of your having sex with a person who shoots drugs in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
55. How important to you is your church's opinion about your having sex with a person who shoots drugs?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
56. Rate how strongly your friends would approve of your having sex with a person who shoots drugs in the next 3 months.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
57. How important to you are your friends' opinions about your having sex with a person who shoots drugs?
- |                         |   |   |   |   |   |                        |
|-------------------------|---|---|---|---|---|------------------------|
| 1                       | 2 | 3 | 4 | 5 | 6 | 7                      |
| Not at all<br>Important |   |   |   |   |   | Extremely<br>Important |
58. How likely is it that you will decide to have sex with a person who shoots drugs in the next 3 months.
- |                      |   |   |   |   |   |                |
|----------------------|---|---|---|---|---|----------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7              |
| Not at all<br>Likely |   |   |   |   |   | Very<br>Likely |

How much do you agree or disagree with each of the following statements about condoms.

59. Condoms cost too much money.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
60. Sex does not feel as good when you use a condom.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
61. It is too much trouble to carry condoms around.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
62. Sex is more fun when a condom is used.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
63. Most guys do not want to use condoms.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
64. Most girls do not want to use condoms.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
65. I would feel funny saying to my partner "let's use a condom."
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |
66. I want to use condoms.
- |                      |   |   |   |   |   |                   |
|----------------------|---|---|---|---|---|-------------------|
| 1                    | 2 | 3 | 4 | 5 | 6 | 7                 |
| Disagree<br>Strongly |   |   |   |   |   | Agree<br>Strongly |

### SEXUAL BEHAVIOR QUESTIONNAIRE

*Instructions.* Please answer the following questions about your sexual behavior.

1. Have you ever had sex?

Circle: 1. No or 2. Yes

If NO, go to question #17

2. Rate how strongly you agree or disagree with each of the following statements.

The main reason I have sex is to please my partner.

1	2	3	4	5	6	7
Disagree Strongly						Agree Strongly



The main reason I have sex is to please myself.

1      2      3      4      5      6      7  
 Disagree      Agree  
 Strongly      Strongly

I would rather not have sex.

1      2      3      4      5      6      7  
 Disagree      Agree  
 Strongly      Strongly

3. How old were you when you first had sex? \_\_\_\_\_

4. The first time you had sex, was birth control used?

Circle: 1. No or 2. Yes

If NO, why wasn't birth control used: \_\_\_\_\_

If YES, what method of birth control was used:

birth control pills: 1. No or 2. Yes  
 condom (rubber): 1. No or 2. Yes  
 diaphragm or sponge: 1. No or 2. Yes  
 foam or jelly: 1. No or 2. Yes  
 condom and foam: 1. No or 2. Yes  
 withdrawal: 1. No or 2. Yes

5. The last time you had sex, was birth control used?

Circle: 1. No or 2. Yes

If NO, why wasn't birth control used: \_\_\_\_\_

If YES, what methods of birth control was used:

birth control pills: 1. No or 2. Yes  
 condom (rubber): 1. No or 2. Yes  
 diaphragm or sponge: 1. No or 2. Yes  
 foam or jelly: 1. No or 2. Yes  
 condom and foam: 1. No or 2. Yes  
 withdrawal: 1. No or 2. Yes

6. In the past 3 months, did you have sex with a person? 1. No or 2. Yes

If NO, go to question #13

If YES, how often was each of the following birth control methods used?

	Never	Sometimes	Often	Usually	Always
birth control pills:	1	2	3	4	5
condom (rubber):	1	2	3	4	5
diaphragm or sponge:	1	2	3	4	5
foam or jelly:	1	2	3	4	5
condom and foam:	1	2	3	4	5
withdrawal:	1	2	3	4	5

7. In the past 3 months, how many times have you had sex? \_\_\_\_\_

8. In the past 3 months, how many different persons have you had sex with?

9. In the past 3 months, on how many days did you have sex? \_\_\_\_\_

10. In the past 3 months, on how many days did you have sex without using a condom? \_\_\_\_\_
11. In the past 3 months, on how many days did you have sex with a person who was having sex with someone else? \_\_\_\_\_
12. In the past 12 weeks, in how many weeks did you have sex with more than one person in the same week? \_\_\_\_\_
13. Have you ever had sex while you were high on an alcoholic drink or a drug?

Circle: 1. No or 2. Yes

If NO, go to question #15

If YES, what method of birth control was used:

birth control pills: 1. No or 2. Yes  
 condom (rubber): 1. No or 2. Yes  
 diaphragm or sponge: 1. No or 2. Yes  
 foam or jelly: 1. No or 2. Yes  
 condom and foam: 1. No or 2. Yes  
 withdrawal: 1. No or 2. Yes

14. In the past 3 months, on how many days did you have sex while you were high on an alcoholic drink or drug? \_\_\_\_\_
15. Have you ever had sex with someone who shoots up drugs? 1. No or 2. Yes
- If NO, go to question #17
16. In the past 3 months, on how many days did you have sex with someone who shoots up drugs? \_\_\_\_\_
17. Have you ever had anal sex (penis in your anus/behind)?

Circle: 1. No or 2. Yes

If NO, go to question #25

18. How old were you when you first had anal sex? \_\_\_\_\_
19. The first time you had anal sex, was a condom used?
- Circle: 1. No or 2. Yes
20. The last time you had anal sex, was a condom used?
- Circle: 1. No or 2. Yes
21. In the past 3 months, did you have anal sex? 1. No or 2. Yes

If NO, go to question #25

If YES, how often was each of the following used?

	Never	Sometimes	Often	Usually	Always
Condom (rubber)	1	2	3	4	5
Vaseline	1	2	3	4	5

22. In the past 3 months, how many times did you have anal sex? \_\_\_\_\_
23. In the past 3 months, how many different persons did you have anal sex with? \_\_\_\_\_
24. In the past 3 months, on how many days did you have anal intercourse? \_\_\_\_\_
25. Do you have sex with (circle one):
1. Men only
  2. Women only
  3. Both men and women
  4. Neither men nor women

### BACKGROUND INFORMATION

Please provide the following background information about yourself for statistical purposes.

1. How old are you? \_\_\_\_\_
2. What is your sex? (Circle) Male or Female
3. What year in college are you now in? \_\_\_\_\_
4. What is your race of ethnicity? Circle the number:
 

1. Black	4. Asian
2. Hispanic	5. American Indian
3. White (non-Hispanic)	6. Other (specify): _____ )
5. What is your marital status?
 

1. Never married to each other	4. Separated
2. Married to each other	5. Divorced
3. Widowed	
6. What is your mother's job? \_\_\_\_\_
7. What is your father's job? \_\_\_\_\_
8. Circle the highest year of school your mother has completed?
 

6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
elementary					high			college or				grad/prof.		
school					school			special school				school		
9. Circle the highest year of school your father has completed:
 

6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
elementary					high			college or				grad/prof.		
school					school			special school				school		
10. When you were growing up, how strict was your mother?
 

1	2	3	4	5	6	7
Not at all						Very Strict
11. When you were growing up, how strict was your father?
 

1	2	3	4	5	6	7
Not at all						Very Strict
12. What is your religion? Circle the number:
 

1. Protestant	5. Seven Day Adventist
2. Catholic	6. Jewish
3. Muslim	7. None
4. Jehovah Witness	8. Other (specify: _____ )
13. How religious are you?
 

1	2	3	4	5	6	7
Not at all						Very Religious
14. How often do you attend church?
 

1	2	3	4	5	6	7
Not at all						Very Often

15. How active in the church are you?  
 1 2 3 4 5 6 7  
 Not at all Very Active
16. How much have you learned about AIDS from your parents?  
 1 2 3 4 5 6 7  
 Nothing Very Much
17. How much have you learned about AIDS from your church?  
 1 2 3 4 5 6 7  
 Nothing Very Much
18. How much have you learned about AIDS from your friends?  
 1 2 3 4 5 6 7  
 Nothing Very Much
19. How much have your learned about AIDS from books, pamphlets, and magazines?  
 1 2 3 4 5 6 7  
 Nothing Very Much.
20. How much have you learned about AIDS from television and movies?  
 1 2 3 4 5 6 7  
 Nothing Very Much
21. How much have you learned about AIDS from your classes at IU?  
 1 2 3 4 5 6 7  
 Nothing Very Much
22. How much have you learned about AIDS from resources at IU?  
 1 2 3 4 5 6 7  
 Nothing Very Much

**Thank you. Your contribution to this effort is greatly appreciated!**

## **APPENDIX E**

**Appendix E**  
**Frequency and Percentage Comparison Between Freshmen Pretest**  
**and Posttest Scores on Sexual Attitudes**

Questions	Pretest		Posttest	
	N = 149	Freq. %	N = 150	Freq. %
2. Rate how strongly your sexual partner would approve of having sex with you in the next 3 months.	11	7.4	No Response	5 3.3
	9	6.0	Disapprove Strongly	8 5.3
	7	4.7	Disapprove	4 2.7
	25	16.8	Somewhat Approve	35 23.3
	24	16.1	Approve	25 16.7
	73	49.0	Extremely Approve	73 48.7
3. How important to you is your sexual partner's opinion about having sex?	8	5.4	No Response	1 .7
	16	10.7	Not at all	14 9.3
	2	1.3	Slightly	6 4.0
	48	32.2	Somewhat	45 30.0
	17	11.4	Important	17 11.3
	58	38.9	Extremely Important	67 44.7
4. Rate how strongly your mother would approve of your having sex in the next 3 months.	3	2.0	No Response	3 2.0
	60	40.3	Disapprove Strongly	58 38.7
	15	10.1	Disapprove	19 12.7
	59	39.6	Somewhat approve	56 37.4
	3	2.0	Approve	6 4.0
	9	6.0	Extremely Approve	8 5.3
5. How important to you is your mother's opinion about your having sex?	2	1.3	No Response	1 0.7
	22	14.8	Not at all	18 12.0
	17	11.4	Slightly	6 4.0
	65	43.6	Somewhat	72 48.0
	15	10.1	Important	15 10.0
	28	18.8	Extremely Important	38 25.3

## Appendix E (cont.)

Questions	Pretest			Posttest	
	N=149	Freq. %		N=150	Freq. %
6. Rate how strongly your father would approve of your having sex in the next 3 months.	10	6.7	No Response	5	3.3
	68	45.6	Disapprove Strongly	78	52.0
	9	6.0	Disapprove	13	8.7
	43	28.9	Somewhat Approve	40	26.7
	6	4.0	Approve	5	3.3
	13	8.7	Extremely Approve	9	6.0
7. How important to you is your father's opinion about your having sex?	9	6.0	No Response	4	2.7
	33	22.1	Not at all	32	21.3
	16	10.7	Slightly	12	8.0
	60	40.3	Somewhat	62	41.3
	7	4.7	Important	8	5.3
	24	16.1	Extremely Important	32	21.3
8. Rate how strongly your church would approve of your having sex in the next 3 months.	12	8.1	No Response	7	4.7
	80	53.7	Disapprove Strongly	101	67.3
	10	6.7	Disapprove	7	4.7
	33	22.1	Somewhat Approve	25	16.7
	5	3.4	Approve	3	2.0
	9	6.0	Extremely Approve	7	4.7
9. How important to you is your church's opinion about your having sex?	12	8.1	No Response	5	3.3
	28	18.8	Not at all	27	18.0
	16	10.7	Slightly	12	8.0
	62	41.6	Somewhat	69	46.0
	10	6.7	Important	11	7.3
	21	14.1	Extremely Important	26	17.3

## Appendix E (cont.)

Questions	Pretest				Posttest	
	N = 149	Freq.	%	N = 150	Freq.	%
10. Rate how strongly you friends would approve of your having sex in the next 3 months.	5	3.4	No Response	3	2.0	
	8	5.4	Disapprove Strongly	6	4.0	
	3	2.0	Disapprove	6	4.0	
	69	46.3	Somewhat Approve	69	46.1	
	19	12.8	Approve	27	18.0	
	45	30.2	Extremely Approve	39	26.0	
11. How important to you are your friend's opinions about your having sex?	3	2.0	No Response	2	1.3	
	40	26.8	Not at all	44	29.3	
	16	10.7	Slightly	24	16.0	
	71	47.6	Somewhat	63	42.0	
	6	4.0	Important	11	7.3	
	13	8.7	Extremely Important	6	4.0	
12. How likely is it that you will decide to have sex in the next 3 months.	4	2.7	No Response	2	1.3	
	23	15.4	Disapprove Strongly	26	17.3	
	6	4.0	Disapprove	5	3.3	
	42	28.3	Somewhat Approve	36	24.1	
	11	7.4	Approve	14	9.3	
	63	42.3	Extremely Approve	67	44.7	
13. Rate how strongly your sexual partner would approve of using a condom when the two of you have sex in the next 3 months.	7	4.7	No Response	6	4.0	
	15	10.1	Not at all	9	6.0	
	2	1.3	Slightly	5	3.3	
	27	18.1	Somewhat	32	21.3	
	10	6.7	Important	8	5.3	
	88	59.1	Extremely Important	90	60.0	



## Appendix E (cont.)

Questions	Pretest		Posttest			
	N = 149	Freq.	%	N = 150	Freq.	%
15. How important to you is your sexual partner's opinion about using a condom?		8	5.4	No Response	4	2.7
		10	6.7	Not at all	11	7.3
		3	2.0	Slightly	6	4.0
		37	24.9	Somewhat	30	20.0
		14	9.4	Important	16	10.7
		77	51.7	Extremely Important	83	55.3
16. Rate how strongly your mother would approve of your using a condom when you have sex in the next 3 months.		5	3.4	No Response	3	2.0
		9	6.0	Disapprove Strongly	6	4.0
		1	0.7	Disapprove	2	1.3
		12	8.1	Somewhat Approve	14	9.4
		6	4.0	Approve	12	8.0
		116	77.9	Extremely Approve	113	75.3
17. How important to you is your mother's opinion about your using a condom?		5	3.4	No Response	3	2.0
		16	10.7	Not at all	11	7.3
		5	3.4	Slightly	14	9.3
		37	24.9	Somewhat	33	22.1
		11	7.4	Important	11	7.3
		75	50.3	Extremely Important	78	52.0
18. Rate how strongly your father would approve of your using a condom when you have sex in the next 3 months.		12	8.1	No Response	8	5.3
		7	4.7	Disapprove Strongly	5	3.3
		2	1.3	Disapprove	6	4.0
		16	10.8	Somewhat Approve	20	13.3
		7	4.7	Approve	8	5.3
		105	70.5	Extremely Approve	103	68.7

## Appendix E (cont.)

Questions	Pretest		Posttest			
	N = 149	Freq.	%	N = 150	Freq.	%
19. How important to you is your father's opinion about your using a condom?		13	8.7	No Response	8	5.3
		18	12.1	Not at all	20	13.3
		6	4.0	Slightly	10	6.7
		43	28.8	Somewhat	35	23.3
		8	5.4	Important	10	6.7
		61	40.9	Extremely Important	67	44.7
20. Rate how strongly your church would approve of your using a condom when you have sex in the next 3 months.		15	10.1	No Response	9	6.0
		19	12.8	Disapprove Strongly	17	11.3
		3	2.0	Disapprove	5	3.3
		26	17.5	Somewhat Approve	25	16.6
		6	4.0	Approve	6	4.0
		80	53.7	Extremely Approve	88	58.7
21. How important to you is your church's opinion about your using a condom?		15	10.1	No Response	7	4.7
		26	17.4	Not at all	24	16.0
		12	8.1	Slightly	10	6.7
		38	25.5	Somewhat	43	28.7
		9	6.0	Important	9	6.0
		49	32.9	Extremely Important	57	38.0
22. Rate how strongly your friends would approve of your using a condom when you have sex in the next 3 months.		6	4.0	No Response	3	2.0
		9	6.0	Disapprove Strongly	6	4.0
		3	2.0	Disapprove	1	0.7
		34	22.8	Somewhat Approve	36	24
		11	7.4	Approve	16	10.7
		86	57.7	Extremely Approve	88	58.7

## Appendix E (cont.)

Questions	Pretest		Posttest			
	N = 149	Freq.	%	N = 150	Freq.	%
23. How important to you are your friend's opinions about your using a condom?		9	6.0	No Response	2	1.3
		34	22.8	Not at all	32	21.3
		8	5.4	Slightly	13	8.7
		34	22.9	Somewhat Important	48	32.0
		10	6.7	Important	7	4.7
		54	36.2	Extremely Important	48	32.0
24. How likely is it that you will decide to use a condom when you have sex in the next 3 months.		9	6.0	No Response	2	1.3
		13	8.7	Not at all	13	8.7
		5	3.4	Slightly	4	2.7
		19	12.7	Somewhat	18	12.0
		9	6.0	Likely	5	3.3
		94	63.1	Very Likely	108	72.0
26. Rate how strongly your sexual partner would approve your having sex with different people in the next 3 months.		10	6.7	No Response	2	1.3
		103	69.1	Disapprove Strongly	118	78.7
		12	8.1	Disapprove	10	6.7
		12	8.0	Somewhat Approve	14	9.3
		1	0.7	Approve	2	1.3
		11	7.4	Extremely Approve	4	2.7
27. How important to you is your sexual partner's opinion about your having sex with different people?		9	6.0	No Response	3	2.0
		28	18.8	Not at all	25	16.7
		14	9.4	Slightly	10	6.7
		27	18.1	Somewhat	36	24.0
		12	8.1	Likely	13	8.7
		59	39.6	Very Likely	63	42.0

## Appendix E (cont.)

Questions	Pretest				Posttest	
	N = 149	Freq.	%	N = 150	Freq.	%
28. Rate how strongly your mother would approve of your having sex with different people in the next 3 months.		5	3.4	No Response	2	1.3
		102	68.5	Not at all	124	82.7
		12	8.1	Slightly	5	3.3
		17	11.5	Somewhat Important	13	8.7
		2	1.3	Important	2	1.3
		11	7.4	Extremely Important	4	2.7
29. How important to you is your having sex with different people?		5	3.4	No Response	3	2.0
		32	21.5	Disapprove Strongly	15	10.0
		12	8.1	Disapprove	14	9.3
		30	20.2	Somewhat Approve	40	26.7
		16	10.7	Approve	20	13.3
		54	36.2	Extremely Approve	58	38.7
30. Rate how strongly you father would approve of your having sex with different people in the next 3 months.		12	8.1	No Response	7	4.7
		88	59.1	Not at all	107	71.3
		16	10.7	Slightly	7	4.7
		19	12.8	Somewhat Likely	18	11.9
		2	1.3	Likely	2	1.3
		12	8.1	Very Likely	9	6.0

## Appendix E (cont.)

Questions	Pretest		Posttest			
	N = 149	Freq.	%	N = 150	Freq.	%
31. How important to you is your father's opinion about your having sex with different people?		15	10.1	No Response	8	5.3
		40	26.8	Not at all	28	18.7
		13	8.7	Slightly	14	9.3
		28	18.8	Somewhat Important	36	23.9
		9	6.0	Important	10	6.7
		44	29.5	Extremely Important	54	36
32. Rate how strongly your church would approve of your having sex with different people in the next 3 months.		15	10.1	No Response	11	7.3
		101	67.8	Disapprove Strongly	116	77.3
		6	4.0	Disapprove	2	1.3
		14	9.4	Somewhat Approve	13	8.6
		4	2.7	Approve	1	.7
		9	6.0	Extremely Approve	7	4.7
33. How important to you is your church's opinion about your having sex with different people?		13	8.7	No Response	9	6
		38	25.5	Not at all	27	18
		14	9.4	Slightly	15	10
		38	25.5	Somewhat	49	32.7
		9	6.0	Important	12	8
		37	24.8	Extremely Important	38	25.3

## Appendix E (cont.)

Questions	Pretest		Posttest			
	N = 149	Freq.	%	N = 150	Freq.	%
34. Rate how strongly your friends would approve of your having sex with different people in the next 3 months?		9	6.0	No Response	3	2.0
		45	30.2	Disapprove Strongly	49	32.7
		17	11.4	Disapprove	16	10.7
		53	35.6	Somewhat Approve	57	38
		7	4.7	Approve	9	6
		18	12.1	Extremely Approve	16	10.7
35. How important to you are your friend's opinions about your having sex with different people?		9	6.0	No Response	3	2.0
		37	24.3	Not at all	39	26
		13	8.7	Slightly	17	11.3
		56	37.6	Somewhat	55	36.7
		9	6.0	Important	14	9.3
		25	16.8	Extremely Important	22	14.7
36. How likely is it that you will decide to have sex with different people in the next 3 months?		8	5.4	No Response	3	2.0
		80	53.7	Not at all	93	62.0
		12	8.1	Slightly	16	10.7
		28	18.8	Somewhat	21	14.0
		6	4.0	Important	7	4.7
		15	10.1	Extremely Likely	10	6.7

## Appendix E (cont.)

Questions	Pretest				Posttest	
	N = 149	Freq.	%	N = 150	Freq.	%
38. Rate how strongly your sexual partner would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.		11	7.4	No Response	3	2.0
		111	74.5	Disapprove Strongly	112	74.7
		8	5.4	Disapprove	9	6.0
		12	8.1	Approve Somewhat	20	13.3
		0	0	Important	2	1.3
		7	4.7	Extremely Approve	4	2.7
39. How important to you is your sexual partner's opinion about your having sex with a person who is involved in sexual relationships with other people?		9	6.0	No Response	3	2.0
		25	16.8	Not at all	13	8.7
		13	8.7	Slightly	3	2.0
		38	25.5	Somewhat	38	25.4
		6	4.0	Important	14	9.3
		58	38.9	Extremely Important	79	52.7

## Appendix E (cont.)

Questions	Pretest		Posttest			
	N=149	Freq.	%	N=150	Freq.	%
40. Rate how strongly your mother would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.		8	5.4	No Response	1	0.7
		105	70.5	Disapprove Strongly	119	79.3
		9	6.0	Disapprove	6	4.0
		13	8.7	Approve Somewhat	18	12.0
		4	2.7	Important	1	0.7
		10	6.7	Extremely Approve	5	3.3
41. How important to you is your mother's opinion about your having sex with a person who is involved in sexual relationships with other people?		9	6.0	No Response	2	1.3
		27	18.1	Not at all	15	10.0
		11	7.4	Slightly	12	8.0
		34	22.8	Somewhat	34	22.7
		16	10.7	Important	22	14.7
		52	34.9	Extremely Important	65	43.3



## Appendix E (cont.)

Questions	Pretest		Posttest			
	N=149	Freq.	%	N=150	Freq.	%
42. Rate how strongly your father would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.		15	10.1	No Response	5	3.3
		100	67.1	Disapprove Strongly	112	74.7
		7	4.7	Disapprove	6	4.0
		11	7.4	Approve Somewhat	21	14.0
		2	1.3	Important	1	0.7
		14	9.4	Extremely Approve	5	3.3
43. How important to you is your father's opinion about your having sex with a person who is involved in sexual relationships with other people?		19	12.8	No Response	4	2.7
		33	22.1	Not at all	28	18.7
		9	6.0	Slightly	10	6.7
		37	24.8	Somewhat	37	24.6
		9	6.0	Important	15	10.0
		42	28.2	Extremely Important	56	37.3

## Appendix E (cont.)

Questions	Pretest				Posttest	
	N = 149	Freq.	%	N = 150	Freq.	%
44. Rate how strongly your church would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.		18	12.1	No Response	7	4.7
		102	68.5	Disapprove Strongly	120	80.0
		6	4.0	Disapprove	2	1.3
		14	9.4	Approve Somewhat	14	9.3
		2	1.3	Important	3	2.0
		7	4.7	Extremely Approve	4	2.7
45. How important to you is your church's opinion about your having sex with a person who is involved in sexual relationships with other people?		13	8.7	No Response	6	4.0
		36	24.2	Not at all	34	22.7
		23	15.4	Slightly	13	8.7
		41	27.6	Somewhat	43	28.7
		8	5.4	Important	19	12.7
		28	18.8	Extremely Important	35	23.3

## Appendix E (cont.)

Questions	Pretest		Posttest			
	N=149	Freq.	%	N=150	Freq.	%
46. Rate how strongly your friends would approve of your having sex with a person who is involved in sexual relationships with other people in the next 3 months.		10	6.7	No Response	2	1.3
		60	40.3	Disapprove Strongly	62	41.3
		19	12.8	Disapprove	18	12.0
		45	30.2	Approve Somewhat	53	35.3
		3	2.0	Important	7	4.7
		12	8.1	Extremely Approve	8	
47. How important to you are your friend's opinions about your having sex with a person who is involved in sexual relationships with other people?		10	6.7	No Response	2	1.3
		34	22.8	Not at all	32	21.3
		16	10.7	Slightly	16	10.7
		54	36.2	Somewhat	55	36.7
		11	7.4	Important	13	8.7
		24	16.1	Extremely Important	32	21.3

## Appendix E (cont.)

Questions	Pretest				Posttest	
	N = 149	Freq.	%	N = 150	Freq.	%
48. How likely is it that you will decide to have sex with a person who is involved in sexual relationships with other people?	12	8.1	No Response	4	2.7	
	83	55.7	Not at all	83	55.3	
	12	8.1	Slightly	11	7.3	
	21	14.1	Somewhat	26	17.4	
	4	2.7	Important	7	4.7	
	17	11.4	Extremely Likely	19	12.7	
50. Rate how strongly your mother would approve of your having sex with a person who shoots drugs in the next 3 months.	10	6.7	No Response	2	1.3	
	118	79.2	Disapprove Strongly	135	90.0	
	2	1.3	Disapprove	1	0.7	
	10	6.7	Approve Somewhat	9	6.0	
	0	0	Approve	1	0.7	
	9	6.0	Approve Strongly	2	1.3	
51. How important to you is your mother's opinion about your having sex with a person who shoots drugs?	9	6.0	No Response	2	1.3	
	36	24.2	Not at all	16	10.7	
	12	8.21	Slightly	8	5.3	
	22	14.8	Somewhat	28	18.7	
	10	6.7	Important	10	6.7	
	60	40.3	Extremely Important	86	57.3	

## Appendix E (cont.)

Questions	Pretest		Posttest			
	N = 149	Freq.	%	N = 150	Freq.	%
52. Rate how strongly your father would approve of your having sex with a person who shoots drugs in the next 3 months.		13	8.7	No Response	5	3.3
		107	71.8	Disapprove Strongly	126	84.0
		5	3.4	Disapprove	1	0.7
		13	8.7	Approve Somewhat	13	8.6
		1	0.7	Approve	1	0.7
		10	6.7	Approve Strongly	4	2.7
53. How important to you is your father's opinion about your having sex with a person who shoots drugs?		15	10.1	No Response	4	2.7
		36	24.2	Not at all	26	17.3
		10	6.7	Slightly	11	7.3
		21	14.1	Somewhat	24	16
		7	4.7	Important	12	8.0
		60	40.3	Extremely Important	73	48.7
54. Rate how strongly your church would approve of your having sex with a person who shoots drugs in the next 3 months.		15	10.1	No Response	6	4.0
		105	70.5	Disapprove Strongly	128	85.3
		4	2.7	Disapprove	1	0.7
		14	9.4	Approve Somewhat	10	6.7
		2	1.3	Approve	0	0
		9	6.0	Approve Strongly	5	3.3

## Appendix E (cont.)

Questions	Pretest				Posttest		
	N = 149	Freq.	%		N = 150	Freq.	%
55. How important to you is your church's opinion about your having sex with a person who shoots drugs?		14	9.4	No Response		7	4.7
		42	28.2	Not at all		27	18.0
		10	6.7	Slightly		10	6.7
		30	20.1	Somewhat		37	24.7
		5	3.4	Important		12	8.0
		48	32.2	Extremely Important		57	38.0
56. Rate how strongly your friends would approve of your having sex with a person who shoots drugs in the next 3 months.		9	6.0	No Response		1	0.7
		107	71.8	Disapprove Strongly		124	82.7
		5	3.4	Disapprove		4	2.7
		20	13.4	Approve Somewhat		17	11.3
		2	1.3	Approve		1	0.7
		6	4.0	Approve Strongly		3	2.0
57. How important to you are your friends' opinions about your having sex with a person who shoots drugs?		9	6.0	No Response		1	0.7
		47	31.5	Not at all		36	24.0
		9	6.0	Slightly		11	7.3
		27	18.1	Somewhat		36	24.0
		12	8.1	Important		13	8.7
		45	30.2	Extremely Important		53	35.3

## Appendix E (cont.)

Questions	Pretest		Posttest			
	N = 149	Freq.	%	N = 150	Freq.	%
58. How likely is it that you will decide to have sex with a person who shoots drugs in the next 3 months?		8	5.4	No Response	1	0.7
		109	73.2	Not at all	137	91.3
		3	2.0	Slightly	1	0.7
		21	14.1	Somewhat	9	6.0
		3	2.0	Likely	0	0
		5	3.4	Very Likely	2	1.3
59. Condoms cost too much money.		9	6.0	No Response	2	1.3
		77	51.7	Disagree Strongly	86	57.3
		11	7.4	Disagree	7	4.7
		33	22.1	Somewhat agree	41	27.3
		5	3.4	Agree	4	2.7
		14	9.4	Agree Strongly	10	6.7
60. Sex does not feel as good when you use a condom.		18	12.1	No Response	8	5.3
		49	32.9	Disagree Strongly	59	39.3
		12	8.1	Disagree	20	13.3
		47	31.5	Somewhat agree	41	27.4
		7	4.7	Agree	8	5.3
		16	10.7	Agree Strongly	14	9.3
61. It is too much trouble to carry condoms around.		10	6.7	No Response	2	1.3
		90	60.4	Disagree Strongly	110	73.3
		11	7.4	Disagree	11	7.3
		28	18.8	Somewhat agree	21	14.0
		5	3.4	Agree	3	2.0
		5	3.4	Agree Strongly	3	2.0

## Appendix E (cont.)

Questions	Pretest		Posttest			
	N = 149	Freq.	%	N = 150	Freq.	%
62. Sex is more fun when a condom is used.	17	11.4	No Response	10	6.7	
	36	24.2	Disagree Strongly	32	21.3	
	16	10.7	Disagree	19	12.7	
	63	42.3	Somewhat agree	73	48.6	
	7	4.7	Agree	5	3.3	
	10	6.7	Agree Strongly	11	7.3	
63. Most guys do not want to use condoms.	10	6.7	No Response	4	2.7	
	28	18.8	Disagree Strongly	16	10.7	
	17	11.4	Disagree	22	14.7	
	59	39.6	Somewhat agree	68	45.3	
	14	9.4	Agree	18	12.0	
	21	14.1	Agree Strongly	22	14.7	
64. Most girls do not want to use condoms.	10	6.7	No Response	5	3.3	
	60	40.3	Disagree Strongly	41	27.3	
	17	11.4	Disagree	32	21.3	
	42	28.2	Somewhat agree	55	36.6	
	9	6.0	Agree	8	5.3	
	11	7.4	Agree Strongly	9	6.0	
65. I would feel funny saying to my partner "let's use a condom."	8	5.4	No Response	2	1.3	
	74	49.7	Disagree Strongly	109	72.7	
	17	11.4	Disagree	15	10.0	
	28	18.8	Somewhat agree	17	11.4	
	7	4.7	Agree	2	1.3	
	15	10.1	Agree Strongly	5	3.3	
66. I want to use condoms.	7	4.7	No Response	3	2.0	
	6	4.0	Disagree Strongly	13	8.7	
	9	6.0	Disagree	5	3.3	
	19	12.8	Somewhat agree	19	12.6	
	9	6.0	Agree	13	8.7	
	99	66.4	Agree Strongly	97	64.7	



## VITA

**NAME:** Arlene J. Montgomery  
**ADDRESS:** 208 Telford Drive  
 Newport News, VA 23602

### EDUCATION:

1990 - present Old Dominion University  
 Norfolk, Virginia  
 PhD Program

1980-1984 Hampton University, Hampton, VA  
 M.S. - Nursing

1977-1979 Hampton University, Hampton, VA  
 B.S. Nursing

1957-1960 The Medical Center School of Nursing, Columbus, GA  
 R.N. - Diploma

1957-1958 Albany State College, Albany, GA

### PROFESSIONAL WORK EXPERIENCES:

1988 - Present Assistant Professor, Hampton University, Department  
 of Undergraduate Nursing Education, Hampton,  
 Virginia

1986-Present Assistant Chief Nurse, 18th Field Hospital, Norfolk,  
 Virginia

1991-1992 Tutor, Teagle LPN-BS Project, School of Nursing,  
 Hampton University, Hampton, Virginia

1992-Present Counselor, Teagle LPN-BS Project, School of Nursing,  
 Hampton University, Hampton, Virginia

1992-Present Recruiter/Admissions Counselor, School of Nursing,  
 Hampton University, Hampton, Virginia

1990-1991 Research Assistant, Department of Continuing  
 Education, Old Dominion University, Norfolk, Virginia

1990 Adjunct Faculty, Continuing Education Project,  
 Penninsula Psychiatric Hospital, Hampton, Virginia

1982-1988 Healthcare Risk Manager, Sentara Hampton General,  
 Hampton, VA

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 Vita  
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**PROFESSIONAL WORK  
 EXPERIENCES: (CONTINUED)**

1980-1983	Assistant Professor, Hampton University, Hampton, VA
1980-1982	Clinical Instructor, Department of Undergraduate Nursing Education, Hampton University, Hampton, Virginia
1979-1980	Psychological Review Coordinator, College of Virginia Foundation for Medicare, Va Beach, VA
1976-1979	Charge Nurse, Hampton General Hospital, Hampton, VA
1974-1976	Charge Nurse, U.S. Army Hospital, Bremerhaven, Germany
1973-1973	Charge Nurse, U.S. Army Hospital, Bad Canstatt, Germany
1969-1972	Head Nurse, Hampton General Hospital, Hampton, VA
1965-1967	Charge Nurse, Martin Army Hospital, Fort Benning, GA
1963-1964	Charge Nurse/Relief Supervisor, 225th Station Hospital, Muenchweiler, Germany
1960-1962	Charge Nurse/Scrub Nurse, The Medical Center, Columbus, GA

**PROFESSIONAL ORGANIZATIONS  
 AND COMMITTEE RESPONSIBILITIES:**

National

1992-Present	Scholar, Faculty and Community Enhancement (FACE) Project Kellogg Foundation, Florida A & M University, Tallahassee, Florida
1981-1984	President, Sigma Theta Tau
1982-Present	Member, American Society of Healthcare Risk Managers
1980-Present	Member, American Nurses' Association
1980-Present	Member, Sigma Theta Tau

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**PROFESSIONAL ORGANIZATIONS  
 AND COMMITTEE RESPONSIBILITIES:  
 (CONTINUED)**

- 1980-Present Member, National League for Nursing  
National
- 1988-Present Reserve Officers Association
- 1963-Present Member, American Red Cross Nurses' Association  
Local
- 1994-Present Faculty Advisor, Delta Iota Chapter, Sigma Theta Tau, Inc., Hampton, Virginia.
- 1992-Present Member, University Admissions Committee, Hampton University, Hampton, VA
- 1989-Present Undergraduate Instructional Committee, School of Nursing, Hampton University, Hampton, Virginia
- 1988,1989-Present Member, Recruitment Committee, School of Nursing, Hampton University, Hampton, VA
- 1988-Present Member, Program Planning, School of Nursing, Hampton University, Hampton, VA
- 1988-1989 Member, Committee on Testing, School of Nursing, Hampton University, Hampton, VA
- 1984-1986 Finger printer Project Ident-a-Kid, Hampton Police Department and Hampton General Hospital, Hampton, Virginia
- 1985-1989 Gerontology Advisory Council, Hampton University, Hampton, VA
- 1980-Present Charter Member, Delta Iota Chapter, Sigma Theta Tau, Inc., Hampton, Virginia  
State
- 1982-Present Member, VA Society of Health Care Risk Managers
- 1980-Present Member, VA Nurses' Association
- 1980-Present Member, VA League for Nursing

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**HONORS AND AWARDS:**

- 1987-1988      Who's Who in American Nursing
- 1985, 1990,  
1991, 1992,  
1993      Army Achievement Certificate
- 1983      Army Commendation Medal

**WORKSHOPS AND CONFERENCES  
 ATTENDED:**

- 1994      American Association of Colleges of Nursing 1994  
 Doctoral Conference, Sanibel, FL.
- 1993      Nursing Administration Course, San Antonio, TX
- 1992      AIDS Education Summer Workshop, Rutgers  
 University Newark, NJ
- 1992      PROJECT FACE Research Workshop, Florida A & M  
 University, Tallahassee, FL
- 1992      Nursing Competencies American Hospital Association,  
 Richmond, VA
- 1991      Techniques and Technology in Nursing Research,  
 Atlanta, Georgia
- 1989      Emergency Nursing, Fort Lee, VA
- 1988      Management Training, Hampton, VA
- 1988      Legal Aspects of Nursing, Richmond, VA
- 1988      Nursing In The Year 2000, Bethesda, MD

**WORKSHOPS PRESENTED:**

- 1993      "AIDS Update" Newport News, Virginia
- 1987      Risk Management: "Charting With a Jury in Mind",  
 Hampton, VA
- 1988      "AIDS And The Young Adult," Newport News, VA
- 1987      "AIDS And The School Age Child," Hampton, VA
- 1986      Medication Errors: "How Do We Stop Them?,"  
 Hampton, VA

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**PAPERS PRESENTED:**

- 1988                    "Transcultural Nursing," Content related to the importance of Nurses being able to care for clients from all cultural backgrounds with respect and dignity.
- 1985                    Results of Research Study, concerning The Attitudes of Hospital Nurses and Nurse Educators Toward Mandatory Continuing Education for Relicensure of Registered Nurses.

**RESEARCH:**

- 1994                    Purpose: To assess Knowledge, Attitudes, and Sexual Behaviors of Selected College Students
- 1984                    Purpose: To assess Attitudes of Hospital Nurses and Nurse Educators toward mandatory Continuing Education for Relicensure of Registered Nurses.

**GRANTS:**

Effect of HIV/AIDS Syndrome Education Program on Knowledge, Attitudes and Sexual Behavior of Selected College Students. Funded by Hampton University May 1994

Hampton University HIV/AIDS/ STD Prevention Education Program Funded by NAFFEO May 1994

**CONSULTATION:**

Risk Management/Quality Assurance.

Nursing Care of The AIDS Patient.

Legal Documentation of Nursing Care.

Research Consultant Veterans Administration Medical Center, Hampton, VA