UNIVERSITY STUDENTS: KNOWLEDGE OF AIDS,
PERCEIVED SUSCEPTIBILITY TO AIDS,
AND THEIR SEXUAL BEHAVIORS.

THESIS

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A random sample of 365 students attending a university in northern Texas returned a mailed questionnaire measuring the students' knowledge of Acquired Immuno-Deficiency Syndrome (AIDS), their perceived susceptibility to AIDS, and their sexual practices during the last year.

The students had high knowledge levels about AIDS in general. However, 70% did not worry about getting AIDS. Collectively, there was a display of concern until it became a personal issue. The students (59%) saw themselves as less likely than most people to get AIDS. Although 70% of this sexually active group did not use condoms, they still did not perceive themselves as susceptible to AIDS.
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CHAPTER I

INTRODUCTION TO THE STUDY

College student behavior has become increasingly hedonic in the past ten years (Lester & Leach, 1983). In particular, sexual activity has remained at a high level among college males, and college females have increased their sexual activity since 1970 (Earle & Perricone, 1986; King, Balswick, & Robinson, 1977; Lester & Leach, 1983; Robinson & Jedlicka, 1982). Due to this increase in sexual activity, college students are at risk for Acquired Immuno-Deficiency Syndrome (AIDS) which is a fatal, sexually transmitted disease. Students in college settings are a target group for AIDS education because it is assumed that their awareness level is low, and since they are sexually active they are at risk. "Students are commonly experimental; those in college may act out different elements of their sexuality, or exercise inconsistent judgement in their selection of sexual partners" (American College Health Association [ACHA], 1986, p.5). Such behavior is a concern because the prevention of AIDS involves the adoption of risk-reduction behaviors.
Explanations for the failure of people to accept and perform preventive health behaviors are directly related to the nature of the behavior required for effective prevention, as well as the specific disease under investigation. The Health Belief Model (HBM) is often used to understand health behaviors as they relate to specific diseases (see Appendix A). An important focus of the HBM is the examination of the variable of perceived susceptibility, or an individual's perceived likelihood of experiencing a potentially harmful condition (Cummings, Becker, & Maile, 1980). Perceptions of susceptibility affect an individual's behavior because they influence the degree to which that individual feels threatened by a particular disease (Rosenstock, 1974a). Knowledge about a disease also affects the degree of threat felt by the individual (Rosenstock, 1974a). In many cases, "survival is contingent on greater familiarity and knowledge of the threat" that specific diseases present (DiClemente, Zorn, & Temoshok, 1987, p.877). This is especially true for AIDS.

At this point in time the prevention of the spread of the AIDS virus is the only viable method for controlling the deadly disease. Prevention involves controverting misinformation about the modes of transmission for AIDS (ACHA, 1986). The prevention of AIDS will also require behavior changes of those who are behaviorally at risk (Martin, 1987). Because of the long incubation period and the fact that asymptomatic individuals can continue to
infect others, it is necessary to reach those individuals who may not believe themselves to be at risk (Solomon & DeJong, 1986). College students are part of this group. College students are sexually active individuals who are likely to see themselves as invulnerable to AIDS (Widen, 1987).

This study was undertaken to analyze the effects of perceived susceptibility to and knowledge of AIDS on the sexual behavior of a group of college students attending a university in northern Texas during the fall semester of 1987. It is hoped that the results of this study will provide the necessary data to guide the development of future programs for AIDS prevention in health education.

Statement of the Problem

The problem studied involves an analysis of perceived susceptibility to AIDS, knowledge of AIDS, and the sexual behaviors of a group of students at a university in northern Texas.

Purpose of the Study

The purpose of the study was to provide baseline data for college students in northern Texas on the following:

1. Perceived susceptibility to AIDS
2. Knowledge of AIDS
3. Sexual behavior
Hypotheses

Three hypotheses were formulated for this study. Stated in the null form, the hypotheses were as follows:

1. There is no significant relationship between perceived susceptibility to AIDS and current sexual risk behaviors.
2. There is no significant relationship between knowledge about AIDS and current sexual risk behaviors.
3. There is no significant relationship between knowledge about AIDS and perceived susceptibility to AIDS.

Definition of Terms

The following terms were chosen to provide the conceptual framework for this study. Perceived susceptibility and severity are representative variables from the health belief model which are helpful in developing theory about behavioral determinants. The risk behaviors are directly related to modes of transmission for AIDS.

1. **Perceived susceptibility**- Individual's belief regarding the likelihood of a particular condition occurring (Cummings et al., 1980).
2. **Perceived severity**- Individual's belief that the occurrence of a condition would have a moderately serious impact on life (Cummings et al., 1980).
3. **Risk behaviors**—Sexual behaviors that are likely to increase the chances of transmission of Human Immunodeficiency Virus (HIV), the virus believed to cause AIDS. Some behaviors are considered more risky than others. The Surgeon General's report announced that "the risk of infection increases according to the number of sexual partners one has, male or female" (Koop, 1986, p.5). The following is an adapted list of risk behaviors from the American College Health Association (1986).

**Safe**

- mutual masturbation
- dry kissing
- body massage
- oral sex with a condom
- hugging
- touching
- body-to-body rubbing (frottage)

**Possibly Safe**

- vaginal intercourse with condoms
- anal intercourse with condoms
- fellatio interruptus (oral sex stopping before climax)
Risky
deep kissing
oral sex without a condom

Dangerous
anal intercourse without condoms
vaginal intercourse without condoms

Source of Data

The sample (N=365) for this investigation was comprised of students attending a university in northern Texas during the fall semester of 1987. Systematic sampling with a random start was the method of sampling employed (Babbie, 1986). During the fall semester of 1987 approximately 22,000 students enrolled at North Texas. Using the student directory which is compiled from a computer tape of all enrolled students, a sampling ratio of 1/22 was employed in order to obtain 1000 students who would receive the questionnaire. Beginning with a random number between 1 and 22, the students were chosen using a sampling interval of 22. For a 95% confidence interval, the sample size for precision within a + 5% range for a population of 25,000 is 394 (Yamane, 1967).

Method of Procedure

A survey (Appendix B) consisting of an attitude scale (items 9-26), a knowledge scale (items 27-34) and a sexual
behavior scale (items 44-56) was mailed to each student in November 1987. The mailing also included a cover letter (Appendix C), and an informed consent form (Appendix D) which was required by the Institutional Review Board for the Protection of Human Subjects. Each respondent had to return a completed informed consent form and a questionnaire in order to be included in the study. Separate envelopes with return postage were provided for the return of the questionnaire and the consent form. In December, postcards were mailed to all individuals who had not responded encouraging them to find the survey and return it. This procedure increased the response rate slightly.

Limitations of the Study

1. The subjects were chosen using systematic sampling with a random start.

2. Sexual behaviors were assessed with the self-regulated recall of the respondents. Their recall may have been inaccurate based on memory and honesty.

3. It is possible that students were selective of their revelations regarding their sexual behaviors.

4. The subject of AIDS evokes emotional responses which could have forced an individual to respond to the questionnaire in a dishonest manner.

5. Sensitive areas of questioning present problems in response bias with an obvious pressure toward "good"
responses; desirable and self-enhancing behaviors are exaggerated, and socially disapproved behaviors are minimized (Kirscht, 1983).

6. Requiring all subjects to return both a signed informed consent form and a questionnaire may have reduced the response rate.

Description of the Instruments

The attitude scale (items 9-26) was designed by the researcher to measure the construct perceived susceptibility. Several concepts formulate the measurement of perceived susceptibility to AIDS; seriousness, self-risk, fear, risk behavior, and concern. Each concept was examined through different items that made up the attitude scale. For example: seriousness was measured in items 10, 14, 17, and 19. Whereas self-risk was measured in items 9, 11, and 23 and fear was measured by items 12, 13, 16, and 21. Risk behavior was examined in items 20 and 25 while concern was explored in items 15, 18, 22, 24, and 26. Many of the items were adaptations from other studies (Desmond & Kukulka, 1985; DeClemente, Zorn & Temoshok, 1986; Simon & Das, 1984). A pre-test of the attitude scale was conducted by administering the instrument to a convenience sample (N=25). The reliability of the scale was tested with a split-half reliability test which resulted in a score of .80. The same administration of the survey produced a moderate Pearson
correlation of .53 between the attitude scale and the knowledge scale.

The knowledge scale (items 27-43) was designed to measure knowledge about AIDS facts in general with a particular focus on modes of transmission or risk factors for transmission. General knowledge about AIDS was accounted for by items 27, 32, 34, 37, and 39. More specifically, knowledge of risk groups for AIDS was measured in items 28, 31, 38 and 43. Knowledge about risk behaviors was examined through items 30, 33, 35, 36 and 41, and knowledge about casual contact was measured in items 29, 40 and 42. The knowledge scale was completed by the convenience sample (N=25) and a split-half technique was used to measure reliability which resulted in a score of .83. Since previous studies (DiClemente et al., 1986; Price et al., 1985; Simon & Das, 1984) had validated the items on both scales, the knowledge scale and the attitude scale were considered to have both content and construct validity. Both instruments were scored using a 5-point Likert scale.

The sexual behavior scale (items 44-56) was developed from sources which identified specific behaviors as modes of transmission for AIDS (ACHA, 1986; Darrow et al., 1987; Koop 1986; Martin, 1987; Winkelstein et al., 1987) The decision to use a one year time frame for recall of behaviors was based on the fact that there are seasonal fluctuations in sexual activity in which case a shorter time span may be
misleading (Martin, 1987). A reliability coefficient was not established for the sexual behavior scale. For each item an individual is either at risk (1) for participating at any time (during the designated time span) in a risk behavior, or not at risk (0) for complete lack of participation.

Significance of the Study

A goal of all research is to clarify the relationship between attitudes and behavior (Earle & Perricone, 1986). This is especially true for sexual behaviors which are often clandestine by nature. Several studies point to the existing need for further investigations into the nature of sexual behaviors and their determinants (Earle & Perricone, 1986; Gochros, 1985; Keller, Elliott, & Gunberg, 1982; Lester & Leach, 1983; Robinson and Jedlicka, 1982). Because AIDS is a sexually transmitted disease, "it is essential to know the size of those groups that engage in various sexual practices" (Institute of Medicine & National Academy of Sciences [IM/NAS], 1986, p.10).

This study examines the attitudes and the sexual behavior of college students because of the nature of AIDS and the characteristics of college populations (ACHA, 1986). College and university students represent a large risk group for AIDS because studies have shown them to have relatively high levels of sexual activity and potential for multiple
sexual partners (Keller et al., 1982; King et al., 1977). These factors combined with the exponential spread of AIDS, the relatively high mortality/case ratio, the long incubation period, the absence of a cure or vaccine, and misinformation coupled with disavowal, force another look at college students as a population at risk for AIDS (McDermott, Hawkins, Moore, & Cittadino, 1987). In essence, a more detailed, representative, and contemporary evaluation of sexual behavior is needed to assess the range and varieties of sexual behaviors (IM/NAS, 1986). Furthermore, "increased knowledge of sexual behaviors and the factors that affect those behaviors will be necessary to design improved approaches to inducing behavior change" (IM/NAS, 1986, p.21).

The development of more complete psychological insights and a more adequate description of those who are not undertaking behavior changes is needed also (Joseph, 1984). Several studies assess knowledge and/or attitudes about AIDS, but do not examine sexual practices (DiClemente et al., 1986; McDermott et al., 1987; Price et al., 1985). One study includes an item requesting sexual orientation information (McDermott et al., 1987). However, sexual orientation does not dictate specific behaviors. Evidence for the need for this investigation is provided by the following statement from a study which assumes that the college population under investigation is sexually active:
"It is alarming that disease risk is not associated with casual sex or indiscriminate sexual behavior in the minds of so many who are sexually active" (McDermott et al., 1987, p.224). Therefore, there appears to be not only a need for future studies to investigate any existing relationships between AIDS awareness and perceptions of susceptibility (McDermott et al., 1987), but also a need to examine AIDS awareness and perceptions of susceptibility in relation to sexual behaviors.
CHAPTER II

REVIEW OF LITERATURE

The purpose of this literature review is to formulate an historical background against which this study may be examined. Because of the complex nature of inspecting each major issue involved, the literature review was conducted in four parts. There is a review of related research for each of the following areas: the sexual behavior of college students, the Health Belief Model, recent sexually transmitted disease prevention efforts, and Acquired Immuno-Deficiency Syndrome (AIDS). Although cross references are necessary in several places, each review segment focuses on a specific area. A summary of the four areas appears at the end of the literature review.

The Sexual Behavior of College Students

The sexual behavior of college students has become increasingly sybaritic in the last ten years (Lester & Leach, 1983). Earle and Perricone (1986) report significant increases in rates of premarital sexual intercourse and significant increases in the average number of partners. Several studies indicate a marked increase especially in
female sexual activity since 1970 (Earle & Perricone, 1986; King, Balswick & Robinson, 1977; Lester & Leach, 1983; Robinson & Jedlicka, 1982). In general, most students seek out sexual experiences that will offer them immediate satisfaction (Lester & Leach, 1983). In seeking only short-term benefits, they often forget or ignore any long-term consequences.

Several theories can be used to explain behavior in general. One theory of apparent relevance for interpreting college student behavior is of Lewinian origin. According to Lewin, "Behavior is a result of a present situation as perceived by the individual" (Reilly & Lewis, 1983, p.301). In addition to situational perceptions, Simon and Das (1984) suggest that an individual's behavior is influenced by that person's attitudes, beliefs, and values. Many behaviors are deeply rooted in these aspects of life. Therefore, it would seem plausible that in order to effect a change in behavior, these areas must be addressed.

However, this may not be true for sexual behaviors. In 1960, Reiss proposed that attitudes change more slowly than behaviors in the area of premarital sex. More recently, the following hypothesis was suggested: "When normative changes occur in the area of premarital sex, sexual behaviors are likely to change first, followed by changes in sexual attitudes..." (Keller, Elliott, & Gunberg, 1982, p.26). This hypothesis is supported by the manner in which some
individuals change their attitudes to match their behavior (after the act) in order to reconcile any cognitive dissonance created by new behaviors which are not in accordance with previously held attitudes and beliefs (Festinger, 1957). Evidence for this hypothesis is also provided by the change in attitudes found following rather than preceding coital experiences (Earl & Perricone, 1986). Obviously, there are existing differences among the researchers as to the nature of the relationship of behavior to attitudes and beliefs.

Certain contradictions between sexual attitudes and behavior are well documented in the literature. Robinson and Jedlicka (1982) report an observed increase in the view of students that premarital sexual behavior is immoral and sinful, while at the same time sexual behavior is at higher levels than in previous studies. Another factor which can be expected to complicate the issue of sexual behavior is that the size of the sexually active population has never been larger. In 1985, there were 69 million sexually experienced persons between the ages of 15 and 34 (Parra & Cates, 1985). Still another complexity is the emotionally charged and conflict-laden nature of sexual feelings and behavior (Widen, 1987). "There is no area of human life cloaked more in secrecy, hypocrisy, inconsistency, ambiguous legality, ignorance, and emotionalism than sexuality" (Gochros, 1985, p.1). Each of these examples demonstrates
the need for further investigations into the nature of sexual behaviors and their determinants.

College students are of particular interest not only because of their current levels of sexual activity, but also because they often hold attitudes and beliefs that are different from other factions of society. This is best exemplified by the following statement which represents the crucial role that disavowal plays in the lives of college students:

Disavowal helps maintain the aura of invincibility that accompanies youthful attitudes of risk-taking and sexual experimentation. It is the mechanism that defends against traumatic anxiety by separating the personal meaning and affective response from the perception of external reality. The 'ego split' that occurs permits two currents to coexist; an acknowledgement of reality on the one hand along with a belief in the desired situation on the other. That is how students can 'know about' the potential risk of AIDS but not feel personally threatened nor motivated to change their behavior (Widen, 1987, p.272).

If disavowal is part of the belief systems of college students, then behaviors permitting the transmission of AIDS are likely to continue. Students may not be changing their sexual habits because of AIDS. Therefore, it is important
to have the following questions answered: What do college students know about AIDS? What types of behaviors are they participating in currently? How do their attitudes and beliefs affect their behaviors? Considering the seriousness of this dilemma, the development of more complete psychological insights and a more adequate description of those who are not undertaking behavior changes is needed (Joseph, 1984). Future research on this topic is necessary to clarify the relationship between attitudes and behavior (Earl & Perricone, 1986).

The Health Belief Model

The Health Belief Model (HBM), which is an outgrowth of Lewinian theory (McMahon, 1986), has been the basis for several research studies investigating the relationship of behavior and attitudes in health. The HBM examines several individual components which make up determinants of behavior (Rosenstock, 1974a). In general, the HBM investigates which variables influence an individual's perceived threat of a specific disease (Cummings, Becker, & Maile, 1980). The HBM becomes a complex structure when considering all of the many different influences affecting each of its varying applications. The complexity of the structure is dependent upon the nature of the behavior under investigation. However, it is important to examine behavioral determinants in depth. Many behaviors necessitate complex models for
interpretation. Lewin stated that "issues about life must include more than what a person is conscious of; they must strive to go beyond the surface description to discover underlying dynamic reasons or properties of these issues" (McMahon, 1986, p.109). The HBM is specifically designed to analyze such properties.

In order to understand how the HBM works, it is important to make clear its principle constructs. The perceived threat of a disease can be modified by demographic variables, sociopsychological variables, and structural variables such as knowledge of the disease and prior contact with the disease (Rosenstock, 1974a). The structural variables can be affected by mass media campaigns, illness of a friend or a magazine article; these are termed 'cues to action' in the HBM (Rosenstock, 1974a).

Perceived susceptibility is a major concept included in the HBM, it measures an individual's perceived likelihood of experiencing a potentially harmful condition (Cummings et al., 1980). Another HBM construct which measures the perception of how threatening a condition is to an individual is perceived severity or seriousness (Cummings et al., 1980). These two variables are often measured together in attitude scales.

Two other axioms of the HBM are the perceived benefits of an action and the perceived barriers to an action. Perceived benefits are an individual's belief that there are
actions which would be beneficial in reducing the susceptibility to and/or the severity of the condition (Cummings et al., 1980). Perceived barriers involve the negative aspects of the anticipated behaviors, such as cost or unpleasantness (Cummings et al., 1980). (A schematic representation of the HBM appears in Appendix A.)

The HBM was originally formulated to explain health actions. Several studies have demonstrated the predictive or explanatory importance of the model variables (Kegeles, 1963; Haefner & Kirscht, 1970; Becker, 1974; Rogers & Newborn, 1976; Kirscht, Becker, Haefner & Maiman, 1978; and Larson, 1979). Empirical support for the HBM comes from studies of sick-role, illness, and preventive health behaviors which have been summarized by Becker (1974, 1979a, & 1979b) and Kegeles (1980). These categories of behavior were defined by Kasl and Cobb (1966).

Sick-role behavior is "the activity undertaken by those who consider themselves ill for the purpose of getting well" (Rosenstock, 1974b). Illness behavior is defined as "any activity undertaken by a person who feels ill, for the purpose of defining the state of his health and of discovering a suitable remedy" (Rosenstock, 1974b, p.357). Illness behavior and sick-role behavior are different from health behavior which is "any activity undertaken by a person who believes himself to be healthy for the purpose of preventing disease or detecting disease in an asymptomatic
stage" (Rosenstock, 1974b, p.358). The HBM plays a different role in the study of each of these behaviors.

It is important to consider the differing perceptions that provide the motivating factors behind each behavior. An individual in sick-role behavior will be likely to take the recommended health action in order to return to a better state of health. An individual exhibiting illness behavior will be motivated also by the need to acquire a better state of health. In each of these examples the person is experiencing a negative state of being that does not feel good. Therefore, the motivation behind that behavior to change one's health status may be specific and obvious to the individual in each of these circumstances.

However, health behavior is a multi-dimensional concept that comprises a complex set of health-related actions (Kirscht, 1983). It requires that emphasis be placed on preventive actions to be taken in the absence of any immediate evidence of a health problem (Kasl & Cobb, 1966). Feeling ill is not the motivator for health behavior. Accordingly, it is often the appearance of a clear symptom which instigates most people to seek action in order to get better (Rosenstock, 1974b). Therefore, the motivation behind preventive health behavior is solely rooted in the degree to which the threat of a specific disease is perceived by the individual. The components that make up the perception of such a threat of disease are the variables of the HBM.
According to Rosenstock and Kirscht (1979) the Health Belief Model is the most widely applied approach to the explanation of medically based preventive actions. Versions of the model applied to preventive behaviors have examined participation in screening for tuberculosis (Hochbaum, 1958), polio vaccination (Rosenstock, Derryberry, & Carriger, 1959), Asian influenza immunization (USPHS, 1960), preventive dental care (Kegeles, 1963), asymptomatic checkups (Haefner & Kirscht, 1970), genetic screening (Becker, Kaback, Rosenstock, & Ruth, 1975), and contraceptive behavior (Hester & Macrina, 1985). Although each study contains specific objectives, the general goal is achievement of optimal health status.

The accomplishment of such goals depends on, among other things, the nature of the behavior that is targeted for change (Kirscht, 1983). The nature of a specific behavior influences its measurement as well. "Some genuine preventives are relatively simple and discrete or occasional; others are repeated and often embedded in important habit patterns" (Kirscht, 1983, p.290). Therefore, it is necessary not merely to describe but to explain health behavior as it relates to various sociopsychological components of the HBM (Rosenstock, 1974b).

The reason the HBM is helpful in defining concepts related to AIDS risk behaviors is because such behaviors cannot be directly monitored, and they are believed to be
affected by beliefs and attitudes. The prevention of AIDS also means that healthy individuals must undertake prevention methods in order to remain uninfected. However, acting upon prevention suggestions involves a particular level of understanding and a belief in the possibility that one is at risk for AIDS. Therefore, the HBM provides the conceptual framework for the investigation of several behavioral determinants as they are related to risk behaviors associated with AIDS.

Prevention of Sexually Transmitted Diseases

Explanations for the failure of people to accept and perform preventive health measures are directly related to the specific disease under investigation and the nature of the behavior required for effective prevention. One area in particular which presents difficulty for researchers is sexual behavior. Sexually transmitted diseases (STDs) comprise a complex, emotion-laden public health problem (Simon & Das, 1984). One problem with STDs is that most of these diseases do not exhibit distressing symptoms in early stages; individuals can spread a disease among their sexual contacts without being aware of it (Simon & Das, 1984). This is why it is important to focus on HBM dimensions when examining relationships between beliefs, attitudes, and behaviors. The HBM hypothesizes that preventive health
action in the absence of symptoms of disease is influenced by the person's belief that one is vulnerable to a disease (Simon & Das, 1984).

In an innovative application of the HBM, Simon and Das (1984) used its dimensions to supply empirical needs assessment data on which to build responsive and effective STD education. HBM subscales were operationalized by developing standardized attitude scales comprised of Likert-type items (Simon & Das, 1984). "An important contribution of this study is demonstrating that the development of a set of multi-item scales to measure HBM dimensions yield specific items which can be addressed in an educational program" (Simon & Das, 1984, p.405). This study supports the fact that there are difficulties in reaching people about various diseases and behaviors. This is especially true for persons who do not consider certain conditions to be serious health problems (Simon & Das, 1984).

In addition, seeking a medical examination for STDs in the absence of symptoms of disease requires strong motivation on the part of the individual (Simon & Das, 1984).

The Simon and Das (1984) study brings an important application of the HBM to the field of health education. It selects HBM dimensions for the purpose of developing STD educational strategies, strategies which seek to influence attitudes, beliefs, and values of the target population. Education is one focal point that STD and AIDS prevention
methods have in common. For the purpose of determining which STD prevention methods are applicable to AIDS, Solomon and DeJong (1986) analyzed three major STD studies funded by the Centers for Disease Control (CDC). From that analysis, they have devised a set of guiding principles for STD and AIDS risk-reduction message designs (Solomon & DeJong, 1986). One guideline in particular, which is supported by others (Janz & Becker, 1984; Kotler, 1982; Simon & Das, 1984), is to "Conduct adequate preliminary research to ensure that messages reflect or take into account the existing knowledge, values, attitudes, beliefs, and practices of the specific target population" (Solomon & DeJong, 1986, p.315).

AIDS messages and STD messages both occur in emotionally-charged contexts which include attributions of immorality and "blame the victim" attitudes (Solomon & DeJong, 1986). The two conflicting issues, moralistic attitudes and sexual behavior, present differing problems for the educator. "Moralistic attitudes toward STDs have impeded disease control efforts since at least the late 19th century" (Brandt, 1985, p.19). Sexual behavior involves intricate patterns which are closely linked to personal identity. "Sexual behavior is not just an act but a means by which we play out our sense of who we are and from which we derive personal meaning and definition" (Solomon & DeJong, 1986, p.310).
The differences between AIDS and other STDs exist due to the nature of AIDS. AIDS demands serious attention because it is fatal and incurable (Solomon & DeJong, 1986). STDs are considered trivial by many because they are not fatal and it is possible to be cured (Solomon & DeJong, 1986). An important difference to be noticed is that most STD prevention efforts take place in clinical settings, whereas AIDS prevention messages claim no captive audience (Solomon & DeJong, 1986). Essential to understanding the pertinence of the clinic setting is that the point of diagnosis represents a positive recognition of susceptibility, which makes for an excellent motivation to act upon received health information (Solomon & DeJong, 1986). In sharp contrast, AIDS messages are trying to reach people who do not realize they are at risk, the unexposed individuals or persons who have been exposed but are asymptomatic (Solomon & DeJong, 1986). "Unlike STD patient education, with AIDS prevention we are dealing with a well population for whom denial and underestimation of personal vulnerability may be considerably easier than undertaking significant behavioral changes" (Solomon & DeJong, 1986, p.315). Individuals are more likely to perceive themselves as susceptible to a disease if they are well informed about the facts of its transmission (Rosenstock, 1974a); therefore, knowledge is often a variable under investigation in studies examining health behaviors.
The experience which can be gleaned from STD education programs is especially pertinent to the problem of AIDS because both types of diseases are often spread without an awareness that they are being transmitted. AIDS can be transmitted via sexual contact, and those individuals remaining unconcerned about AIDS continue to actively take part in risk behaviors. Because knowledge, attitudes, and beliefs have been found to have an effect on behavior in previous studies, it is plausible that a survey of these areas may be a starting point for AIDS education programs.

Acquired Immuno-Deficiency Syndrome

Several studies have measured the amount of knowledge people possess about AIDS. In 1985, a convenience sample (250) from four local high schools found students lacking sufficient knowledge about AIDS (Price, Desmond, & Kukulka, 1985). The questionnaire involved nineteen knowledge questions, nine items assessing information sources for AIDS, and one question about personal worry of contracting AIDS (Price et al., 1985). The sample was from Toledo, Ohio and the subjects ranged in age from 16-19 years. In administering the questionnaire in classrooms, fifty-eight per cent of the males and one hundred per cent of the females felt personal worry of contracting AIDS themselves (Price et al., 1985).
San Francisco adolescents (1326) were the subjects in another study which primarily measured knowledge about AIDS (DiClemente, Zorn, & Temoshok, 1986). This study found variability in knowledge scores, especially in regard to precautions to be taken to avoid risk (DiClemente et al., 1986). The questionnaire consisted of thirty items evaluating students' knowledge about the cause, transmission, and treatment of AIDS; eleven items surveyed attitudes and beliefs regarding disease severity and personal susceptibility (DiClemente et al., 1986). The students, from ten San Francisco high schools, ranged in age from 14-18 years (DiClemente et al., 1986). The researchers conclude that their data was in "stark contrast" to those reported by Price et al. (1985), suggesting that geographic proximity to a high-density AIDS epicenter has a great deal of saliency for what students know and the attitudes and beliefs they possess about AIDS (DiClemente et al., 1986).

However, Weisman et al. warn that "one should be cautious about attributing differences in knowledge to geographic areas" (Weisman et al., 1987, p.876). Upon a closer inspection of the two studies, it was discovered that the Ohio survey and the San Francisco survey sought different kinds of knowledge about AIDS (Weisman et al., 1987). "Only four knowledge questions can be directly compared between the two studies" (Weisman et al., 1987, p.876). Therefore, the conclusions drawn by DiClemente et al. responded to
these findings from an anthropological perspective in stating that "survival is contingent on greater familiarity and knowledge of the threat" that specific diseases present (DiClemente et al., 1987, p.877). DiClemente et al. state examples in support of their point of view: 70% of the San Francisco sample and 40% of the Toledo sample correctly identified that casual contact is not a mode of transmitting AIDS; 66% of the San Francisco sample and 27% of the Toledo sample report being "worried" about AIDS in general (DiClemente et al., 1987). It is with this evidence that DiClemente, Zorn, and Temoshok (1987, p.877) claim that "proximity to an AIDS epicenter appears to not only heighten awareness of the disease, but increases residents' fear of the disease as well."

Another study (161), which samples a different age range (17-34) than those previously discussed, sought to focus on the "penetration of educational messages about AIDS in sexually active groups" (McDermott, Hawkins, Moore, and Cittadino, 1987, p.225). Their questionnaire involved a twenty-item inventory in which fifteen questions measured knowledge and five requested demographic information including sexual orientation (McDermott et al., 1987). The university students' knowledge level was found to be generally high (McDermott et al., 1987). However, 37.3% of the sample was unclear about AIDS' lethal potential and 31.7% did not relate the risk of contracting AIDS with
indiscriminate sexual behavior' (McDermott et al., 1987). It is alarming that disease risk is not associated with casual sex or indiscriminate sexual behavior in the minds of so many who are sexually active (McDermott et al., 1987).

The authors of this study explain the concept of disavowal as "a perception of nonsusceptibility," and their warning is that this belief is only tentatively accurate (McDermott et al., 1987). Although the AIDS risk to sexually active heterosexuals appears to be statistically low, the actual magnitude of susceptibility is still undefined but is likely to increase unless all groups at risk are informed adequately about the acquisition and transmission of AIDS (Lederman, 1986). Therefore, as McDermott et al. explain, future studies must investigate any existing relationships between AIDS awareness and perceptions of susceptibility.

Perceiving oneself as susceptible plays an important role in the behavior of individuals. Perceptions are often affected by the knowledge held by the individual. Considering the effects of perceived susceptibility and knowledge upon an individual's behavior, it is pertinent to examine college students because of the nature of AIDS and the characteristics of college populations (American College Health Association [ACHA], 1986).

Perceptions of susceptibility can change the way a person translates information into behavioral changes.
Among high-risk homosexual groups, education appears to have been effective in decreasing careless sexual behavior because these individuals perceive themselves to be at risk (Baldwin & Baldwin, 1988; Richwald, 1988). However, education may not have the same effect among college students who do not perceive themselves to be at high risk for contracting AIDS (Baldwin & Baldwin, 1988).

The effectiveness of fact-oriented education in decreasing risky sexual behavior in presently low-risk groups has not been adequately evaluated, and the effects of other variables (such as fear of contracting AIDS) on careless sexual behavior has not been investigated" (Baldwin & Baldwin, 1988, p.188).

At a university in Southern California, a random sample of 513 students were mailed a questionnaire (Baldwin & Baldwin, 1988). This study was designed to evaluate several variables related to sexual risk taking (Baldwin & Baldwin, 1988). Sexual risk taking was defined by frequency of condom use during vaginal intercourse, number of sexual partners in the last three months, and the degree to which the respondent engaged in casual sex during these three months (Baldwin & Baldwin, 1988). The consistent predictors of cautious sex behavior were: age at first intercourse, average number of partners per year, being female, and using seatbelts while driving (Baldwin & Baldwin, 1988). This
study also found that the students were quite knowledgeable about AIDS transmission, while most students believed they had little risk of contracting AIDS and most reported being unlikely to worry about contracting AIDS from their sexual activity (Baldwin & Baldwin, 1988). The results also revealed that students were engaging in few activities that would protect them from contracting AIDS (Baldwin & Baldwin, 1988).

Summary

AIDS is fatal and incurable (Solomon & DeJong, 1986). Infection with AIDS is permanent (Antonio, 1986). One dangerous factor concerning AIDS is the long incubation period of the virus, which means that infected asymptomatic individuals may continue to transmit the disease unknowingly (Solomon & DeJong, 1986). Despite the relatively small number of U.S. cases presently explained by heterosexual transmission, evidence for concern is emerging (Calabrese & Gopalakrishna, 1986; Lederman, 1986). Unless all groups at risk are informed about the transmission of AIDS, the number of individuals infected with AIDS will continue to increase (Lederman, 1986).

College and university students represent a high risk group for AIDS because studies have shown them to have relatively high levels of sexual activity and potential for
multiple sexual partners (Keller et al., 1982; King et al., 1986). These factors combined with the exponential spread of AIDS, the relatively high mortality/case ratio, the long incubation period, the absence of a cure or vaccine, and misinformation coupled with disavowal force another look at college students as a population at risk for AIDS (McDermott et al., 1987).

The number of AIDS cases throughout the world has grown to more than 84,000 since the first cases were reported in 1981 (Centers for Disease Control [CDC], 1988). For every case of AIDS presently reported, there may be 100 persons infected with the virus (Curran, 1985). The virus, known as the human immunodeficiency virus (HIV), was previously recognized as the T-lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV) (McDermott et al., 1987).

Those who are asymptotically infected and can transmit HIV are not identified, and it is not possible to identify rates of exposure (ACHA, 1986). AIDS intervention methods must rely on prevention messages addressing risk-reduction behaviors (Solomon & DeJong, 1986). Infections caused by HIV are diseases rooted in behavioral transmission; people can choose to do or not to do the things which expose them to a risk of acquiring AIDS (ACHA, 1986). This is why it is paramount to consider the following statement issued by the American College Health
Association in 1986:

Because the disease is spread by certain chosen behaviors, because there is no specific therapy in existence, and because a vaccine is not yet available, the most important goals for institutions will be those of increasing awareness and providing education to prevent further spread of the disease (AIDS) (ACHA, 1986, p.22).

In order to create education strategies appropriately aimed at specific populations, an assessment of the knowledge, attitudes, and beliefs held by the population is necessary (Simon & Das, 1984).

Many of the studies have supplied such data. However, very few studies exist which gather data about sexual behavior as well as knowledge and attitudes about AIDS. It is important that these four areas (the sexual behavior of college students, the Health Belief Model, the prevention of sexually transmitted diseases, and AIDS) were included in the literature review because each provides a rationale or basis for data collected in the current study.

A concentration was made upon the sexual behavior of college students because sexual behavior is the most likely mode of transmission for that group. The health belief model examines the various conceptual variables related to behavior, especially perceived susceptibility. And sexually transmitted disease prevention efforts of the past are
relevant because they provide a record of behavior. Finally, under the circumstances, the risk of AIDS coupled with disbelief as an obstacle to teaching about risk reduction behavior offer the health educator a chance to employ theory for behavior change on a classroom level and make a real difference for the individual.
CHAPTER III

RESULTS OF THE STUDY

In November of 1987, questionnaires were mailed to 1023 students attending a university in northern Texas. The 365 questionnaires that were returned consisted of 216 females (59%) and 149 males (41%). The age range for this sample was 17-58 with a mean age of 26. The median age was 23 and the mode for the sample was 21 years of age. The sample was further divided into the following groups by age; 36% were 17-21 years of age, 36% were 22-29 years, 18% were 30-39 years and 10% were 40-58 years of age.

The racial background of the sample consisted of 89% whites, 5% blacks and 6% other. This sample was predominantly made up of graduate students and seniors in college; graduate 32%, senior 25%, junior 17%, sophomore 12%, and freshman 14%. The sample was comprised of 70% single individuals leaving only 30% which were married.

Additionally, 64% of the respondents reported not being involved in an exclusively monogamous relationship for the last five years. Although 35% of the respondents reported being in an exclusively monogamous relationship in the last five years, 21% of those individuals also reported having two or more partners in the last year. This illustrates a
discrepancy in monogamy, either as a concept or a practice. Similarly, 28% of the sample classified themselves as married. However, 22% of the married group verify themselves as not being involved in an exclusively monogamous relationship for the last five years. It is possible that these respondents got married within the last few years, thus depicting them as nonmonogamous individuals for the last five years.

Several crosstabulations were run to include contingency coefficients and an analysis of variance. The difference between the means was not found to be statistically significant for any of the following groups on each of the three measures susceptibility, knowledge, and behavior: those having received AIDS education and those not receiving AIDS education, males and females, married and single individuals, homosexuals and heterosexuals. Similarly, age, academic classification, whether or not one is involved in a monogamous relationship, and the number of partners also provided no statistically significant difference between the means on the three measures susceptibility, knowledge and behavior. Each statistical analysis was produced using the Statistical Package for the Social Sciences (SPSS) software package on an IBM 370 connected with the mainframe at the University of North Texas computing center.
One question from the questionnaire surveyed the number of students that had received education about AIDS; 70% of the sample had not received any form of AIDS education. There was a slightly larger percentage of freshman and sophomore students reporting having received AIDS education as illustrated in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Classification</th>
<th>Fr</th>
<th>So</th>
<th>Jr</th>
<th>Sr</th>
<th>Gd</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>67</td>
<td>64</td>
<td>68</td>
<td>76</td>
<td>70</td>
</tr>
<tr>
<td>Yes</td>
<td>33</td>
<td>36</td>
<td>32</td>
<td>24</td>
<td>30</td>
</tr>
</tbody>
</table>

It is possible that many of the freshmen and sophomore students had received AIDS education in high school, which may point to the response of the educational system in reaching younger individuals since the advent of AIDS. Having missed AIDS education in high school, graduate students and seniors are also less likely to take classes that expose them to AIDS information. This simply exposes the fact that AIDS education efforts on campus are failing to reach the older student.
In the area of general knowledge about AIDS, the sample scored exceptionally well. The data reported in Table 2 is very similar to previous studies in which the same questions were asked. However, this sample consistently exceeded the scores of the high school students in the DiClemente et al. sample (1986) on the last four questions in Table 2.

Table 2

General Knowledge

<table>
<thead>
<tr>
<th>Items from Survey</th>
<th>A*</th>
<th>U*</th>
<th>D*</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can have AIDS and still not be ill.</td>
<td>89%</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>If I am infected with the virus but do not get AIDS, I can still infect other people.</td>
<td>93%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>It is possible to get AIDS from receiving a blood transfusion.</td>
<td>93%</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>There is a cure for AIDS.</td>
<td>5%</td>
<td>10%</td>
<td>84%</td>
</tr>
<tr>
<td>AIDS is a medical condition in which the body cannot fight off disease.</td>
<td>94%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Sharing a comb with someone who has AIDS can give me AIDS.</td>
<td>.6%</td>
<td>8%</td>
<td>91%</td>
</tr>
</tbody>
</table>

*A, Agree; U, Undecided; D, Disagree.

This sample easily recognized the risk groups for AIDS, acknowledging that having multiple partners is a risk
behavior for AIDS (see Table 3). However, they were less likely to agree that all gay women who have multiple sexual partners are at risk for getting AIDS.

Table 3

**Identification of Risk Groups**

<table>
<thead>
<tr>
<th>Items from Survey</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>All gay men who have multiple sexual partners are at risk for getting AIDS.</td>
<td>95% 2% 2%</td>
</tr>
<tr>
<td>All bisexual men who have multiple sexual partners are at risk for getting AIDS.</td>
<td>96% 1% 2%</td>
</tr>
<tr>
<td>All gay women who have multiple female sexual partners are at risk for getting AIDS.</td>
<td>61% 22% 16%</td>
</tr>
<tr>
<td>All heterosexuals who have multiple sexual partners are at risk for getting AIDS.</td>
<td>91% 5% 3%</td>
</tr>
</tbody>
</table>

*A, Agree; U, Undecided; D, Disagree.

Concerning specific behavioral knowledge about the transmission of AIDS, higher percentages of the respondents recognize that unprotected partners will put one at risk and condom use will decrease risk (see Table 4). However, when respondents are asked whether or not reducing the number of partners will reduce their own risk (see third item of Table 4), the result is not born out.
Table 4

**Behavioral Knowledge about AIDS**

<table>
<thead>
<tr>
<th>Items from Survey</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>The more unprotected sexual partners I have, the greater my risk of getting AIDS.</td>
<td>95% 2% 2%</td>
</tr>
<tr>
<td>Using a condom during sex will reduce my chances of getting AIDS.</td>
<td>90% 7% 3%</td>
</tr>
<tr>
<td>Reducing the number of sexual partners I have reduces my chances of getting AIDS.</td>
<td>76% 10% 12%</td>
</tr>
<tr>
<td>I am less likely to get AIDS if I know all of my sex partners.</td>
<td>38% 17% 44%</td>
</tr>
<tr>
<td>I am less likely to get AIDS if I know the sexual history of all of my sex partners.</td>
<td>64% 14% 22%</td>
</tr>
</tbody>
</table>

*A, Agree; U, Undecided; D, Disagree.

An important distinction is drawn between the last two items on Table 4; respondents realize that sexual history is more important than simply knowing an individual. This is one of the more intricate concepts in teaching individuals to understand the risks for AIDS.

Respondents may be reporting a high level of knowledge concerning AIDS, but they are not very worried about it impacting their own lives. Table 5 shows that a majority of the students (83%) admit to being scared by the thought of
AIDS, and yet they are not worried a great deal. The level of personal worry can be seen in the differences reported for worry over family and friends. Respondents are more worried about their friends than they are about their families which, by way of perception, keeps AIDS a certain distance from themselves.

Table 5

Worry Indicators

<table>
<thead>
<tr>
<th>Items from Survey</th>
<th>A*</th>
<th>U*</th>
<th>D*</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am not worried about getting AIDS.</td>
<td>41%</td>
<td>12%</td>
<td>47%</td>
</tr>
<tr>
<td>I worry a lot about getting AIDS.</td>
<td>16%</td>
<td>13%</td>
<td>70%</td>
</tr>
<tr>
<td>I am worried that some of my friends might get AIDS.</td>
<td>55%</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>I am worried that someone in my family may get AIDS.</td>
<td>33%</td>
<td>15%</td>
<td>52%</td>
</tr>
<tr>
<td>The thought of AIDS scares me.</td>
<td>83%</td>
<td>6%</td>
<td>11%</td>
</tr>
</tbody>
</table>

*A, Agree; U, Undecided; D, Disagree.

Table 6 suggests that the sample is willing to be concerned about AIDS. However, the first two items, which tend to personalize this concern, indicate lesser percentages for concern. This is another illustration of this sample's unwillingness to personalize the AIDS issue.
Table 6

**Concern**

<table>
<thead>
<tr>
<th>Items from Survey</th>
<th>A*</th>
<th>U*</th>
<th>D*</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don't need to be personally concerned with AIDS.</td>
<td>15%</td>
<td>10%</td>
<td>75%</td>
</tr>
<tr>
<td>AIDS is not my problem.</td>
<td>11%</td>
<td>12%</td>
<td>76%</td>
</tr>
<tr>
<td>Everyone should be concerned with AIDS.</td>
<td>92%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>AIDS is not as big a problem as the media suggests.</td>
<td>6%</td>
<td>11%</td>
<td>83%</td>
</tr>
<tr>
<td>I've heard enough about AIDS and I don't want to hear anymore.</td>
<td>7%</td>
<td>14%</td>
<td>79%</td>
</tr>
<tr>
<td>I want to learn more about AIDS.</td>
<td>80%</td>
<td>14%</td>
<td>6%</td>
</tr>
</tbody>
</table>

*A, Agree; U, Undecided; D, Disagree.

An inability to recognize personal risk for AIDS is most evident in Table 7. A majority of respondents (64%) think they may know someone with AIDS in the future. However, they perceive themselves to be less likely than others to get AIDS. Tables 5, 6, and 7 support Widen's 1987 concept of disavowal stating that college students do not see themselves as vulnerable to AIDS. College students create situational perceptions for themselves which relinquish them from accepting the responsibility that they are at risk for AIDS. They know the facts, but they don't perceive themselves as susceptible so they are not changing their behaviors.
Table 7

<table>
<thead>
<tr>
<th>Item from Survey</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am less likely than most people to get AIDS.</td>
<td>59%</td>
</tr>
<tr>
<td></td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>23%</td>
</tr>
<tr>
<td>I am not at risk for getting AIDS.</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>43%</td>
</tr>
<tr>
<td>If I got AIDS, I would die.</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>8%</td>
</tr>
<tr>
<td>I will probably never know anyone with AIDS.</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>64%</td>
</tr>
</tbody>
</table>

* A, Agree; U, Undecided; D, Disagree.

There is a high level of sexual activity occurring among this group of students as indicated by Table 8. Although the respondents understand that condoms used during sexual intercourse can reduce the risk of AIDS, they are not putting this knowledge into practice because 70% of the sample are at risk for not using condoms during sexual intercourse. Other risk indicators for this group include the fact that 31% report having more than one partner during the year, and 36% admit that their partners have sex with others. Another indicator of sexual activity shown in Table 9 which depicts the reported number of partners during the past year.
Table 8

Respondents' Risk Behaviors

<table>
<thead>
<tr>
<th>Items from Survey</th>
<th>R*</th>
<th>NR*</th>
<th>MR*</th>
<th>FR*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual intercourse without a condom</td>
<td>70%</td>
<td>30%</td>
<td>74%</td>
<td>77%</td>
</tr>
<tr>
<td>Oral sex without a condom</td>
<td>64%</td>
<td>36%</td>
<td>66%</td>
<td>62%</td>
</tr>
<tr>
<td>Anal intercourse</td>
<td>8%</td>
<td>92%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Sex with member of the same sex</td>
<td>2%</td>
<td>98%</td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Having more than one partner during the year</td>
<td>31%</td>
<td>69%</td>
<td>36%</td>
<td>27%</td>
</tr>
<tr>
<td>Partner has sex with others</td>
<td>36%</td>
<td>64%</td>
<td>36%</td>
<td>35%</td>
</tr>
<tr>
<td>Partner has sex with members of the same sex</td>
<td>16%</td>
<td>84%</td>
<td>20%</td>
<td>13%</td>
</tr>
</tbody>
</table>

*R, at risk for AIDS; NR, not at risk; MR, males at risk; FR, females at risk.
Table 9

Reported Number of Partners During Past Year

<table>
<thead>
<tr>
<th>Number of Partners</th>
<th>Per Cent of Sample</th>
<th>Number of Males</th>
<th>Number of Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16%</td>
<td>21</td>
<td>35</td>
<td>56</td>
</tr>
<tr>
<td>1</td>
<td>54%</td>
<td>74</td>
<td>119</td>
<td>193</td>
</tr>
<tr>
<td>2</td>
<td>13%</td>
<td>20</td>
<td>27</td>
<td>47</td>
</tr>
<tr>
<td>3</td>
<td>9%</td>
<td>13</td>
<td>20</td>
<td>33</td>
</tr>
<tr>
<td>4</td>
<td>4%</td>
<td>11</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>3%</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>1%</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>.6%</td>
<td>2</td>
<td>..</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>.3</td>
<td>1</td>
<td>..</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>.3</td>
<td>1</td>
<td>..</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>149</strong></td>
<td><strong>212</strong></td>
<td><strong>361</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 9 exemplifies the number of individuals having multiple partners in the past year. The majority of the sample is not at risk for having multiple partners, with 54% reporting one partner and 16% reporting no partners for the past year.
CHAPTER III

SUMMARY

In November of 1987, 1023 questionnaires were mailed to a random sample of university students in northern Texas. Three hundred and sixty-five questionnaires were returned for a return rate of 36%. The survey measured three areas: perceived susceptibility to AIDS, knowledge about AIDS, and sexual practices during the last year. The study was designed to detail the amount of risk present for college students in light of the AIDS epidemic.

Three hypotheses were formulated for this study. Stated in the null form, the hypotheses were as follows:

1. There is no significant relationship between perceived susceptibility and current sexual risk behaviors.

2. There is no significant relationship between knowledge about AIDS and current sexual risk behaviors.

3. There is no significant relationship between knowledge about AIDS and perceived susceptibility to AIDS.
No significant correlations were yielded from the Pearson analyses performed nor from the many applications of analysis of variance. Therefore, the hypotheses must be accepted in the null form.

The students were found to have high knowledge levels about AIDS in the areas of general knowledge, risk group identification, and behavioral modes of transmission. The group appeared to be well-informed although 70% reported receiving no formal AIDS education. Fewer graduate students and seniors reported receiving AIDS education than freshmen and sophomores.

In general, the respondents did not perceive themselves as susceptible to AIDS. One item revealed that 70% did not worry a lot about getting AIDS, although 83% agreed that the thought of AIDS scared them. There was a display of concern until any of the AIDS issues became personalized. For example, 59% reported that they saw themselves as less likely than most people to get AIDS. Similarly, respondents were more worried about their friends contracting AIDS than they were about members of their own families. Since there was such an unwillingness to recognize themselves as individuals at personal risk for AIDS, this might explain why there is still such a high level of sexual activity on college campuses. Risky sexual activity is evident among the students of this sample. For example, 70% reported that they did not use condoms during sexual intercourse for the past year.
Discussion

This study was unique because it explored the aspects of current sexual practices among college students. Other studies have failed to represent the behaviors of college students in relation to AIDS and instead concentrated on the beliefs, attitudes and knowledge of the students (DiClemente et al., 1986; Dorman & Rienzo, 1988; Price et al., 1985; Strunin & Hingson, 1987). Each of these studies shows a progressively higher level of knowledge being maintained by students in various settings. This could be occurring because of the publicity surrounding AIDS for so many years in the media as well as the response of the educational system.

Without receiving any formal AIDS education, the students of this sample are well informed about AIDS. However, they did not show any evidence of being able to translate that knowledge into behavioral change. Therefore, the problem enters when behavior modification becomes a part of the situation. Students did not transfer any of that knowledge to modify their sexual behaviors. In fact, Table 8 shows evidence for the statement that female sexual activity has increased among college students as suggested by previous researchers (Earle & Perricone, 1986; King, Balswick & Robinson, 1977; Lester & Leach, 1983; Robinson & Jedlicka, 1982). The students understood the
deadly threat of AIDS, but did not see it affecting any part of their lives. This is what makes the college population different from the male homosexual population that has experienced AIDS among its members for years. Male homosexuals actually see the difference that AIDS has made in their lives and that is why they have been able to make the necessary changes in the areas of behavior modification (Martin, 1987).

Baldwin and Baldwin (1988) investigated several factors affecting AIDS-related sexual risk-taking behavior among college students. Their findings suggest that AIDS education should not be based solely on the dissemination of AIDS information, but must also stress the value of certain lifestyle habits, social responsibility, and caution in the face of risky activities (Baldwin & Baldwin, 1988). Certainly there must be creative ways of reaching individuals and motivating them into action before it is too late. The college student must be made to feel the risk directly in order to emphasize the importance of behavior change. For example, DiClemente's (1986) high school students were more worried about getting AIDS than this sample of college students; 66% of that sample disagreed with the first item in Table 5. Because the virus can remain dormant for so long, it is possible that once evidence of AIDS has reached the college campus, it will be too late to talk everyone into behavior modification. They will have already been exposed.
Conclusion

This study has demonstrated that college students know a lot about AIDS, but are unwilling to make any behavioral changes in their personal lives in order to prevent it. This paradox is probably related to the lack of evidence of AIDS on the college campus. Although there is a national HIV infection study currently being conducted on college campuses in the United States, in which preliminary results indicate an overall rate of infection among college students to be 0.2% for the first 12,000 blood specimens tested, most students have not seen an impact of AIDS on campus (Centers for Disease Control [CDC], 1989). Therefore, disavowal is a state of disbelief that many college students still exist in (Widen, 1987). They see themselves as invulnerable to the threats that AIDS might play in their lives. They refuse to face the fact that they are at risk for AIDS.

This group of college students was at risk for AIDS for many reasons. First, the sample was comprised of 72% single individuals and 28% married individuals. Since 70% of the sample had sexual intercourse without condoms during the past year, this puts the single individuals at risk. Twenty-two per cent of those reporting to be married also reported not being involved in an exclusively monogamous relationship for the last five years. This means that only about 80% of the married population in this sample is not at
risk for AIDS, and even this assessment of a non-risk status cannot be entirely correct unless each of those individuals can verify that their partners have also been exclusively monogamous for the last five years of their relationship. Five years was the timeframe used in this study because in 1987 it was suggested that 5-7 years was the length of time to calculate the period of risk. However, recently the length of time for incubation has been extended to 8-10 years (Corless & Pittman-Lindeman, 1988). Additionally, 35% of the respondents reported being in an exclusively monogamous relationship for the last five years, but 21% of that group also reported having two or more partners during the last year. In this respect, this sample is at risk because of their marital status and their lack of reporting, or practicing exclusively monogamous relationships.

In general, the sample proved to be very knowledgeable about AIDS and its various modes of transmission. The group was also able to recognize risk groups for AIDS. Their high level of knowledge is possibly attributable to the intense media coverage given to AIDS in recent years. Seventy percent of the sample reported not being exposed to any kind of formal AIDS education program. Another reason for why this sample's knowledge may be a symptom of the popular media is the way that this sample recognizes risk groups for AIDS. Fewer of the respondents are able to pinpoint lesbians with multiple partners as individuals at risk for AIDS. This is
a detail provided by the mass media, as lesbians have received very little attention in the media concerning the AIDS epidemic.

Simply because this sample displayed a high level of knowledge about AIDS does not mean that they were able to put such knowledge into practice. For example, 90% of the sample agreed that condom use during sexual intercourse could reduce the chances of getting AIDS, but 70% did not use condoms consistently during sexual intercourse. Many of the students understand the concept of risk reduction behavior and the factors affecting risk. Some are even able to decipher the difference between knowing someone and knowing their sexual history. However, there is a breakdown in the transference of such knowledge to one's own behavior.

Probably one of the main hindrances to the adoption of risk reduction behaviors for college students is the lack of worry and concern about AIDS. This is evident in the overwhelming agreement (92%) that everyone should be concerned about AIDS, but only 75% believe that they should be personally concerned about AIDS. It is much easier to agree that AIDS should be a concern for everyone rather than to take on the responsibility of knowing about the risks personally. Although the sample was less inclined to take on a personal concern for AIDS, 83% did report being scared by the thought of AIDS. Worry for AIDS began to drop off
as the issue became a more personal one; 70% did not worry a lot about getting AIDS, 55% were worried about friends, and only 33% were worried about members of their own families.

Therefore, it is the challenge of the health educator to make the risk real for the student who does not believe it is possible. However, how does one prove to others that specific behavioral patterns can increase or decrease the risk of getting AIDS? This is especially a dilemma on college campuses because students are directly involved with the types of behaviors that increase the risk for AIDS; they are sexually active with multiple partners. A great deal of the solution relies on integrating information and translating it into risk reduction behavior as a viable alternative for the college student.

Recommendations

The goal of an AIDS education program is to prevent transmission of human immunodeficiency virus (HIV) infections. This is especially important because infection with HIV means a lifelong infectiousness for the virus carrier. HIV infection can prevail without the presence of AIDS, thus, transmission can easily occur without people knowing it. This sample of college students knew a lot about AIDS and its various modes of transmission. This is similar to the findings of Dorman and Rienzo (1988) which
also revealed college students to be very knowledgeable about AIDS. The respondents of the present study knew how one gets AIDS, but since they did not see themselves as susceptible, they did virtually nothing to prevent AIDS in their own lives.

In order to prevent AIDS, it must be stressed to college students that it is preventable by modifying the behavior that brings people into contact with the virus. However, "narrowly focused AIDS education programs that advocate abstinence or focus primarily on relaying accurate knowledge about AIDS and condom use may have limited impact" (Baldwin & Baldwin, 1988, p.186). Although formal education is a starting place, students who possess misinformation about AIDS seem to use it to fuel prejudices against victims and may contribute to incorrect behaviors (Dorman & Rienzo, 1988). Many things can inhibit the effective use of information.

This study is especially significant because it demonstrates the role that perceived susceptibility plays in the educational process for the health educator. Perceived susceptibility becomes the mediator between knowledge acquisition and behavior change. AIDS education will not work if it concentrates upon teaching just the facts, an individual must perceive himself to be at risk in order to want to change his behavior. Despite public education, many individuals do not perceive themselves as susceptible. This
is why the health belief model is important to the development of theory geared toward influencing behavior change. It represents a complex set of relationships among variables that play a part in an individual's decision-making processes. It should be used to guide educational programs in the prevention of the spread of HIV infection among college students.

Preventing HIV transmission among college students is difficult for a couple of reasons. First, because the incidence of HIV infection in the general population has remained extremely low, it is harder to make people pay attention to risk-reduction information (IM/NAS, 1989). Another reason is disbelief, "A young heterosexual adult who has never met a person with AIDS or known of a case in his circle of friends may question the need to adopt safer-sex practices, even if he understands the ways in which HIV is transmitted" (IM/NAS, 1989, p.201). Few college students view themselves as individuals at risk and in need of change. This is precisely why the degree and kinds of behavioral changes have occurred in the male homosexual/bisexual communities in New York and San Francisco (IM/NAS, 1988). In addition to educational programs, these risk groups have actually seen the impact of AIDS on their own lives, unlike the experience of college students.
Individuals must have the motivation and means to translate awareness of risk into changes in fundamental areas of human behavior (IM/NAS, 1988). It is possible that college students will not change their sexual habits until they see that AIDS has become more prevalent on campus. Therefore, there should be systematic-assessments of the effect of AIDS education programs on the behavior of college students in order to gauge the effectiveness of the various programs.

Perhaps a more advanced statistical analysis provided by future studies could offer clues to areas that should be included in innovative programming. Current AIDS education programs must be altered to reach out to the individual college student amongst his peers and persuade him to examine his own behavioral patterns. Many individuals will need coaching in the realm of self-esteem in order to enforce behavior change in their own lives on an everyday level. Repetition and an alert and responsible support system will encourage students to change. Behavior modification requires strong individuals willing to remain committed to their own decisions resulting in positive steps towards the prevention of AIDS. It is the job of the health educator to present this task as a worthwhile endeavor to those who revel in disbelief.
APPENDIX A

HEALTH BELIEF MODEL
The Health Belief Model as predictor of preventive health behavior (Rosenstock, 1974a).
APPENDIX B

QUESTIONNAIRE
I. For the following items, please place a check mark [✓] in the appropriate box that applies to you, or fill in the blanks.

1. Sex:
   [ ] Male
   [ ] Female

2. Age:________

3. Race:
   [ ] White
   [ ] Black
   [ ] Hispanic
   [ ] Other (please specify)________________________

4. Class:
   [ ] Freshman
   [ ] Sophomore
   [ ] Junior
   [ ] Senior
   [ ] Graduate

5. Major:________________________

6. Marital Status:
   [ ] single
   [ ] married
   [ ] divorced
   [ ] remarried
   [ ] widowed

7. Residency:
   [ ] Denton Resident
   [ ] Commuter

8. Have you received some formal AIDS education?
   [ ] No
   [ ] Yes. If yes, what form?
      [ ] Classes
      [ ] Seminars
      [ ] Counseling about testing
      [ ] Other (please specify)________________________

PLEASE CONTINUE BY TURNING TO THE BACK OF THIS PAGE
II. Please read all of the following items and circle the response that best reflects your feelings about each item.

5 = Strongly agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly disagree

9. I am not worried about getting AIDS.  

10. AIDS isn't that scary because a cure will soon be discovered.  

11. I am less likely than most people to get AIDS.  

12. I am worried that some of my friends may get AIDS.  

13. The thought of AIDS scares me.  

14. AIDS is not as big a problem as the media suggests.  

15. I've heard enough about AIDS and I don't want to hear anymore.  

16. I am worried that someone in my family may get AIDS.  

17. If I got AIDS, I would die.  

18. I want to learn more about AIDS.  

19. I will probably never know anyone personally with AIDS.  

20. I am less likely to get AIDS if I know all of my sex partners.  

21. I worry a lot about getting AIDS.  

22. Everyone should be concerned with AIDS.  

23. I am not at risk for getting AIDS.  

24. I don't need to be personally concerned with AIDS.  

25. I am less likely to get AIDS if I know the sexual history of all of my sex partners.  

26. AIDS is not my problem.
III. Please read all of the following items and circle the response that best reflects your beliefs about each item.

5 = Strongly agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly Disagree

27. AIDS is a medical condition in which the body cannot fight off disease.

28. All gay men who have multiple sexual partners are at risk for getting AIDS.

29. Drinking from the same cup with someone who has AIDS can give me AIDS.

30. Using a condom (rubber) during sex will reduce my chances of getting AIDS.

31. All gay women who have multiple female sexual partners are at risk for getting AIDS.

32. It is possible to identify someone who has AIDS just by looking at him/her.

33. Reducing the number of sexual partners I have reduces my chances of getting AIDS.

34. There is a cure for AIDS.

35. It is possible to get AIDS from receiving a blood transfusion.

36. Confining my sexual practices to mutual masturbation reduces my chances of getting AIDS.

37. I can have the AIDS virus and still not be ill.

38. All bisexual men who have multiple sexual partners are at risk for getting AIDS.

39. If I am infected with the virus but I do not get AIDS, I can still infect other people.

40. Sharing a bed with an infected person without any sexual activity can give me AIDS.

41. The more unprotected sexual partners I have, the greater my risk of getting AIDS.

42. Sharing a comb with someone who has AIDS can give me AIDS.

43. All heterosexuals who have multiple sexual partners are at risk for getting AIDS.

PLEASE FINISH BY TURNING TO THE BACK OF THIS PAGE
44. Have you been involved in a totally monogamous sexual relationship for the last five (5) or more years? (Totally MONOGAMOUS means that you and your partner have not had sex with anyone other than each other.)

[ ] Yes
[ ] No

IV. Please read all of the following items and circle the response that best reflects your behavior for each item.

<table>
<thead>
<tr>
<th>Item</th>
<th>always</th>
<th>sometimes</th>
<th>never</th>
<th>don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>45. In the last year, I French kissed my sex partner (wet/open mouth kissing).</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>46. In the last year, I had sexual intercourse using a condom (rubber).</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>47. In the last year, I had sexual intercourse without using a condom.</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>48. In the last year, I had oral sex using a condom.</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>49. In the last year, I had oral sex without using a condom.</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>50. In the last year, I had sex with members of the opposite sex.</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>51. In the last year, I had sex with members of the same sex.</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>52. In the last year, my partner(s) had sex with members of the opposite sex.</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td>DK</td>
</tr>
<tr>
<td>53. In the last year, my partner(s) had sex with people other than me.</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td>DK</td>
</tr>
<tr>
<td>54. In the last year, my partner(s) had sex with members of the same sex.</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td>DK</td>
</tr>
<tr>
<td>55. In the last year, I engaged in anal intercourse.</td>
<td>A</td>
<td>S</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

56. During the last year I have had sex with: ____ number of partners.

THANK YOU SO MUCH FOR YOUR COOPERATION! I REALLY APPRECIATE YOUR INDIVIDUAL CONTRIBUTION. THIS STUDY WOULD NOT BE POSSIBLE WITHOUT YOU!!!
APPENDIX C

COVER LETTER
Dear NTSU Student,

I realize that you are a busy student, but you are also a special student. You are special because you have been selected as part of a sample group that has been scientifically drawn to be representative of all students registered at North Texas State University. It is your unique contribution that will add to the total significance of this study.

I am a graduate student in the health education division of North Texas State University. The survey that accompanies this letter is part of a research project that must be completed for my master's thesis. The goal of this research is to present an accurate portrait of student behavior as related to concepts surrounding Acquired Immune Deficiency Syndrome (AIDS). As a student myself, I want to be able to write about the reality of what is really happening on the college campus concerning AIDS. I feel as if outsiders cannot tell the story accurately. It's a tough job because of the sexual nature of such inquiries and the sensitive issues involved. I don't want to offend you, but I don't want us to be misrepresented either. We have to get to the core of the matter together. That's why I need your help! Would you please do me a favor and make this an excellent study by doing your part and completing this survey? It is possible to fill out the questionnaire in 10-15 minutes, and your contribution is very much appreciated.

Your answers will be strictly confidential and will be seen only by me. The results will be reported in statistical (group) form only; no response will be able to be associated with a particular individual. Your participation in this research is strictly voluntary and you are free to discontinue at any time. You will not be contacted beyond the completion of this survey. By May 1988, an extensive report of the survey results will be on file at the Willis library of North Texas State University under my name.

Due to the legal formalities of our society, I must ask you to complete and return a signed consent form as you return the questionnaire. I have no intention of connecting you personally with your survey. This is why I have gone to the expense of including two separate envelopes; one is for your survey and the other is for your consent form. Once the codes on the UNOPENED envelopes have been entered into the computer, the envelopes are thrown away. The survey goes into a pile with hundreds of other surveys, and the consent form goes in a separate pile with hundreds of other consent forms. There will be no way of identifying which survey belongs to you. The codes on the envelopes are only to insure that I get two forms from every person.

I can assure you that only the strictest scientific techniques are being used in order to guarantee that this survey is done properly to protect all of the individuals involved.

I am a student as you are, and this is my final project. It has come to be costly because of the legalities, but I am serious about my work. Your cooperation and honesty will help make this survey accurate and successful. Your personal response is very important because you are part of a specially selected group drawn randomly from North Texas State University.

I personally thank you very much for your assistance in this research.

Sincerely,

[Signature]

K.D. Winnubst
North Texas State University
APPENDIX D

INFORMED CONSENT FORM
INFORMED CONSENT

1. I, ____________________________, a student of North Texas State University, hereby give consent to K.D. Winnubst to supervise an investigational survey procedure for the purpose of completing a master's thesis research project at North Texas State University.

2. I have read a clear explanation and understand the sensitive nature of this procedure. I understand the attendant discomforts or risks involved. I understand that the survey will be concerned with AIDS and some sensitive questions will be asked concerning my sexual behavior. I understand that the survey is investigational and that I may withdraw my consent. With my understanding of this, having received this information, I voluntarily consent to be a subject of this study by completing a survey and returning it to the principal investigator as designated in paragraph 1 above.

____________________  ______________________
Date                Signature
BIBLIOGRAPHY


