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College Students: Vulnerable to HIV/AIDS and the Least Educated?

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"COLLEGE STUDENTS: VULNERABLE TO HIV/AIDS

AND THE LEAST EDUCATED?"

By

Regine Rochelle Rucker

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ABSTRACT

“COLLEGE STUDENTS: VULNERABLE TO HIV/AIDS AND THE LEAST EDUCATED?

By

Regine Rochelle Rucker

In the United States, women, African Americans, and youth are emerging as the face of HIV and AIDS. Since there is no cure, education and prevention is important to halting the spread of the disease. However, first, the current knowledge level of at risk populations, and others, must be revealed to appropriately address misconceptions and deficiencies in HIV awareness and ultimately change at risk behaviors. Many studies acknowledge the overall lack of HIV awareness, however, few identify and make recommendations to address the knowledge deficiencies, specifically in at risk populations. The following research statistically demonstrates that the knowledge of HIV/AIDS and preventive sexual behaviors, whether sexually active or not, as well as the practice of safe sexual behaviors, are minimal. Through elicitation research, the examination of a selected and restricted sample of undergraduate students attending Grand Valley State University reveals a need for proactive education and prevention efforts on HIV/AIDS.
To all, HIV/AIDS threatens to extinguish populations throughout the world. Education is available, but to be educated is a choice. And in the case of this terminal disease, the choices to get tested, confront various aspects of sexual activity, practice safe sex with all sex partners, and to educate oneself before becoming another statistic are truly actions of choice. I beg you, choose life!
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CHAPTER 1
INTRODUCTION TO
“COLLEGE STUDENTS: VULNERABLE TO HIV/AIDS AND THE LEAST EDUCATED?”

1.1 Introduction

HIV and AIDS is a disease, just as prevalent now as it was in the early 1980s. Specifically, in the United States, women, African Americans, and youth are emerging as the face of growing statistics. Since there is no cure, education and prevention is important to halting the spread of HIV and AIDS. However, first, the current knowledge level of at risk populations, and others, must be revealed to appropriately address misconceptions and deficiencies in HIV awareness and ultimately change at risk behaviors. Many studies acknowledge the overall lack of HIV awareness, however, few identify and make recommendations to address the knowledge deficiencies, specifically in at risk populations. The purpose of this study is to determine the current level of knowledge and awareness of HIV/AIDS among undergraduate college students at Grand Valley State University; the current level of sexual activity and HIV preventive behavior among undergraduate college students at Grand Valley State University; the knowledge of campus resources for STDs and HIV/AIDS prevention and testing at Grand Valley State University (GVSU); and whether the current STD and HIV prevention services at GVSU are meeting the needs of the students.
1.2 Current Statistics and Facts

For older adolescents, ages 15 to 19 and young adults, ages 20 to 24 as classified as the National Center for Disease Control (CDC), attending college introduces a sense of newfound freedom. The constant nagging from parents and teachers about chores, curfews, friends, acquaintances, where you and with whom you socialize, and homework becomes a distant memory. Largely, college students can do whatever they want, whenever they want, however they want, and how often they want. There are no limitations, so they think. They gain an immense amount of control and direction over their lives. For many young people, this newfound freedom also includes sexual freedom and exploration. However, they often fail to recognize that with freedom and exploration comes a greater sense of responsibility. The perception of being a young adult carries a greater accountability for their actions; actions that have consequences; consequences that may be the difference between life and death.

Sexual activity begins in adolescence for the majority of people at a very young age (United Nations 2004). Young people are naturally curious about sex; yet some people might find explaining sex inconvenient or uncomfortable and, consequently, avoid providing clear and healthy information about sex to those who depend on them for guidance (Proctor 2003). The reality is that members of older generations were often not aware of the dangers of sexual pressure, sexually transmitted diseases (STDs), and the absolute importance of
proper condom use until the Human Immunodeficiency Virus (HIV) epidemic broke in the early 1980s (Proctor 2003). Many adults currently living with HIV and Acquired Immunodeficiency Syndrome (AIDS) were infected during adolescence and young adulthood; thus, this time of life is critical for health-protection programs (Netting & Burnett 2004).

Sexual activity among both male and female young adults is a contemporary reality (United Nations 2004). In many countries, unmarried girls and boys are sexually active before the age of 15. In North America, 40 to 60 percent of adolescents have initiated sexual activity by age 16. As a result, the probability of adolescents participating in at-risk sexual behaviors increases. Also, young people in general are at risk, because their sexual lives are typically influx, and are often characterized by high levels of experimentation (Netting & Burnett 2004). Will the next generations also suffer from the lack of knowledge and ignorance of many parents, grandparents, and great grandparents?

More than two decades into the epidemic, the vast majority of young people remain uninformed about sex and sexually transmitted diseases (United Nations 2004). The purpose of this study is to determine:

- The current level of knowledge and awareness of HIV/AIDS among undergraduate college students at Grand Valley State University;
- The current level of sexual activity and HIV preventive behavior among undergraduate college students at Grand Valley State University;
- The knowledge of campus resources for STDs and HIV/AIDS prevention and testing at Grand Valley State University (GVSU);
- Whether the current STD and HIV prevention services at GVSU are meeting the needs of the students.

The 1980s picture of HIV/AIDS as the disease of white, homosexual, males and/or careless intravenous drug users has made a drastic transformation. It has shifted to the disease of young people, women, and minorities such as African Americans, Latinos, Native Americans, and Asian Pacific Islanders (Edwards 2002). Scientists' call AIDS a fatal disease of the twentieth century (Zebunisso 2003).

Sexually transmitted diseases, including HIV/AIDS can be acquired by anyone engaging in sex, particularly unprotected sex. Studies have shown that the risk of both acquiring and spreading HIV is two to five times greater in people with other STDs (Michigan Department of Community Health (MDCH) 2004).

Sexually Transmitted Diseases (STDs - also known as Sexually Transmitted Infections) present a major public health concern in both industrialised and developing countries. However, information about infection rates is hard to come by, especially for many developing countries. No single organisation regularly collates STD statistics worldwide, and different countries have different types and levels of reporting systems. It is thought that many reports substantially underestimate the number of new STD cases because social stigma and other factors prevent people seeking health care. A World Health Organisation (WHO) report published in 2001 provides estimates of the extent of the world's STD epidemics as they were in 1999 (previous reports were published in 1990 and 1995). As of December 2004, there are no more recent international estimates. The 2001 report forms the basis of the data on this page (Avert.org 2004).
The WHO estimates that 340 million new cases of sexually transmitted diseases (syphilis, gonorrhoea, chlamydia, and trichomoniasis) occurred throughout the world in 1999 in men and women aged 15-49 years (World Health Organization (WHO) 2001).

Young people are at high risk for sexually transmitted diseases, including HIV, because of their sexual behaviors (Brown 2002). Examples of such high risk sexual behaviors include abandoning safer sex techniques, failing to use condoms correctly and consistently, and having sex while under the influence of alcohol or other drugs (CDC 1995). Sexual health concerns are undoubtedly a primary physical and psychological health threat to older adolescents and young adults (Zak-Place & Stern 2004). The statistics are evident. Over 100 million new sexually transmitted infections, excluding HIV, occur each year among young people under 25 years of age (United Nations Children’s Fund (UNICEF), Joint United Nations Programme on AIDS, & World Health Organization 2002).

As of the end of 2003 an estimated 37.8 million people worldwide were living with HIV/AIDS, an estimated 12.1 million are under the age of 25 (UNAIDS 2004). Of the 12.1 million, 11.8 are young people aged 15 to 24 (UNICEF et al 2002). Young people between the ages of 15 to 24 continue to bear the brunt of the global HIV/AIDS epidemic, accounting for more than half of 4.8 million people estimated to have been infected with HIV in 2003 (UNAIDS 2004). Each day, between 6,000 and 7,000 young people between the ages of 15 and 24
become infected with HIV, approximately one every 15 seconds (UNICEF et al 2002). It is not having sex, but rather having unprotected sex, that places young people at serious risk of HIV infection (United Nations 2004).

Despite the fact that a great deal of progress has been made in STD prevention over the past four decades, the United States has the highest rates of STDs in the industrialized world (CDC 2004). Worldwide, the United States is one of four industrialized countries in which a rise in sexually transmitted diseases has been observed, signaling a rise in unsafe sex, particularly among young people (United Nations 2004). The rates of STDs are 50-100 times higher in the US than in other industrial nations. The estimated total number of people living in the US with an incurable STD is over 65 million and every year, there are approximately 15 million new cases of STDs, a few which are curable (American Social Health Association 2005). The CDC reports that compared to older adults, adolescents (10- to 19-year-olds) and young adults (20- to 24-year-olds) are at higher risk for acquiring STDs (CDC, 2002). An estimated 15.3 million cases of STDs other than HIV are diagnosed annually in the United States, and about two-thirds of those are among people under the age of 25 (CDC 2004).

As of 2002, 850,000 – 950,000 people are living with HIV/AIDS in the United States with an estimated 40,000 new HIV infections each year (CDC 2002). The U.S. is one of many countries in which the HIV epidemic is still considered ‘low’ or ‘concentrated’, confined mainly with groups at especially high risk (UNICEF et al 2002). An epidemic is considered ‘concentrated’ when less than one percent
of the wider population but more than five percent of any ‘high risk’ group are infected.

The statistics of HIV infections worldwide among young people mirror those in the United States. It has been estimated that at least half of all new HIV infections in the United States are among people under 25 and most young people are infected through sex (Henry J. Kaiser Family Foundation 2004). From 1998 to 2002, AIDS incidence increased in the age group between 15 and 24. (CDC 2002). In 2002, more than 1,800 active cases of AIDS among adolescents and young adults have been documented (CDC 2004). What makes youth uniquely at risk for HIV? Several factors make youth particularly vulnerable to HIV/AIDS, including their age, biological and emotional development and their financial dependence (Henry J. Kaiser Family Foundation 2004).

- Surveys indicate that although many more young people across the world have now heard about the HIV/AIDS epidemic, awareness is not universal and many are still unaware of how to protect themselves or harbor misconceptions about HIV transmission.

- Many sexually active young people at risk for HIV do not perceive themselves to be at risk, even those in countries with very high prevalence. Moreover, most young people living with HIV do not know they are infected.

- Studies indicate that the prevalence of sexually transmitted infections (STIs) other than HIV among youth is high. Being infected with another STI increases the likelihood of both acquiring and transmitting HIV (Henry J. Kaiser Family Foundation 2004, p.1).

In 2003, the Center for Disease Control and Prevention (CDC) acknowledged that youth between the ages of 13 and 24 and college students are among several populations of emerging concern for whom the various
states or territories have little or no data (CDC 2004). Obviously, most college students are in the age range most heavily infected with HIV (Prince & Bernard 1998). Despite evidence suggesting that the number of infected college students is increasing, most HIV research has involved traditional high risk-groups—gay and substance abusing men and women who are prostitutes, homeless, or drug users (Lewis, Malow, & Ireland 1997). The opportunity for engaging in sexual activities increases in college. Nearly, three fourths of college students report being sexually active (Zak-Place & Stern 2004). Many college men and women are suddenly free of parental chaperoning (Davidson 1998). College students are in a developmental phase whereby sexual experimentation tends to increase (Zak-Place & Stern 2004). However, every act counts and all acts, particularly the unprotected ones, have consequences (Proctor 2003).

For example, a HIV screening program in North Carolina uncovered the beginning of an outbreak of HIV infection among college students, leading state officials to speculate that the outbreak could have an impact on youth across the Southeast (AIDS Alert 2003). U.S. federal officials are urging Southern states to be vigilant for signs of campus HIV outbreaks, but little has been done because the CDC does not have the money to do widespread testing (Medical Letter on the CDC & FDA 2004). Meanwhile, North Carolina officials worry that unwitting infected students will spread the AIDS virus across the country when they return to their hometowns during class breaks or after graduation.
The state of affairs is similar in Michigan. During 2003 alone, over 56,000 STDs were reported in Michigan; the highest rates of infection among persons 15-24 who only comprise 14 percent of the population (MDCH 2004). In persons age 15-24, the rate of chlamydia is over two times higher (accounting for 72 percent of the cases) and the rate of gonorrhea is over one and a half times higher (accounting for 59 percent of the cases) than the rate among persons age 25-29.

Although Michigan HIV/AIDS rates leveled between 1998 and 2002, the number of cases reported continues to increase (MDCH 2004). Currently, the Michigan Department of Community Health (MDCH) acknowledges 16,200 Michigan residents living with HIV/AIDS, of which 11,527 were reported as of January 1, 2004. Of the 50 states, Michigan is ranked 17th in total number of cases and 30th by cumulative rate per 100,000 population. MCDH also estimates that about 2,300 persons (14 percent; 3 percent age 13-19; 11 percent age 20-24) in Michigan were ages 13-24 upon diagnosis of HIV. Thus, the high rates of sexually transmitted diseases of young people in Michigan demonstrate they are having unprotected sexual intercourse and very much at risk for acquiring HIV.

Locally, Kent County is among the five areas with the highest rates of STD per 100,000 persons (MDCH 2004). Excluding Detroit, Kent County had the highest rate for HIV of 168.9 per 100,000 population, 2nd out of 15 local health departments classified as “high prevalence” areas in Michigan. Given that Grand Rapids represents 33 percent of the total population of Kent County, it is
likely that the STD and HIV rate are proportionate. Unfortunately, detailed county reports are not as accessible as those at the state and national levels.

In addressing the health status of college students in particular, the American College Health Association identifies sexual health concerns as a primary threat to students’ physical and psychological health in the National Health Objectives for 2000 (Zak-Place & Stern 2004). Condom use has been identified as the primary method of STD and HIV prevention for sexually active individuals, yet less than half of college students report using condoms consistently (Zak-Place & Stern 2004). Surprisingly, the CDC and the American College Health Association (ACHA) estimates that 1 in 500 college students are infected with HIV (Lance 2002). However, these are the reported or known cases. The problem lies with the unknown cases. Also, such circumstances are often complicated by usage of drugs and alcohol (Zebunisso 2003). The use of alcohol or other drugs often alters individual judgments about the perceived risks of a particular situation (CDC 1995).

As a result, some studies believe, since most college students are well-informed about the causes and effects of AIDS, the problem is not lack of knowledge (Netting & Burnett 2004). A study of over 5500 first-year community college and university students observed that adequate knowledge about transmission of HIV and other STDs failed to influence the survey respondents’ decision to remain abstinent or to practice safer sex (MacDonald et al 1990). Another study examined empirical studies dealing the psychosocial correlates of
HIV risk among heterosexual college students and concluded that HIV/AIDS knowledge levels of college students were adequate to high, but knowledge did not reduce risk (Lewis et al 1997). College students with accurate HIV knowledge were no more likely to use condoms than were students who were less knowledgeable, but linked less personal risk of HIV to the frequency of sexual encounters.

However, in study after study, for example, young people state that what education they have received about HIV/AIDS was "too little, too late" and substantial numbers of adults continue to have serious misconceptions about the epidemic (Aggleton 2002). Lack of knowledge about HIV/AIDS infection and ways of spreading this disease is a problem (Zebunisso 2003). Education is one strategy for helping young people reduce such risks (Brown 2002). Health educators indicate that education is the best way to avoid the continued spread of HIV (Lance 2001).

Worldwide, young people who do know something about HIV often do not protect themselves because they lack the skills, the support or the means to adopt safe behaviors (UNICEF et al 2002). Because high levels of sexual activity among young people have not been accompanied by the consistent use of condoms, this population group faces a high risk of infection (United Nations 2004). Thus, education may not be the only necessary element to address in order to prevent the spread of HIV/AIDS among college students, but it is quite essential. Specifically, the world must bear in mind that, for a certain number of
people, ignorance really will equal death (Proctor 2003). Therefore, the issue of STD and HIV prevention among adolescents and young adults is worthy of attention because of the potential for transmission (Zak-Place & Stern 2004).

The goal of the current administration under the direction of President George Bush is to have abstinence-only-until-marriage programs as the centerpiece of the federally-funded prevention portfolio (Smith 2002). Such programs are statutorily prohibited from presenting young people with information on proper contraception for the day when they do become sexually active. Is this an efficient way to combat the epidemic and funnel prevention efforts when so many adolescents are sexually active? It's like preaching to an empty church. The Bush Administration's approach to HIV/AIDS is profoundly affecting the bottom line of prevention efforts (Smith 2002). Such a strategy merely postpones the unfortunate and irresponsible fallout of a policy that keeps young people in the dark and at risk for HIV/AIDS. So, what can be done to deter the spread of HIV/AIDS any further?

Prevention is the key to reducing infection rates and ultimately defeating AIDS (UNICEF et al 2002). Sexual education and HIV prevention messages need to reach young people and this has been lacking (AIDS Alert 2003, COV). Current statistics support that college students, the majority whom are older adolescents and young adults, are among populations most vulnerable to HIV, including other STDs, yet the least educated and concerned. Worldwide, it is reported that HIV/AIDS prevention programs are reaching fewer than one in five
people at risk of HIV infection (McCarthy 2003).

The problem with HIV awareness is the fact that it has become peripheral to other health- and sex-related concerns. We know, deep in our hearts or in an abstract sense, that AIDS is a vicious epidemic in Africa, and most have listened to health instructors warning us of the perils of STDs, or to HIV-infected people talking to us about living with the virus. However, unlike the generations before us, we do not see constant headlines about scientists heroically rushing to find a cure: we’ve stared at electron-microscope images of the tiny predator, and now the fearsome HIV virus has become, by most accounts, almost manageable (Proctor 2003, p.28).

It is estimated that if basic prevention services were put in place, it could prevent 29 to 45 million new HIV infections projected to occur between now and 2010. Specifically, the complacency that is felt about HIV/AIDS in the United States is misplaced and dangerous (Krenin 2002). Hence, stemming the tide of this HIV pandemic must include increasing sexuality education and behavioral training (Proctor 2003).

1.3 Purpose of the Research Project

This chapter has discussed evidence that preponderantly concedes the lack of HIV and STD knowledge among adolescents and young adults. Differences exist about how much knowledge young people have as well as how they process this information. Because of these differences we want to know if adolescents and young adults are more or less risky in their sexual behavior when their knowledge of STDs and HIV/AIDS varies.

The purpose of this research, then, is to determine the current level of understanding of HIV/AIDS and sexual behaviors, and whether knowledge level
and sexual behaviors coincide. To examine this relationship, a series of knowledge and behavior questions are asked of undergraduate college students attending Grand Valley State University. Statistical significant results will allow us to conclude that difference between behavior—risk adverse, risk takers—is dependent upon different knowledge levels—low, medium, high.

1.4 Remaining Chapters

This study explores the current level of HIV/AIDS education and preventive sexual behaviors, along with the knowledge of STD and HIV/AIDS prevention and testing resources on-campus among a selected and restricted sample of undergraduate college students at Grand Valley State University. The first chapter of this study provides an overview of the current state of affairs and statistics in STDs and HIV/AIDS among young people, supporting the need for education, and reveals the influence of HIV/AIDS education among adolescents and young adults, specifically, college students. The second chapter demonstrates the importance of HIV/AIDS education through the Information-Motivation-Behavioral Skills Model, an emerging behavioral theory for health promotion practice and research in public health, and how the level of HIV knowledge can be determined by implementing elicitation research. It also addresses the impact of HIV/AIDS knowledge and awareness, as well as accessible campus resources related to sexual activity among college students, and the demographics and culture of GVSU and Grand Rapids, Michigan.
The third chapter explains how this study utilizes the case study research design to determine the current HIV/AIDS knowledge and preventive sexual behaviors of a selected and restricted sample of undergraduate Grand Valley State University students and details the measurement tool. The fourth chapter reveals the current level of knowledge and awareness of HIV/AIDS, sexual activity, preventive sexual behaviors, and knowledge of GVSU prevention services and resources; and demonstrates how the level of HIV preventive information impacts the HIV preventive behaviors among a selected and restricted sample of undergraduate college students at GVSU. The fifth chapter details the results of the data analysis. The sixth chapter determines whether the current STD and HIV prevention services at GVSU are meeting the needs of the selected and restricted sample of undergraduate GVSU students and suggests effective intervention designs and programs to prevent the spread of HIV/AIDS among the selected and restricted sample of undergraduate college students at GVSU based on the findings of this study.
CHAPTER 2
KNOWLEDGE AND PREVENTION APPROACH

2.1 Introduction

In Chapter 1, we reviewed a variety of facts and figures—locally and worldwide—about the knowledge of STDs and HIV/AIDS and the behaviors of adolescents and young adults. To help investigate this relationship we rely on the Information-Motivation-Behavioral Skills Model. This model is an emerging behavioral theory for health promotion practice and research in public health. This chapter describes the model and how the level of HIV knowledge can be determined by implementing elicitation research. It also addresses the impact of HIV/AIDS knowledge and awareness on prevention, as well as accessible campus resources, in relation to sexual activity among college students. The demographics and culture of Grand Valley State University and Grand Rapids, Michigan, the major city in which the college is located, are also included in this chapter.

2.2 Information-Motivation-Behavioral Skills (IMB) Model

Fisher and Fisher developed the Information-Motivation-Behavioral Skills (IMB) Model in 1992 specifically for work with HIV prevention in the college population (Becker, Rankin, & Rickel 1998). The design of the IMB Model was based on a critical review and integration of the constructs of relevant theories in social and health psychology (such as the Health Belief Model, the AIDS Risk
Reduction Model, the Theory of Reasoned Action, and the Social Cognitive Theory) and on analysis of successes and failures reported in the HIV prevention intervention literature to understand and change HIV risk and prevention behaviors across populations (Fisher & Fisher 1996 & Fisher & Fisher 2002). It seeks to address limitations of existing theory in social and health psychology, while being easy to translate into theoretically based and empirically targeted intervention operations. Thus, the IMB Skills Model is a comprehensive tool that has been developed based on existing work concerning the social and individual determinants of behavior, but sought to extend these efforts. As a result, since its initial publication in Psychological Bulletin in 1992, the IMB model has been widely cited and tested in the context of HIV prevention with diverse populations and has received support in both correlational work and in experimental intervention research in the context of HIV prevention and other health behaviors (ie. Breast self-examination and motorcycle safety) (Fisher & Fisher 2002).

The IMB Model asserts that HIV prevention information, HIV prevention motivation, and HIV prevention behavioral skills are the fundamental determinants of HIV preventive behavior (Fisher & Fisher 2002). In other words, to the extent that individuals are well informed, motivated to act, and possess the requisite behavioral skills for effective action, they will be likely to initiate and maintain health-promoting behaviors and to experience positive health-outcomes during sex (Fisher, Fisher, & Harman 2003). In contrast, to the extent
that individuals are poorly informed, unmotivated to act, and lack behavioral skills required for effective action, they will tend to engage in health risk behaviors and to experience negative health outcomes (i.e., Unexpected pregnancies, acquisition of STIs, like HIV/AIDS). The propositions of the IMB model concerning the relationship of HIV prevention information, motivation, behavioral skills, and behavior have been consistently and strongly confirmed in research conducted with sample of gay men and heterosexual university students and ethnically diverse heterosexual high school students (Misovich, Fisher, & Fisher 1998).

2.3 IMB Model Assumptions

The three components of the IMB Model, information, motivation, and behavior skills, suggest several fundamental assumptions. The first step toward prevention is the individual acquisition of accurate information regarding HIV transmission and its prevention (Becker et al 1998). According to the IMB Model, HIV prevention information that is directly relevant to preventive behavior can be enacted easily in the social ecology of the individual is a prerequisite and critical determinant of HIV preventive behavior (Fisher & Fisher 2002 & Fisher et al 2003). Information can include specific facts about HIV transmission and prevention as well as relevant heuristics, simple rules that permit automatic and cognitively effortless (but often incorrect) decisions about whether to engage in HIV preventive behavior (Fisher & Fisher 2002 & Fisher et al 2003). For example,
common heuristics include ideas that "monogamous sex is safe sex" and "known partners are safe partners"). HIV prevention information can also include elaborate implicit theories, complicated sets of beliefs that hold that it is possible to detect and avoid HIV risk on the basis of assessment of a partner's externally visible characteristics such as dress, demeanor, personality, or social associations (Fisher & Fisher 2002).

Motivation to engage in HIV preventive acts is an additional determinant of preventive behavior and influences whether even well-informed individuals will be inclined to act on what they know about prevention (Fisher & Fisher 2002). It includes personal motives (such as fear of becoming sick or positive attitudes toward preventive behaviors), social motivation (one's peers also endorse and engage in prevention), and the individual perception that one is personally vulnerable to being infected (Becker et al 1998). The third determinant of preventive behavior is the individual's level of behavioral skills. As an additional prerequisite of HIV preventive behavior, behavioral skills determine whether even well-informed and highly motivated individuals will be capable of practicing prevention effectively (Fisher & Fisher 2002). This component of the IMB Model is composed of an individual's objective ability and perceived self-efficacy to concerning performance of the sequence of HIV-preventive behaviors involved in the practice of prevention. For example, behavioral skills may include an individual's actual and perceive ability to bring up and negotiate HIV prevention with a partner; to acquire and use condoms
comfortably; to maintain condom use over extended periods of time; and to shift prevention patterns appropriately (Fisher et al 2003).

Conclusively, the IMB Model specifies that HIV prevention information and HIV prevention motivation work primarily through HIV prevention behavioral skills to influence HIV preventive behavior (Fisher & Fisher 2002). Basically, effects of prevention information and prevention motivation are expressed mainly as a result of the development and deployment of prevention behavioral skills that are directly applied to the initiation and maintenance of preventive behavior. However, the model also asserts prevention information and prevention motivation may have direct effects on preventive behavior in cases in which complicated or novel behavioral skills are not necessary to effect prevention. For example, acquiring information about the fact that anti-retroviral medication can prevent mother to child transmission of HIV might have a direct effect on HIV+ pregnant women seeking such treatment or high levels of motivation could incline an individual to maintain an existing sexually abstinent pattern of behavior (Fisher et al 2003). Finally, from the perspective of the IMB Model, information and motivation are regarded as generally independent constructs in that well-informed individuals are not necessarily well-motivated to practice prevention, and well-motivated individuals are not always well-informed about prevention (Fisher & Fisher 2002).
The three components are also highly generalizable determinants of health promotion behavior, across populations and health promotion behaviors of interest, yet they should have specific content that is most relevant to the prevention needs of particular populations (men vs. women, heterosexual vs. homosexual, African Americans vs. Hispanic-Americans) and particular preventive practices (abstinence, male and female condom use, and HIV antibody testing) (Fisher & Fisher 2002 & Fisher et al. 2003). As a result, particular constructs of the model and particular causal pathways among them will emerge as more or less influential determinants for a given population's practice of a particular preventive behavior. This study will focus solely on the information component and its influence on HIV preventive behavior among a selected and restricted sample of undergraduate students at GVSU.

2.4 IMB Model Approach

The IMB Model approach to understanding and promoting HIV preventive behavior specifies a set of generalizable operations for constructing, implementing, and evaluating HIV prevention interventions for particular target populations and behaviors (Fisher & Fisher 2002). Again, three steps comprise the process of the model development, elicitation, intervention, and evaluation. Elicitation research, the first step in the process of changing HIV preventive behavior, is conducted with a subsample of a population of interest (a selected and restricted sample of undergraduate college students in the case of this
study), to identify empirically population-specific deficits and assets in HIV prevention information, motivation, behavioral skills, and HIV risk and preventive behavior. The use of open-ended data collection techniques such as focus groups and open-ended questionnaires to avoid providing occasions for prompted responses is advocated, in addition to close-ended techniques that lend themselves to quantitative analyses. The elicitation step will be the focus of this study, to identify the areas of strength and weakness, primarily in HIV prevention information, in the selected and restricted sample of undergraduate students at GVSU.

The second step and third steps in the IMB approach are intervention and evaluation (Fisher & Fisher 2002 & Fisher et al 2003). Intervention involves the design and implementation of conceptually bases, empirically targeted, population-specific interventions, constructed on the basis of elicitation research finding. The targeted interventions address identified deficits in HIV prevention information, motivation, behavioral skills, and behavior and capitalize on assets in these factor that may characterize a population. The evaluation step entails methodologically rigorous evaluation research conducted to determine whether intervention has had significant and sustained effects on the information, motivation, and behavioral skills determinants of HIV preventive behavior and on HIV preventive behavior itself. The IMB approach advocates evaluation research, which utilizes multiple convergent sources of data.
2.5 HIV Knowledge Elicitation Results in the IMB Model of University Students

The IMB model has been successfully used as the basis for elicitation, intervention, and evaluation research in a sample of heterosexual university students (Misovich et al 1998). An initial study done in 1993 (unpublished) by Dr. Jeffrey Fisher and colleagues, elicitation research was administered through closed-ended questionnaire methods to assess levels of AIDS prevention information, motivation, behavior skills, and behavior in among undergraduate students at the University of Connecticut (Fisher & Fisher 1996). Regarding information, the students were generally well-informed about the critical facts regarding AIDS transmission and prevention but had specific and potentially important deficits as well. The elicitation research found that most students did not know the relative riskiness of certain HIV risk behaviors.

- 75 percent of students did not know that oral sex is less risky than sexual intercourse.
- 67 percent of students did not know that in some parts of the world HIV is found mostly among heterosexual men and women.
- 60 percent did not know that HIV can be transmitted from mother to child through breast milk.

An open-ended focus group research was also conducted to provide a fuller understanding of the dynamic of AIDS risk and preventive behavior within the university student population (Fisher & Fisher 1996). The focus group revealed four themes in relation to HIV preventive behavior. First, university students rely on factors that are very poor indicators of their partner’s actual HIV
risk when judging the likelihood that their partner is HIV infected, specifically, inaccurate information heuristics and implicit theories of partner risk (previously discussed). For example, “monogamous sex is safe sex” and “known partners are safe partners” are common rationalizations that often interfere with performing effective preventive behaviors (Fisher & Fisher 2002). The study found that automatic, effortless assumptions based on emotions or incorrect information are very widely endorsed in the university student population and that to the extent that students endorse them, they are less likely to practice HIV preventive behavior.

Also, students considered knowing, liking, or loving one’s partner and viewing the partner as having positive traits were profoundly cognitively dissonant with regarding the partner as a source of potentially lethal risk. Yet, new partners were viewed as potentially risky and judged by scrutinizing external characteristics in relation to the implicit personality theory shared by the university students. For example, attractive, popular, friendly students from high-income households are often seen as being less likely at risk for acquiring HIV than average or unattractive, not-so popular, reserved students from middle or low-income households. Thus, stereotypes, subjective perceptions, and misconceptions greatly influence with whom college students utilize HIV preventive behavior. Still, once students got to know their partner better, condom use and other AIDS-preventive behavior was abandoned.
Third, the focus group research also supported the findings from the closed-end elicitation research that students regarded themselves as relatively invulnerable to HIV regardless of whether or not they engaged in unsafe sexual behaviors. Why? The responses were such as that they “only have one partner”, “are not homosexual”, “are not a drug user”, “AIDS is not a problem on college campuses”, “they did not know anyone who had HIV”, “had never seen anyone who had HIV”, and “were unaware of anyone on their campus who had HIV”. Lastly, the focus group discussions made it clear that the “negotiation model”, which advises individuals to talk about and negotiate safer sexual practices with their partner prior to sexual contact. Research revealed the model is often problematic and leaves those uncomfortable with such discussions with no other alternative, is a problem in the early stages of the relationship when sexual activity has not been considered, and may result in confrontations, which many try to avoid.

2.6 The Impact of Knowledge on HIV Prevention

Knowledge about HIV is an important aspect of prevention (Clinical Reference Systems 2002). American students are exposed to considerable information about HIV/AIDS (Sharts-Hopko & Bonas, Jr. 1998). Numerous studies demonstrate that college students are highly informed about the severity of HIV/AIDS, know how the infection is transmitted, and are aware of prevention strategies, yet they continue to engage in unsafe sexual behaviors (Prince &
Bernard 1998). A study reported 88 percent or more of respondents receiving correct answers on greater than half of the scale items on the knowledge of HIV and AIDS (Shapiro, Radecki, Charchian, & Josephson 1999). Another study administered from 1986 to 2000 resulted in an increase over time of HIV knowledge (Bruce & Walker 2001). Although classes or even entire courses focusing on HIV/AIDS risk reduction do increase students' knowledge of the disease and may reduce fear and bigotry related to the disease, some studies concluded AIDS information alone does not change students' sexual behaviors (Sharts-Hopko & Bonas, Jr. 1998). The overall consensus being that increasing basic and relevant HIV/AIDS knowledge is necessary, but not sufficient, to prompt HIV/AIDS risk reduction behavior (Hawa & Doherty-Poirer 1998). According to public research, HIV/AIDS knowledge does not strongly influence condom use (Prince & Bernard 1998). So what should we make of these conclusions?

Despite the high levels of knowledge among college students about basic HIV/AIDS facts, they continue to retain misperceptions about the risk of transmission from casual contact and the importance of safer sex practices (Lewis et al 1997). Students revealed significant misinformation about HIV and other STDs. Recent data continues to support this acknowledgement, especially the importance of safer sex practices. Also, a generalized feeling that the crisis in United States is over has apparently led to an increase in unsafe behavior, fueled by the improvements in treatment that allow people with HIV to live
longer and healthier lives (Krenin 2002). As a result, readers would have to agree the complacency that some feel about HIV/AIDS in the U.S. is misplaced and dangerous. Hence, how do we increase knowledge and reduce at-risk sexual behaviors?

Over the last two decades, an important lesson has been learned: prevention efforts cannot remain static (Krenin 2002). America should accept that saving lives is more important than perpetuating ancient taboos (Proctor 2003). America has to develop a campaign against the spread of HIV/AIDS (Zebunisso 2003). To increase HIV knowledge among American youth, special educational programs should be implemented. Such programs should be run regularly and the international community should be involved knowing that they have the better experience. In addition, research related to HIV/AIDS among university students has focused primarily on the assessment of knowledge, attitudes and behaviors and, to a less extent, on the effectiveness of educational interventions (Svenson, Carmel, & Varnhagen 1997). Ensuring the greatest success involves a multifaceted and coordinated effort, which brings together faculty, administration, students, health education professionals and the external community of students. Any programs targeting HIV/AIDS can be included in a more comprehensive initiative for improving and maintaining student health.
A "10-Step Strategy" was released during the International AIDS Conference in Barcelona to help countries as well as communities develop their own HIV/AIDS program guidelines based on individual situations and needs (SIECUS Report 2002).

1. End the silence, stigma, and shame – They must have the courage to talk openly and without judgment about adolescent sexuality. On a larger scale, policymakers must ensure that adolescents have the information, services, and support they need. Leaders must marshal the necessary financial resources for the fight against and develop strategies based on thorough analysis of the local situation.

2. Provide knowledge and information – Young people cannot protect themselves if they do not know the facts about HIV/AIDS. Adolescents must learn the facts before they become sexually active. The information must be regularly reinforced in the schools, community, and media.

3. Provide life skills to put knowledge into practice – Young people cannot change their behavior by knowledge alone. The need skills, life skills, to put what they learn into practice. Life skills include negotiation, conflict resolution, critical thinking, decision-making and communication, which are vital for young people.

4. Provide youth-friendly health services – The services to help prevent HIV and other sexually transmitted diseases include access to condoms as well as access to voluntary HIV counseling and testing.

5. Promote voluntary and confidential HIV counseling and testing – Studies show that young people have a strong interest in knowing their HIV status. Voluntary and confidential HIV counseling and testing is an important tool for preventing HIV. This allows adolescents to evaluate their behavior and its consequences.

6. Work with young people and promote participation – Involving young people in prevention efforts educates them about HIV and gives them a sense of responsibility and pride.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
7. Engage young people living with HIV/AIDS – A major challenge in HIV prevention, is to convince young people that HIV/AIDS can strike anyone. One of the most effective ways to accomplish this is to get young people living with HIV/AIDS to share their experiences.

8. Create safe and supportive environments – Parents, schools, and social institutions need the knowledge and skills to create an environment in which young men and women are safe from harm, are cared for equally, and are treated with respect. Schools and communities must condemn sexual violence, abuse, and exploitation. Governments must make sexual violence unacceptable by enacting and enforcing laws that protect all people. Media and education campaigns must encourage equality between all.

9. Reach out to young people most at risk – Young people especially at high risk for contracting HIV are often on the periphery of society and face enormous difficulties obtaining help. These individuals need access to livelihoods, education, and services to help them to build their future.

10. Strengthen partnerships, monitor progress – Protecting young people is too big a job for any one sector of society. The commitment and resources of all sectors (nongovernmental and civil society organizations, including faith-based groups and the private sector; governments; young people; academic and research institutions; private foundations; bilateral donor agencies; the United Nations; and other multilateral agencies), on all levels (community, nation, region, and world) must be mobilized, coordinated, and channeled to families and communities (SIECUS Report 2002, p. 8-9).

Although, effective sexuality education should start well before college, college campuses and their resources, including campus health clinics, student organizations, and degree curriculums can be effectively utilized to fight the pandemic of HIV/AIDS. Over two decades, alternative programming has developed to actively educate students of the disease. The effectiveness of peer education is well documented in reducing students’ risk-taking behaviors, particularly in the areas of sexual decision-making, as well as the added benefit
of repeated "booster" peer education (Nokes 1996). Peers are effective because they are credible role models and they speak the same language as their audience. Peers are also able to better convey appropriate "how-to" information in a way that is credible for the behavioral change of students (Fisher, Fisher, Williams, & Malloy 1994).

For example, in the mid-1980's, a discussion of AIDS education on the campus of a religious university, involving Student Life staff, the Center for Peace and Justice Education, and nursing faculty evolved into an AIDS Task Force, of course, including the participation students (Sharts-Hopko & Bonas, Jr. 1998). Initial programming began in the early 90's, focusing on outreach to all freshman during orientation, participation in World AIDS Day (December 1), establishing an annual AIDS Awareness Week during the week of Valentine's Day, and initiating a peer-education program. In 1993, the AIDS Task Force growth included religious campus representatives and AIDS organization of the local community. The organization tackled such projects as staging a display of the NAMES Project AIDS Memorial Quilt, developing an AIDS theater troupe, and putting on an "Auction for AIDS" that raised $8,000 for AIDS education on campus and for AIDS Ministries in the area. Peer educators were trained with the assistance of mainstream agencies such as the American Red Cross, the Centers for Disease Control and Prevention, the State Health Department and work with the organizations to provide anonymous testing paid by the student government. Such activity is almost unbelievable, especially for a religious
affiliate university that prevents advocacy of sexual intercourse outside of marriage. However, the administration strongly supported providing students with factual information about HIV risk reduction, which they need as they make their own behavioral decisions.

Going one step further, studies suggest that university peer mentor programs should institute workshops during “Parents’ Weekends” and reach out to insular groups (including sororities, fraternities, and other college organizations) with specific information on STIs and HIV/AIDS (Proctor 2003). These programs need to prepare parents and other authority figures to say to their interest group.

I would rather that you did not engage in sexual activity of any kind when you are young because I don’t think you are emotionally and physically ready for the costs and consequences of such decisions. However, I want you to lead a long and happy life and so here is how to get out of a risky situation or use a condom if you are ever in one (Proctor 2003, p.28).

This is more realistic and healthy for most young people.

Another alternative to disseminating HIV education for students is actually designing a college course. The HIV Pandemic and AIDS course was offered by a mid-sized urban university in the Southeast as a three-credit, semester long course, cross-listed in three health related departments as a senior-level elective (MacNair-Semands, Cody, Simono 1997). Based on a review of previous literature, the course was constructed on four principles: 1) some dimensions of HIV/AIDS cannot be understood through cognitive reasoning alone and must be experienced in other ways, 2) accurate and complete information is a
necessary but not sufficient condition for behavior change, 3) the most credible and effective HIV educators are the learners' peers, and 4) sustained, open and frank communication is crucial for effective prevention of HIV and compassionate and competent care for those living with HIV infection.

Differing from the traditional target population of AIDS 101 courses to freshman and sophomore level students, the course was designed for more advance students to support and enhance HIV prevention among the students, their sex partners, social networks and future clients, as well as contribute to a compassionate and competent respond to the HIV/AIDS pandemic. In addition, a key aspect of the course was the use of multimedia teaching strategies to reach a student base that has grown up immersed in electronic media, including cable television, music videos, and live global coverage of breaking news. Like other research, the study demonstrated that students had a fairly high level of knowledge of the disease. However, responses to detailed knowledge items exposed a need for knowledge to be measured on several different levels: knowledge of disease and transmission and knowledge of societal and political forces surrounding the disease and the response to it at a system level. On the other hand, as data also supports, perceived vulnerability to HIV/AIDS was low. The study indicated that a semester-long HIV course on a college campus might increase condom use, the ability to discuss safer sex with partners, selection of sexual partners, and learning about HIV/AIDS.
Testing options have also evolved. Students on California college campuses have instant toll-free access to purchase an anonymous HIV test within the privacy of their home or resident (AIDS Weekly Plus 1997). Through a local CampusLink information center, students can call and receive Home Access HIV tests, cleared by the U.S. Food and Drug Administration, that are better than 99.9 percent accurate and are as reliable as tests used by doctors and hospitals. The program also provides Home Access Health counselors, available 24 hours a day, seven days a week to provide students the knowledge they need to take control of their personal health and well-being.

2.7 GVSU, Grand Rapids, MI, and the surrounding communities

Over forty years later, Grand Valley State University has evolved into a university with an enrollment of over 22,000 traditional college students, graduate students, and some returning adults who are completing, or starting anew, their degrees and several extension campuses in downtown Grand Rapids, West and Northern Michigan (GVSU 2004; Phillip Batty, pers. comm.). Currently, the basic demographics of GVSU are as follows (Phillip Batty, pers. comm.): total student body, 22,063; 4,092 freshman, 4,456 sophomores; 3,809 juniors; 5,036 seniors; and 3,570 graduate students. The racial makeup is 88 percent are White/Non-Hispanic, 4.6 percent are Black/Non-Hispanic, 2.7 percent are Hispanic, 2.3 percent are Asian, and less than 1 percent are Native American. In addition, 62 percent of the student body is female.
In 1963, then named Grand Valley State College, 226 men and women arrived ready to study at the brand new “college in the cornfield” of Allendale, Michigan (Grand Valley Magazine 2004). It was known as an educational institution in which students could receive a “liberal education”, for its acceptance and attraction of what was seen then as the “abnormal” student in terms of people interested in the arts (music, painting, etc.) and non-traditional sexual relationships (lesbianism), along with a little bit of partying and fun (Dr. Elaine Schott, pers. comm.). However, in order for survival, growth, and respect, the “liberal” university eventually had to assume the social and political culture of its surroundings.

At the heart of Grand Rapids and the surrounding areas in West Michigan are Dutch, Christian Reformed, conservative values (Esther Visser, pers. comm.). The power and wealth of the area is predominantly in the control of the white, male, religious, Republican constituency that forbids premarital sex, unwed, pregnant women, and still refuses to grasp the extent of the HIV/AIDS threat to the health of the youth.

According to the GVSU Campus Health Center, St. Mary’s McAuley Health Center in Grand Rapids, Michigan stopped providing STD screening to the university because the campus and the students are not considered as a high enough risk factor (pers. comm.). STD testing for chlamydia, gonorrhea, herpes, syphilis and HIV is offered Monday through Friday, but it is not free. HIV testing is $21 and does not require and office visit, thus no appointment fee (Marilyn...
Brouwer, pers. comm.). Results are available within 2 days. However, the remaining STD tests are $22.50, in addition to $50 fee for an office visit. The university now contracts physician assistants and nurses from Spectrum Health. Although request for testing varies, approximately, five students per week request STD testing during Fall and Winter semesters and 1 to 2 requests during the Spring/Summer semester. They also sell condom 8 for $1. On the other hand, the only educational services offered to students is the receipt of pamphlets and information upon STD testing requests, programs sponsored by student organizations, or articles published in the University newspaper (The Lanthorn). Otherwise, STD educational outreach services are not provided at Grand Valley State University. Such lack of concern is validated by the low “reported” cases. Yet, it is evident that college students at GVSU are having sex. More than likely, the majority of the students at risk are not being tested. Obviously, they are not being educated on STDs by GVSU. There is cause for concern, however, as a rise in sexually transmitted infections has been observed, signaling a rise in unsafe sex, particularly among young people in many of the industrialized countries (UNICEF et al 2002).

Studies continue to demonstrate that knowledge is necessary to fight the spread of HIV/AIDS. Yet, they also reveal that college students already have high level of knowledge about the disease, with some major misperceptions. Statistics show that more than often the misperceptions translate into at-risk sexual behaviors. Thus, the most vulnerable, may in fact be the least educated.
By using the phase of elicitation research in the Information Motivation Behavioral Skills Model to guide this study, the HIV knowledge and preventive sexual behaviors of a selected and restricted sample of undergraduate students at Grand Valley State University will be discovered. As a result, this study will also determine if current HIV prevention services at GVSU are appropriate and meeting the needs of the students. This study will contribute to the body of knowledge by demonstrating the importance of education, specifically among college students; a large portion of those classified as young people, to halt the spread of HIV/AIDS. It only takes one wrong sexual encounter to become infected with the HIV virus. So, why not equip our youth, our future, with more than enough information to protect themselves from a virus that does not have a cure, will eventually kill each and every person that acquires the virus, but is 100 percent preventable?

2.8 Conclusions

This chapter revealed the significance of HIV/AIDS education through the Information-Motivation-Behavioral Skills Model and how the level of HIV knowledge can be determined by implementing elicitation research. It also addressed the impact of HIV/AIDS knowledge and awareness on prevention, as well as accessible campus resources related to sexual activity among college students, and the demographics and culture of GVSU and Grand Rapids, Michigan. The following chapter details how this study employs the case study
research design to implement the elicitation research phase of the Information Motivation Behavioral Skills Model and provides a description of the research tool and analysis utilized to uncover the knowledge and behavior of the study participants.
CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this chapter is to explain how this study utilizes the case study research design as a form of elicititation research, to determine the current HIV/AIDS knowledge and preventive sexual behaviors of a selected and restricted sample of undergraduate Grand Valley State University students. It reveals the pros and cons of the case study research design. The methods chapter introduces the research tool, explains its components and how it was developed, disseminated, and tabulated, as well as the independent and dependent variables of the study. It also expounds on the population in which the sample was obtained and the internal and external validity of the study.

3.2 Research Design

A case study, descriptive research design will be employed and is most feasible to implement for this study. The study examines the HIV/AIDS knowledge and preventive sexual behaviors of a selected and restricted sample of Grand Valley State University undergraduate students and utilizes a descriptive research design in the form of a survey. According to O’Sullivan, Rassel, & Berner (2003), descriptive designs provide a wealth of information that is easy to understand and interpret. Descriptive designs eliminate unsound explanations and provide valuable leads. When such designs are planned and
analyzed carefully, they may produce reasonable estimates of an independent variable's effect on a dependent variable, thus suggesting causality. More specifically, case studies examine in some depth, decisions, programs, or other entities that have a unique characteristic of interest (O'Sullivan et al 2003). A snapshot case study, this study is a detailed, objective study of one research entity (a selected and restricted sample of GVSU undergraduate students) at one point in time (Winter semester of 2005) (Berg 2004).

Researcher Robert K. Yin (2003) defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used. Thus, an advantage of the case study is the combination of several different sources of information, including documents, archival information, interviews, direct observations, participant observation, and physical artifacts. Another advantage of the case study design is its usefulness as an exploratory tool. Case studies are the preferred research strategy if one wants to learn the details about how something happened and why it may have happened.

On the other hand, descriptive research designs do not allow for experimental application of the suggested interventions and programs designed as a result of the elicitation research. In addition, the use of multiple sources in case studies is also a drawback, because different information sources are studied using different research techniques. The frequent criticism of
the case study research method is its dependence on a single case or a small number of cases that render it incapable for providing reliability or generality of findings. Thus, it is microscopic and not applicable to other research studies.

This particular case study examines how the level of HIV/AIDS knowledge among a selected and restricted sample of undergraduate students at GVSU influences sexual behaviors, in reference to two aspects HIV preventive information and HIV preventive sexual behaviors. The utilization of the pre-experimental case study on this issue examines a topic that has not been researched at GVSU. This study also recognizes that the college populations' knowledge of HIV and preventive sexual behaviors may differ from other populations. Several studies support the belief that college students have a high level of knowledge of HIV/AIDS, but often misinformed. This particular study aims to reveal that their knowledge level is not as high as most studies imply and its influence on the preventive sexual behaviors of college students at GVSU through the observance of HIV preventive information and HIV preventive sexual behaviors.

3.2.1 Survey Instrument

To create the survey used in this research project, questions were adapted and/or adopted from the Information Motivation Behavioral Skills Model questionnaire; the "Health and Relationships Survey." The Health and Relationship Survey was a 5-part, 134-question, self-administered survey. It was designed for use with heterosexual college students and heterosexual post-
college-age adults.

However, this study seeks to determine the knowledge and behavior of each survey participant regardless of sexual orientation. This study acknowledges all sexual orientations, but also realizes that gay, lesbian, bisexual students, and IV drug users are probably a small portion of the student body. As a result, the question that addresses what gender in which one prefers or may have sexual intercourse, among others, was removed for the adapted measurement tool in the modification process.

Consequently, the survey created for this study is a 20-minute, 4-part, 69-question survey (see Appendix B for the full survey). Structurally, the survey begins with an informed consent letter as the cover page, which clearly explains the purpose of the study, how long it will take to participate, possible benefits and risks to participants, states the right for the participant to ask questions about the study and a contact person, it emphasizes participation is voluntary, as well as the confidentiality of the study. Each participant will be able to keep the informed consent letter. The reverse side of the informed consent form is a resource page of campus and local agencies providing HIV testing, counseling, and materials, including that of other STDS, free of charge and at cost. The first part of the survey begins with three screening questions so that students who are under the age of 18, older than 25, and/or married, do not participate in the survey. Sections two and three of the survey address HIV prevention information and HIV preventive sexual behaviors. Each is discussed in
turn below. Demographic questions—gender, race/ethnicity, age, and college classification—complete the survey.

The second portion of the survey addresses HIV prevention information using questions from the IMB Skills Model Survey to assess respondents' levels of HIV prevention information in categories that have relevance to the practice of preventive sexual behaviors and that elicitation research in heterosexual university student and adult populations indicates may be deficient (Misovich et al. 1998). Question 4 asks the respondent to define acronyms related to HIV/AIDS. Questions 5 through 37 measure areas of HIV prevention information that are relevant to preventive behavior. Questions 38 through 42 address information that is specifically relevant to university students, covering rates of HIV infection in the student population, knowledge about where to purchase condoms on campus, and the fact that members of the college-age population may be HIV-positive without showing any overt symptoms. Questions 43 through 49 measure respondents' endorsement of incorrect "HIV information heuristics": simple but invalid decision rules that individuals invoke to make rapid but incorrect judgments about whether to practice safe sex and that have been found to be directly related to levels of HIV risk behavior.

The first item in this section measures the ability of each respondent to identify four HIV associated acronyms, is assessed by being determined as correct or incorrect. If one acronym is incorrectly answered, the entire question is considered wrong. This item is not included in the total knowledge score. The
respondents are asked to convey his or her level of agreement by selecting one of three answer choices, ‘True’, ‘False’, and ‘Don’t Know’. Scoring the HIV information scale is completed by designating each item answered correctly a value of 1 or 0 for each incorrect answer, and then summing the item values. The items should then be summed to form an HIV prevention information scale score based on the following scale:

**Table 1: HIV Preventive Information Scale**

<table>
<thead>
<tr>
<th>Level of HIV Prevention Information</th>
<th># of Points for Questions Answered Correctly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Knowledgeable</td>
<td>45 – 49</td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>40 – 44</td>
</tr>
<tr>
<td>Somewhat Knowledgeable</td>
<td>35 – 39</td>
</tr>
<tr>
<td>Not Very Knowledgeable</td>
<td>≤34</td>
</tr>
</tbody>
</table>

Students answering 45 or more statements correctly are labeled “very knowledgeable.” Students with 40 to 44 correct responses are called “knowledgeable.” Students answering 35 to 39 statements correctly are identified as “somewhat knowledgeable.” Finally, students who answer 34 or fewer statements correctly are characterized as “not very knowledgeable.” This study hopes to demonstrate that a selected and restricted sample of undergraduate GVSU students that answer 40 or more statements correctly are more likely to practice safe sexual behaviors. On the other hand, those that answer 39 or less statements correctly are more likely to practice risky sexual behaviors.
Section three of the survey addresses HIV preventive behaviors. These are assessed mainly with two subscales, measuring the current level of sexual activity and discussion of safe sex, condom accessibility, condom use, and HIV testing, as well as with a number of single items that may be employed alone or in combination to reflecting a variety of safe versus risky sexual practices. Specifically, questions 50 through 61, respondents are asked to convey his or her level of agreement by selecting one of three answer choices, 'Yes', 'No', 'Not Applicable'. Questions 50 through 53 assess the level of sexual activity of each respondent, which can be associated with his/her risk level. Scoring sexual activity is tabulated by designating each item answered ‘Yes’ with a value of 1 and 0 for ‘No’ and ‘Not Applicable’ and then summing the items for a total. The higher the score the higher the level of sexual activity, thus the more at risk the respondent may be to contracting HIV.

Table 2: Level of Sexual Activity

<table>
<thead>
<tr>
<th>Level of Sexual Activity</th>
<th>Total Risk Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Sexual Activity</td>
<td>0</td>
</tr>
<tr>
<td>Some Sexual Activity</td>
<td>1-2</td>
</tr>
<tr>
<td>High Sexual Activity</td>
<td>3-4</td>
</tr>
</tbody>
</table>
On the other hand, questions 54 through 61 evaluate the level of HIV Preventive Behavior in current use by each respondent. Scoring the HIV preventive behavior scale is completed by designating each item answered 'Yes' or 'Not Applicable' with a value of 1 and 0 for each item answered 'No' and then summing the item values. The higher the score, the more HIV preventive behaviors are practiced and the less the risk.

Table 3: HIV Preventive Behavior Scale

<table>
<thead>
<tr>
<th>HIV Preventive Behavior/Level of Risky Sexual Behavior</th>
<th>Total Behavior Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Preventive Behavior/High Risk</td>
<td>4</td>
</tr>
<tr>
<td>Some Preventive Behavior/Medium Risk</td>
<td>6</td>
</tr>
<tr>
<td>High Preventive Behavior/Low Risk</td>
<td>8</td>
</tr>
</tbody>
</table>

Safe-sex discussion is measured with two items (55 and 65) that ask if the respondent has discussed HIV prevention with a sexual partner and if he or she has tried to persuade a sexual partner to practice only safe sex using a condom. Condom accessibility is assessed with two items (62 and 63) that ask respondents if they have purchased condoms and the extent to which they have kept condoms easily available. Condom use during sexual intercourse is assessed with three items (58 and 64) that ask respondents about their frequency of condom use during intercourse. These items are standardized (because of their varying response formats) and summed to produce an indicator of condom use; within a university sample.
Several additional items measuring HIV risk and HIV preventive behaviors are included in the HIV preventive behavior portion of the questionnaire. Items 61 and 62 assess the respondent's HIV testing behavior prior to the time interval of the questionnaire and ask about the type of site (e.g. a clinic or doctor's office) they may have used for an HIV test. Items 63 and 64, are measured on a scale of 'Always', 'Sometimes', 'Never', and 'Not Applicable'. 'Always' is valued as 1 and 'Sometimes', 'Never', and 'Not Applicable' is valued as 0. Finally, the survey asks respondents to report whether they have made an appointment for an HIV test (Item 59), and whether have actually had an HIV test (Item 60).

The information revealed as a result of the third component hopes to demonstrate a correlation between HIV knowledge and preventive sexual behaviors. A selected and restricted sample of undergraduate GVSU students with low HIV knowledge will possess low HIV preventive sexual behaviors, thus high risky sexual behaviors. In contrast, students with high HIV knowledge will possess high HIV preventive sexual behaviors, thus low risky sexual behaviors.

**Table 4: HIV Prevention Information and Behavior Contingency Table**

<table>
<thead>
<tr>
<th>Level of HIV Preventive Information</th>
<th>Low/High</th>
<th>Medium</th>
<th>High/Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid-low</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Mid-High</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.2.2 Subject Selection

GVSU’s total undergraduate student body is 22,063; 4,092 freshman, 4,456 sophomores; 3,809 juniors; 5,036 seniors; and 3,570 graduate students. The racial makeup is 88.0 percent are White/Non-Hispanic, 4.6 percent are Black/Non-Hispanic, 2.7 percent are Hispanic, 2.3 percent are Asian, and less than one percent are Native American. In addition, 62.0 percent of the student body is female. In the goal of accumulating a sufficient sample size (n) of undergraduate GVSU students, the study targets 200 respondents attending GVSU as designated by the university as either freshman, sophomore, junior, or senior and unmarried between the ages of 18-25 and have not completed a Bachelor’s Degree.

This research study utilizes the accessibility of a convenient sample. A convenience sample is a type of non-probability sampling and is not random. It uses available units and cannot be used to generalize, in other words it cannot be used to draw inferences or conclusions. However, a convenient sample provides illustrative material about the sample and opens the door for further exploratory studies.

The sample for this study is a selected and restricted pool of undergraduate students at GVSU obtained by surveying the courses of several professors instructing undergraduate public administration, social work, and general education social science courses. Specifically, the public administration and school of social work programs were chosen because of the researcher’s
familiarity with several faculty members who are likely to assist with the study. Fortunately, some of the professors also taught the general education courses and volunteered to distribute the study among these courses as well. Due to the affiliation of the researcher with both the social work and public administration programs, it was concluded that administration of the survey by the principal investigator would breach confidentiality of the survey participants. In support of the chosen method of dissemination, similarly for mail and/or phone surveys, the principal investigator is not present to proctor the measurement tool. As a result, the researcher’s contact number and email address were included on the informed consent form should the participants have any questions.

Each professor received a correspondence (Appendix A) via their GVSU electronic mail account and was asked to respond whether or not they would agree to disseminate the survey. After confirmation and agreement to participate, 350 surveys were disseminated to fifteen classes.

3.2.3 Research Limitations

The study is restrictive, thus naturally, a number of factors may pose a threat. Internally, ensuring that the independent and dependent variable are causally related, and both selection bias and design contamination is the most serious threat to validity in the context of this study. In terms of selection bias, this survey is not able to collect a truly random sample, as each subject will complete the survey on a voluntary basis. By definition randomness may not be related to willingness to participate in the survey. However, willingness to
complete a survey about HIV/AIDS and personal sexual activity may or may not be related to a subject's bias concerning the issues. Due to the nature of study centered on the sensitive topic of HIV/AIDS and sexual behaviors of unmarried individuals and knowledge of being a part of a study addressing such a topic, participants may alter their response to the survey. In addition, if students participating in the study discuss the survey among other participants prior to or during self-administration, student participants may alter their responses.

Other threats to internal validity include history, statistical regression, and experimental mortality. In terms of history, students with extensive HIV/AIDS knowledge, personal relationships with individuals who are HIV+ or with AIDS, and/or previous sexual experiences that may have caused a change in sexual behaviors could affect the current sexual behaviors of participants, thus the responses to the survey. If participation in the study were low, students would have been hand-selected to take the survey. As a result, statistical regression could become an internal threat. Experimental mortality may also be an internal threat if participants begin the survey without completion because of a number of circumstances, including time constraints and/or interruptions.

External validity, the issue of generalizing the findings of a study beyond the specific cases involved, is threatened by one major factor of selection bias. This study is exploratory, thus not a broad statement and/or meant to be generalized to populations outside of the selected and restricted undergraduate Grand Valley State University students surveyed, but were
utilized to see if results of knowledge and behavior are similar to previous studies. The response of students approached by their professor to complete a survey could have influenced the participation and varied from those approached in a different manner, such as an invitation via email, GroupWise or Blackboard, to participate. In addition, history could affect external validity due to the recent surge in media participation against the fight of HIV/AIDS. However, the method of dissemination via courses with the instructor’s permission was chosen to increase the probability of obtaining a sufficient sample size. The next section identifies the independent and dependent variable and describes the procedures applied for data analysis.

3.3 Variables

For the purpose of developing a true sense of the current level of HIV knowledge and preventive behaviors of a selected and restricted sample of undergraduate students at GVSU, this research study utilizes the IMB Skills Model as a basis to examine personal responses to HIV preventive information, the independent variable, and HIV preventive behaviors, the dependent variable, as applied to the respondent’s sexual activity and potential sexual activity.
Table 5: Variable Names, Definitions, and Measurements

<table>
<thead>
<tr>
<th>Variable ID</th>
<th>Definition</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIVPI</td>
<td>The independent variable; HIV/AIDS fundamentals, such as transmission and</td>
<td>True/False/Don’t Know Value of 1 to each correct</td>
</tr>
<tr>
<td></td>
<td>knowledge relevant to preventive behavior</td>
<td>answer, Value of 0 to each incorrect answer</td>
</tr>
<tr>
<td>HIVPB</td>
<td>The dependent variable; Discussion of safe sex, condom accessibility,</td>
<td>Yes, No, Not Applicable Value of 1 for safe</td>
</tr>
<tr>
<td></td>
<td>condom use, HIV testing, and safe versus risky sexual practices</td>
<td>sexual practices, Value of 0 for risky sexual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>practices</td>
</tr>
</tbody>
</table>

HIV preventive information is defined as basic HIV/AIDS fundamentals such as the definition of the acronyms. It is also defined as the knowledge relevant to preventive behavior such as the effectiveness of condoms in preventing the contraction of HIV, modes of transmission, information specifically relevant to university students, as well as myths and misconceptions about HIV information. HIV preventive behaviors address the discussion of safe sex, condom accessibility, condom use, HIV testing, and areas regarding safe versus risky sexual practices. This study hopes to demonstrate and confirm that there is a relationship between HIV preventive behavior (safe sexual behaviors) and HIV preventive knowledge (accurate HIV information).

\[ \text{HIV Preventive Behavior} = f(\text{HIV Preventive Information}) \]
3.4 Statistical Analysis

The statistical analysis used for this study includes frequency distribution tables, means, modes, and medians, contingency tables, chi-square calculation, and difference of means test. The frequency distribution tables are used to capture the most frequent responses obtained from HIV Preventive Information and Behavior sections of the survey. Both sections were designed as dichotomous data questions (questions with two possible responses), in which 'Yes' and 'No' were the answer choices. 'Not Applicable' was also included on each question to not exclude any research participant. Each answer is translated into dummy variables of 0 (zero) and 1 (one). One point (1) was given to each statement answered correctly in the HIV Preventive Information section of the survey, then tallied for a composite score. Each question was also tabulated to observe which questions were most often answered incorrectly.

In the HIV Preventive Behavior section, the first four questions were designed to identify sexual activity. A point (1) was given to each statement with "Yes" as the response and tallied to identify the level of sexual activity; the more points the higher the level of sexual activity. The following eight questions all represented activities of preventive behavior. Each 'Yes' and 'Not Applicable' response was given one point (1), then added together to obtain a score. The average total score for each area was also computed.
The difference of means tests were implemented to identify whether or not the scores of each area (information, sexual activity, and behavior) were different between, gender (male/female), race (white/non-white), and undergraduate status (underclassmen/upperclassmen). The t-statistic/or the p-value can be used to determine the level of significance. A contingency table analysis then provides a chi-square calculation, along with a p-value, which was utilized to gage the relationship between HIV preventive knowledge and behavior. The next chapter discusses these findings in detail.

3.5 Conclusions

This chapter has revealed how this study utilizes the case study research design as a form of elicitation research to determine the current HIV/AIDS knowledge and preventive sexual behaviors of a selected and restricted sample of undergraduate Grand Valley State University students. Yet, it also lists the pros and cons of the case study research design. It also detailed the GVSU undergraduate population in which the sample was obtained and the internal and external validity and threats of the study. It concluded with an adapted "Health and Relationships Survey", how its scored, and its major components of HIV preventive information, the independent variable, and HIV preventive behaviors, the dependent variable of the study.
CHAPTER 4
PREVENTION KNOWLEDGE AND RISK: THE RESULTS

4.1 Introduction

The finding component of this study is a summary of the information received from respondents as a result of the survey. It reveals the current level of knowledge and awareness of HIV/AIDS, sexual activity, preventive sexual behaviors, and knowledge of GVSU prevention services and resources; and demonstrates how the level of HIV preventive information impacts the HIV preventive behaviors among a selected and restricted sample of undergraduate college students at GVSU. This chapter is comprised of the response rate of the survey, demographic information of the participants, and the actual responses and frequencies of the survey in relation to the research purpose and problem.

The purpose of this study is to determine the current level of knowledge and awareness of HIV/AIDS among undergraduate college students at Grand Valley State University; the current level of sexual activity and HIV preventive behavior among undergraduate college students at Grand Valley State University; the knowledge of campus resources for STDs and HIV/AIDS prevention and testing at Grand Valley State University (GVSU); and whether the current STD and HIV prevention services at GVSU are meeting the needs of the students. The research problem in which this study addresses is the HIV knowledge deficiencies of at risk populations. The majority of existing research on HIV
knowledge either reports a high level among college students or recognizes the lack of HIV awareness, but fails to identify and make recommendations to address the areas of deficiency.

4.2 Findings

Overall, of the 350 surveys that were distributed, 210 were returned. Of these, 133 of the respondents are from social work courses, 46 are from public administration courses, and 31 are from social science courses.

4.2.1 Demographic Data

The design of the research tool and the emphasis of the study produced relevant demographic data in order to provide important information about the sample of this study, while maintaining confidentiality. The demographic section of the survey includes four questions on gender, race/ethnicity, age, and college classification. Table 6 presents the different attributes or categories for each variable. The majority (87.5 percent) of the respondents are female, compared to GVSU’s female population of 62 percent. In addition, almost half (45.2) of the respondents are between the ages 20-21 and 3.4 percent are between 24 and 25 years old. The racial distribution of the respondents is very similar to the GVSU population. For example, 88.0 percent of the GVSU student population is White and 89.8 percent of the survey respondents are White. In addition, 4.6 percent of Grand Valley is Black/Non-Hispanic compared with 4.9 percent of the survey respondent; 2.7 percent of the students at Grand Valley
are Hispanic but 1.9 percent of the survey subjects are Hispanic. Finally, 32 percent of the respondents are seniors; 26 percent juniors; 20 percent are sophomores and 22 percent are freshmen.

**Table 6**  
**Number and Percent of Selected Demographic Attributes of the Respondents**

<table>
<thead>
<tr>
<th>Demographic Information</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>26</td>
<td>12.5%</td>
</tr>
<tr>
<td>Female</td>
<td>182</td>
<td>87.5%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-19 years old</td>
<td>58</td>
<td>27.9%</td>
</tr>
<tr>
<td>20-21 years old</td>
<td>94</td>
<td>45.2%</td>
</tr>
<tr>
<td>22-23 years old</td>
<td>49</td>
<td>23.6%</td>
</tr>
<tr>
<td>24-25 years old</td>
<td>7</td>
<td>3.4%</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Non-Hispanic</td>
<td>183</td>
<td>88.8%</td>
</tr>
<tr>
<td>Black/African American/Non-Hispanic</td>
<td>10</td>
<td>4.9%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4</td>
<td>1.9%</td>
</tr>
<tr>
<td>American Indian or Alaska Native or Aleut</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>5</td>
<td>2.4%</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>1.5%</td>
</tr>
<tr>
<td><strong>Class Standing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshmen</td>
<td>45</td>
<td>21.6%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>41</td>
<td>19.7%</td>
</tr>
<tr>
<td>Junior</td>
<td>55</td>
<td>26.4%</td>
</tr>
<tr>
<td>Senior</td>
<td>67</td>
<td>32.2%</td>
</tr>
</tbody>
</table>
The 4-part, 69-question ‘Health and Relationships Survey’ begins with an informed consent letter as the cover page, which describes the purpose of the study, how long it will take to participate, possible benefits and risks to participants, states the right for the participant to ask questions about the study and a contact person, emphasizes participation is voluntary, as well as the confidentiality of the study. Each participant informed consent form was a resource page of campus and local agencies providing HIV testing, counseling, and materials. The reverse side of the informed consent form was a resource page of campus and local agencies providing HIV testing, counseling, and materials. Only nine respondents kept the informed consent form/resource page for reference.

The results central to the research study were analyzed from two particular sections of the survey. However, a question before the first main segment of the survey requested that the respondent name four (HIV, AIDS, STI, and STD) acronyms germane to the topic of HIV. Out of 210 respondents, only twelve correctly wrote the meaning of each acronym. In other words, only 6 percent of the sampled population was able to correctly answer this question.
4.2.2 HIV Preventive Information Knowledge

The first section addresses HIV preventive information where questions are asked to respondents addressing their knowledge of HIV/AIDS. The respondents could answer ‘Yes’ or ‘No’ for each item and receive a point for each question answered correctly. Each item was combined for a total knowledge score. Participants with a score of 34 or less are ‘not very knowledgeable’ about HIV preventive information. A score from 35 to 39 means the respondent is ‘somewhat knowledgeable’ about HIV; a score from 40 to 44 indicates a ‘knowledgeable’ level of HIV preventive information; and ‘very knowledgeable’ is denoted by a score from 45 to 49. Overall, not one respondent is ‘very knowledgeable’ about HIV, whereas over half of the sample (113), are ‘not very knowledgeable’ about HIV. Table 7 presents the numbers and percents for different levels of knowledge.

Table 7
Numbers and Percents of Respondents and Respective HIV Preventive Information Knowledge Scale

<table>
<thead>
<tr>
<th>HIV Preventive Information</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Very Knowledgeable</td>
<td>113</td>
<td>53.81%</td>
</tr>
<tr>
<td>Somewhat Knowledgeable</td>
<td>83</td>
<td>39.52%</td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>14</td>
<td>6.67%</td>
</tr>
<tr>
<td>Very Knowledgeable</td>
<td>0</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

Notes: The average number of correct responses is 34 with a standard deviation of 4.4.
The average HIV preventive information score of the 210 survey respondents is 34. The lowest total knowledge score is 16 and 43 is the highest total knowledge score. The median is also 34. Overall, only five questions were consistently answered correctly (97 percent or higher). Table 8 presents these questions, the number of correct and the percent correct. In addition, Table 8 also provides the top five questions that were answered incorrectly.
Table 8
Top 10 HIV Preventive Information Items Correctly/Incorrectly Answered

<table>
<thead>
<tr>
<th>Question</th>
<th>Corr.</th>
<th>Incorr.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. If you know a person’s sexual history and lifestyle before you have sex with him/her, it is unnecessary to use condoms.</td>
<td>203</td>
<td>7</td>
<td>97%</td>
</tr>
<tr>
<td>44. You can tell whether a potential sex partner is at risk for AIDS by how he/she dresses and looks.</td>
<td>207</td>
<td>3</td>
<td>99%</td>
</tr>
<tr>
<td>45. When you feel you have gotten to know someone very well, you no longer need to practice safe sex with him/her.</td>
<td>206</td>
<td>4</td>
<td>98%</td>
</tr>
<tr>
<td>47. As long as a person doesn’t belong to a “high risk” group such as gays or drug users, you really don’t need to worry about getting the virus that causes AIDS from him/her.</td>
<td>208</td>
<td>2</td>
<td>99%</td>
</tr>
<tr>
<td>49. Individuals in urban areas should definitely follow safe sex guidelines, but individuals in rural areas really don’t need to.</td>
<td>207</td>
<td>3</td>
<td>99%</td>
</tr>
<tr>
<td>13. There are no cases of people getting the virus that causes AIDS from contact with saliva.</td>
<td>84</td>
<td>125</td>
<td>60%</td>
</tr>
<tr>
<td>15. People have gotten the virus that causes AIDS by donating blood.</td>
<td>58</td>
<td>152</td>
<td>72%</td>
</tr>
<tr>
<td>37. College students who get infected with the virus that causes AIDS during college will feel fine and show no symptoms of AIDS throughout their college career.</td>
<td>88</td>
<td>122</td>
<td>58%</td>
</tr>
<tr>
<td>38. At the GVSU Health Center, condoms may be purchased 8 for $1.</td>
<td>87</td>
<td>123</td>
<td>59%</td>
</tr>
<tr>
<td>43. Having a sexually transmitted disease such as syphilis, herpes, chancroid, gonorrhea, etc, increases one’s chance of HIV infection.</td>
<td>68</td>
<td>142</td>
<td>68%</td>
</tr>
</tbody>
</table>
Is HIV knowledge different for males and females, white and nonwhites, or class status? Table 9 presents these results. The difference of means test reveals although males and females are by group, “not very knowledgeable,” females have significantly higher scores than males (t=1.98, p-value=0.02). In addition, whites have significantly higher scores than non-whites (t=1.88, p-value=0.03), although both groups are not very knowledgeable. There is no difference (t=-1.04, p-value=0.15) between upper-classman (juniors and seniors) and under-classman (freshmen and sophomores).

Table 9
Difference in Means Test For Selected Variables and HIV Preventive Knowledge

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>Race</th>
<th>College Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>Average</td>
<td>33.7</td>
<td>31.9</td>
<td>33.7</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>4.2</td>
<td>5.9</td>
<td>4.4</td>
</tr>
<tr>
<td>Observations</td>
<td>183</td>
<td>26</td>
<td>187</td>
</tr>
<tr>
<td>t-stat</td>
<td>1.98</td>
<td>1.88</td>
<td>-1.04</td>
</tr>
<tr>
<td>p-value</td>
<td>0.02</td>
<td>0.03</td>
<td>0.15</td>
</tr>
</tbody>
</table>

4.2.3 HIV Preventive Behavior and Risk

The second section is where the respondents are asked to disclose their level of HIV preventive behavior in the areas of sexual activity and actions of preventive behavior. These items are also measured on a dichotomous scale of ‘Yes’ and ‘No’ and tallied for a composite score. The sexual activity questions 50 through 53 examine whether the respondent has ever been sexually active.
Sexual activity is computed whereas questions with a response of ‘Yes’ receive a value of 1. On the other hand, a response of ‘No’ or ‘Not Applicable’ receives a value of 0. The four questions are calculated to assess the level of sexual activity. If the total score equals 4 or 3, the respondent has a ‘high’ level of sexual activity. ‘Some’ sexual activity is measure by a total score of 2 or 1. ‘No’ sexual activity is measured by a total sum of zero. The higher the level of sexual activity, the more at risky the respondent’s behavior is considered. The results suggest approximately 70 percent of the respondents are sexually active. Table 10 presents the three different levels of sexual activity.

<table>
<thead>
<tr>
<th>Level of Sexual Activity</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Sexual Activity</td>
<td>63</td>
<td>30.0%</td>
</tr>
<tr>
<td>Some Sexual Activity</td>
<td>57</td>
<td>27.1%</td>
</tr>
<tr>
<td>High Sexual Activity</td>
<td>90</td>
<td>42.9%</td>
</tr>
</tbody>
</table>

Notes: The average sexual activity is 2 with a standard deviation of 1.7.

The average and median level of sexual activity is equal at score of two (2). However, the mode, the score that occurs most often among the level of sexual activity is four (4). The score indicates a high level of sexual activity among this sample of undergraduate college students.

Are sexual activity levels different for males and females? White and non-whites? Upper-classman and under-classman? Difference of means test reveals there is no significant difference in sexual activity between the males and...
females (t-stat=0.91; p-value=0.18) and the white and non-white respondents (t-stat=0.83; p-value=0.20). However, the under and upper-classmen are significantly different in their level of sexual activity (t-stat=-4.20; p-value=0.00). Table 11 presents the difference of means test results.

Table 11
Difference in Means Test For Selected Variables and Preventive Behavior/Level of Sexual Activity

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>Race</th>
<th>College Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>M</td>
<td>White</td>
</tr>
<tr>
<td>Average</td>
<td>2.1</td>
<td>1.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.7</td>
<td>1.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Observations</td>
<td>183</td>
<td>29</td>
<td>187</td>
</tr>
<tr>
<td>t-stat</td>
<td>0.91</td>
<td>-0.83</td>
<td>-4.20</td>
</tr>
<tr>
<td>p-value</td>
<td>0.18</td>
<td>0.20</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The following eight questions, 54 through 61, represent actions of preventive behavior. Participants are asked to respond about certain personal actions toward HIV preventive behavior, like condom usage, testing, and discussion with sex partners. Responses of ‘Yes’ and ‘Not Applicable’ receive a value of 1. A ‘No’ response is measured as a value of zero. If the total score of the eight questions amount to 4 or less, the respondents practice little to no safe sex and are highly at risk for contracting HIV. Respondents who practice ‘some’ safe sexual behaviors receive a score of 6 or 5. These respondents possess a medium level of risky behavior. A total score of 8 or 7 represents respondents that often or always practice safe sex, possessing high preventive behavior and
low risky behaviors. The majority of the participants, 67 percent, do not often practice HIV preventive behaviors. In turn, the level of risky behavior is high. For example, only 26 respondents (12.4 percent) are considered risk adverse. Table 12 presents these results.

<table>
<thead>
<tr>
<th>HIV Preventive Behavior/Level of Risk</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Preventive Behavior/High Risk</td>
<td>141</td>
<td>67.1%</td>
</tr>
<tr>
<td>Some Preventive Behavior/Medium Risk</td>
<td>43</td>
<td>20.5%</td>
</tr>
<tr>
<td>High Preventive Behavior/Low Risk</td>
<td>26</td>
<td>12.4%</td>
</tr>
</tbody>
</table>

**Table 12**

HIV Preventive Behavior – Preventive/Risky Behavior

Notes: Average preventive behavior is four with a standard deviation of 2.3

Unlike HIV preventive knowledge and sexual activity, there is no significant difference in HIV preventive behavior between the males and females (t-statistic=1.23; p-value=0.11). Nonetheless, race and college classification are significantly different in terms of HIV preventive behavior. The results suggest nonwhites are riskier than whites (t statistic=-1.70; p-value=0.05). In addition, upperclassmen have significantly riskier behaviors than underclassmen (t statistic=1.87; p-value=0.03). Table 13 presents these results.


Direct observations of the frequencies for HIV preventive information and behavior illustrate that the majority of the surveyed respondents have little to no HIV knowledge, are highly sexually active, and possess low preventive behaviors, and high risky behaviors. What is left unanswered, here, is: Is behavior dependent upon HIV knowledge? Our analysis suggests there is no relationship between these two variables. For example 56.0 percent of risk takers, 51.2 percent of medium risk takers, and 46 percent of the risk adverse are not very knowledgeable. Thus, the respondents that are sexually active lack the same knowledge of HIV as those that are not sexually active. If a relationship exists, we would see the levels of knowledge change as one becomes more or less risky. Table 14 presents these results.
Table 14

Cross Tabulations of HIV Knowledge Levels and HIV Preventive Information/Behavior

<table>
<thead>
<tr>
<th>Level of HIV Knowledge</th>
<th>Level of HIV Preventive Behavior/Risk</th>
<th>Low/high</th>
<th>Medium</th>
<th>High/low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Very Knowledgeable</td>
<td></td>
<td>79</td>
<td>22</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(56.0%)</td>
<td>(51.2)</td>
<td>(46.2)</td>
</tr>
<tr>
<td>Somewhat Knowledgeable</td>
<td></td>
<td>52</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>Knowledgeable</td>
<td></td>
<td>(36.9)</td>
<td>(46.5)</td>
<td>(42.6)</td>
</tr>
<tr>
<td>Knowledgeable</td>
<td></td>
<td>10</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(7.1)</td>
<td>(2.3)</td>
<td>(7.7)</td>
</tr>
</tbody>
</table>

Grand Total            |                                      | 141      | 43     | 26       |

Notes: Gamma is 0.097 with a p-value of 0.433

4.3 Conclusions

This chapter has revealed the current level of knowledge and awareness of HIV/AIDS, sexual activity, preventive sexual behaviors among a selected and restricted sample of undergraduate college students at GVSU. The next chapter highlights the deficiencies of the sample and determines whether the current STD and HIV prevention services at GVSU are meeting the needs of the selected and restricted sample of undergraduate GVSU student.
CHAPTER 5
DISCUSSION OF FINDINGS AND CONCLUDING REMARKS

5.1 Introduction

HIV and AIDS are just as prevalent now as it was in the early 1980’s. Specifically, in the United States, women, African Americans, and youth are emerging as the face of growing statistics. Since there is no cure, education and prevention is important to halting the spread of HIV and AIDS. However, first, the current knowledge level of at-risk populations, and others, must be revealed to appropriately address misconceptions and deficiencies in HIV awareness and ultimately change at-risk behaviors. Many studies report a high knowledge level or acknowledge the overall lack of HIV awareness. However, few identify and make recommendations to address the knowledge deficiencies, specifically in at-risk populations.

The purpose of this study is to determine the current level of knowledge and awareness of HIV/AIDS among undergraduate college students at Grand Valley State University; the current level of sexual activity and HIV preventive behavior among undergraduate college students at Grand Valley State University; the knowledge of campus resources for STDs and HIV/AIDS prevention and testing at Grand Valley State University (GVSU); and whether the current STD and HIV prevention services at GVSU are meeting the needs of the students. The study utilizes the case study research design based on the measurement tool of the IMB Skills Model to determine the current HIV/AIDS knowledge and
preventive sexual behaviors of a selected and restricted sample of undergraduate Grand Valley State University students.

5.2 Lack of Knowledge

Youth are unleashed with an immense amount of control and direction over their lives. For many young people, this newfound freedom also includes sexual freedom and exploration. However, they often fail to recognize that with freedom and exploration comes a greater sense of responsibility. Young people are naturally curious about sex; but the literature review of this study demonstrates that many people find explaining sex inconvenient or uncomfortable and, consequently, avoid providing clear and healthy information about sex to those who depend on them for guidance.

The reality is that members of older generations are still not aware of the dangers of sexual pressure, sexually transmitted diseases (STDs), and the absolute importance of proper condom use to halt the spread of HIV/AIDS and STD's. Research reveals that many individuals currently living with HIV and Acquired Immunodeficiency Syndrome (AIDS) were infected during adolescence and young adulthood. Thus, this time of life is critical for health-protection programs.

More than two decades after the start of the epidemic, this study supports the claim that the vast majority of young people remain uninformed about sex and sexually transmitted diseases, specifically HIV. First, the Health and
Relationship Survey forced respondents to examine their knowledge of HIV and personal sexual behaviors. Even though, the majority of respondents possess little to no HIV knowledge, are highly sexually active, and rarely practice safe sex, only nine were concerned with the nature of the study to keep the informed consent form with the resource page on the reverse side. So, few respondents demonstrates the lack of concern in which this sample of undergraduate students at GVSU has about HIV/AIDS. In addition, very few respondents know what HIV, AIDS, STI, and STD represent. The acronyms are so interconnected that if you know what one or two stand for, you will know the others. If college students do not have a clue about what the disease is, its abilities, and consequences, how can they protect themselves from contracting the deadly virus?

In addition, the majority of the sampled population believes that other sexually transmitted diseases, such as syphilis, herpes, chancroid, gonorrhea, do not increase one’s chances of HIV infection. They also believe that people can contract HIV from saliva. However, the fact is that other sexually transmitted diseases immensely increase one’s chances of contracting HIV because one’s immune system is already weak and being attacked and health educators claim that it will take nearly one gallon of saliva consumed at one time to transmit a small amount of HIV via saliva. These are a few of the many misconceptions, which continue to perpetuate low levels of HIV knowledge.
5.3 Risky Behavior

The data analysis results on the lack of safe sexual behaviors among the sexually active respondents, supports a need for a proactive effort to promote condom use among sexually active undergraduate students at GVSU. Seventy-six (76) percent of the 147 respondents that are sexually active never or sometimes have used condoms during sexual intercourse in the last year. Thus, they have placed themselves and their partners at risk of contracting HIV and other STD's.

<table>
<thead>
<tr>
<th>Condoms During Sexual Intercourse</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>30</td>
<td>24.4%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>76</td>
<td>61.8%</td>
</tr>
<tr>
<td>Never</td>
<td>17</td>
<td>13.8%</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

In addition, of the respondents 93 who are sexually active and do not regularly use condoms, 81 percent, either never or only sometimes try to persuade their sex partner(s) to practice only safe sex. Thus the majority of the sexually active respondents have a higher risk of contracting HIV and other sexually transmitted diseases.
Table 16
Persuasion of Safe Sex During Sexual Intercourse in the last Year

<table>
<thead>
<tr>
<th>Persuasion to Practice Safe Sex</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>16</td>
<td>17.58%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>45</td>
<td>49.45%</td>
</tr>
<tr>
<td>Never</td>
<td>30</td>
<td>32.97%</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

On the other hand, 30 percent of the respondents are not sexually actively, thus possess high preventive behavior. Yet, the level of HIV knowledge is extremely low. Thus, upon these respondents first sexual encounter, will they be equipped with the fundamental knowledge about safe sex, HIV, and other STD’s to protect them? The data analysis of this study suggests not.

The respondents also lack knowledge and awareness about the HIV and STD testing resources at their very fingertips. The GVSU Health Center provides condoms 8 for $1. Since the nearest convenience store that sells condoms is nearly three miles from GVSU, the knowledge of a cheaper and closer resource of condoms for sexually active respondents of this sample may increase the practice of safe sexual behaviors. However, only 41 percent of the respondents are knowledgeable about the condom services of the GVSU Health Center.
In fact, the research findings suggest that health educators should be overwhelmingly concerned with the negligent sexual activity and at risk sexual behaviors of college students, particularly among the most vulnerable students—non-white males. Are the current STD and HIV prevention services at GVSU meeting the needs of the selected and restricted sample of undergraduate GVSU students? These results demonstrate that the university does not meet the needs of this sample.
CHAPTER 6

CONCLUSIONS

Are the current STD and HIV prevention services at GVSU meeting the needs of the selected and restricted sample of undergraduate GVSU students? These results suggest that the needs are not being met. For example, the surveyed undergraduate GVSU students are not utilizing the existing services provided by the campus health center due to lack of awareness of existence. Also, the majority of the respondents who are sexually active do not always practice safe sex. One reason may be the limited proactive effort and promotion of existing services. In addition, the lack of discussion and importance of sexual health may also suggest a lack of promotion and use of services. As a country, we inundate our youth with the importance of textbook education. However, physical, mental, emotional, and sexual health education is tremendously lacking in proactive efforts to address deficiencies.

The elicitation research has revealed a need for factual, consistent, repetitious interactive dialogue about HIV/AIDS and other sexually transmitted diseases. How will we ever know if HIV education has an impact on changing at risk sexual behaviors, if educational and awareness programs are seldom implemented and applied? Three key recommendations are suggested as a result of the findings of the data analysis. The first recommendation is to include a mandatory sexual health course in the general education curriculum for freshmen students entering college. Each student should be required to take
the course during the first semester. In addition, the course could also be scaled down to be concentrated into four to six weeks. The curriculum should emphasize the fundamentals of HIV/AIDS including transmission, dispelling myths and conceptions, and prevention. The curriculum should also perpetuate constant interactive and open discussions about sex and STDS. An HIV/AIDS education course should also be required for Health Science and Nursing degree, minors and majors. On the other hand, a long-term elective curriculum could also be developed that requires a sexual health course each semester for the entire undergraduate career. Once a student chooses to begin the course series, it must be completed.

The second recommendation is a one-day conference on HIV/AIDS that targets the college population between the ages of 18-25 to increase their awareness about HIV and how it spreads, while encouraging the youths not to participate in risk behaviors that increase vulnerability to the disease. The conference would provide a series of interactive workshops to inform the college population of the severity of the virus. Although the conference would only run for one-day, a collaborative and massive effort in areas of recruitment, activities, personnel, facilities, equipment, evaluation, dissemination, and sequencing is necessary for completion and success. It could be organized around the National HIV Observance Days, such as World AIDS Day (December 1) and National HIV Testing Day (June 27).
The conference goal and objective could be similar to those below.

**Goal:** To change “at risk” behaviors of teens that could lead to STIs and HIV/AIDS, through education, dialogue, and interactive activities.

**Objectives:**

1. Increase the awareness and knowledge among 500 undergraduate GVSU college students about STIs and HIV/AIDS and their impact on youth by the end of the Fall Semester of 2006 through educational workshops measured by a pre- and post-survey and workshop evaluation.

2. Increase the motivation of 500 undergraduate GVSU college student to change existing “at risk” behaviors by abstaining from sexual activities or practicing safe sex through interactive workshops, measured by the pre- and post survey and workshop evaluations.

3. Increase the awareness of campus and local healthcare facilities for the testing and treatment of STIs and HIV/AIDS of 500 undergraduate GVSU college student through educational workshops measured by workshop evaluations.
The third recommendation is for the Student Life Office to develop and implement a major sexual health component that provides monthly workshops on various issues associated with HIV/AIDS. The program could be a collaborative effort between Student Life, the campus health center, and other local health agencies such as the Sexual Health Awareness Coalition of Kent County (SHACK), HIV and AIDS Services (HAS), the African American AIDS Coalition (AAAC) and Hispanics Against AIDS (HAA). The monthly workshops should be offered at different times to enable a high participation level of students who take evening courses. The sexual health component should be staff by certified health educators. In addition, collaboration with other student organizations, such as fraternities, sororities, and other social student organizations could help reach a large population of undergraduate college students that are often at risk of contracting HIV. Also, weekly visits to dormitories and residence halls to provide HIV and STD testing should be a segment of the program curriculum. The program could also provide HIV education and training for residence hall and multicultural directors and assistants. The program could supply and promote condom vending machines in dormitories to increase the ease of access for sexually active students.

If funding for such a program is not included in the departmental budget, federal, state, and non-profit grants are often available to implement pilot programs. Funding could also be obtained by developing a theatrical performance on HIV and AIDS performed by the student body. All proceeds
would assist in funding programs of the health component. The theatrical performance could also be a program alone to raise HIV/AIDS awareness.

The research has revealed the current lack of HIV preventive knowledge and behavior among the surveyed undergraduate students at Grand Valley State University. The fact that these college students are not educated about HIV/AIDS increases their vulnerability in contracting the disease. Conclusively, the study demonstrates the need for an increased effort in HIV awareness. The recommendations provide options to approaching HIV/AIDS education and prevention. Yet, implementation requires a joint effort and belief of the need of HIV/AIDS education among students, parents, health educators, and administrators.
APPENDIX A

EMAIL CORRESPONDENCE TO PROFESSORS

My name is Regine Rucker. I am currently a candidate for a Masters in Public Administration, with an emphasis in Public Management here at Grand Valley State University. My interest is in HIV/AIDS prevention and education. Currently, I am in my last semester to complete my degree in the Spring Semester of 2005.

I am conducting a research study for the Masters Thesis course, PA 695, on the HIV/AIDS knowledge of college students. The title is "College students: the most vulnerable to HIV/AIDS, yet the least educated and concerned". The purpose of this study is to determine:

- The current level of knowledge and awareness of HIV/AIDS among undergraduate college students at Grand Valley State University;
- The campus resources for STDs and HIV/AIDS prevention and testing at Grand Valley State University (GVSU);
- How the knowledge and access to campus resources for HIV/AIDS prevention and testing influences preventive sexual behaviors, and ultimately,
- Whether the current STD and HIV prevention services at GVSU are meeting the needs of the students.

To maintain confidentiality, a packet of surveys in an envelope will be provided for you to disseminate to students for each undergraduate course. Participation in this study is voluntary and is not to be linked whatsoever to course assignments or grades. Thus, students have the right to refuse to participate.

It is recommended that the survey be distributed at the beginning of class to obtain a representative sample. The survey takes approximately 20 minutes to complete. Please read aloud to your class the Informed Consent form provided as the cover of each survey and emphasize that each student can feel free to take the cover letter. It is possible that some students may receive the opportunity to take the survey more than once. Please inform your students that do not have to take the survey again if taken in another course. After the surveys are completed, please seal the surveys in the provided envelope. Retrieval of the survey will occur within two days of being administered.

Please respond as to whether you agree to assist in the facilitation of this research study. For further questions or concerns, please contact Regine Rucker at (616) 331-6573 or ruckerr@gvsu.edu. Thank you for your consideration.
APPENDIX B
HEALTH AND RELATIONSHIPS SURVEY

Dear Survey Participant,

You have been selected to participate in this study to measure your level of HIV/AIDS awareness. The following survey is part of a Masters Thesis Research Project for Public Administration 695. Upon completion of reading this letter, you are asked to verify that you have completely read and comprehend the purpose of the survey and agree to participate. This survey is being conducted to determine the current level of knowledge and awareness of HIV/AIDS among undergraduate college students at Grand Valley State University and determine how HIV knowledge influences preventive behaviors.

Participants under the age of 18 are not to participate. Participation in this study is not compensated. Participation is voluntary; “You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigators or Grand Valley State University. Participation in this study is voluntary and is not to be linked whatsoever to course assignments or grades. Your participation in this study was chosen as a matter of convenience. As a result, to maintain confidentiality, a packet of surveys, in an envelope, have been provided for your professor to disseminate to students in each undergraduate course. Survey respondents also will not be required to provide their name or any other identifying information (beyond basic demographics). In addition, because data will be collectively analyzed there will be no way of identifying individual respondents. The survey should take approximately 20 minutes to complete. Please be aware that the survey is double-sided, thus you must turn each page over on its reverse to complete the entire survey. Your decision on whether or not to participate will not result in any loss or gain of benefits to which you are otherwise entitled. Also, it is possible that you may receive the opportunity to take the survey more than once. Please do not take the survey again if taken in another course.

The benefits you will receive by participating in this survey are an increase in your level of HIV/AIDS awareness and an examination of personal behaviors. On the other hand, in examination of personal behaviors, some questions may make you feel uncomfortable. As a result, the survey includes a page of campus and local resources to address any concerns that may arise. You also have the right to ask questions about the survey. Please feel free to take this cover letter and on its reverse, the resource page, and address any questions or concerns about this study to Regine Rucker via phone at (616) 862-0572 or email at ruckerr@gvsu.edu. If you have any questions about your rights as a research participant that have not been answered by the investigator, you may contact the Grand Valley State University, Human Research Review Committee Chair, telephone (616) 331-2472. Thank You.

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HIV/STI Testing Sites and Care Services

Grand Valley State University Campus Health Center
163 Fieldhouse, 1 Campus Drive
Allendale, MI 49401-9403
(616) 331-2435
All STD testing M - F; HIV Testing - $21, *Walk-in.
Other STD tests - $22.50, Appt. Only; In addition to $50 office visit fee.

HIV Testing Services - The following organizations provide free or low-cost HIV testing and counseling. Call the site for more information about their services and if an appointment is necessary.

Kent County Health Department
700 Fuller G.R., MI
M, T, W, F 8:30am - 4:00pm
& Thurs. 1 - 6:00pm
(616) 336-3085
*Walk-in *Free

St. Mary's McAuley Health Services
245 Cherry SE Suite 306 G.R., MI
M, T Th 9:00am - 12:00pm & 1 - 5:00pm
Wed 9:00am - 12:00pm & 1 - 7:00pm
(616) 913-8200
*Walk-in *Free *Oral Test

Planned Parenthood of W. MI
425 Cherry SE G.R., MI
(616) 459-3101
Appointment Only
*Sliding fee scale *Oral Test

USVA Outpatient Clinic
3019 Coit NE G.R., MI
(616) 365-9575, ext. 2184
Registered Eligible Veterans Only

Heartside Clinic
61 Commerce SE G.R., MI
(616) 235-2612
M - F 9:00am - 12:00pm
M, T, Th, F 1 - 4:00pm

Clean Works Harm Reduction at Heartside
54 S. Division G.R., MI
(616) 456-9063
1st & 3rd Thursday 5 - 7:00pm *Walk-in *Free
*Oral Test *STD tests available

STD/STD Testing Services - The organizations listed below provide testing for STDs/STIs such as gonorrhea, syphilis, chlamydia and others. Call for more information.

Kent County Health Department
700 Fuller NE
(616) 336-3030 or toll free; 1-888-515-1300
On-site Testing: M, T, W, F
From 9:00am - 4:00pm & Th 1 - 6:00pm
Free Counseling & Testing

Planned Parenthood
233 E. Fulton (616-451-4988)
3641 Byron Center SW (616-531-3070)
425 Cherry SE (616-459-3101)
*STI screening, testing and treatment on a sliding fee scale. Free Chlamydia testing & treatment

HIV / AIDS Care Centers
The organizations below provide medical care & case management. These agencies also make referrals to other service providers who can assist with non-medical services.

McAuley Health Center
245 Cherry St SE G.R., MI
913-8200 toll free 1-888-800-7010
M, T, Th 9:00am-12:00pm & 1-5:00pm
W 9:00-12:00am & 1-7:00pm

McClees' Clinic- Hackley Hospital
1700 Clinton Ave. Muskegon, MI
(231) 727-5571
Call for clinic hours*Free intake, assessment, case management

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Health and Relationships Survey

1. Are you under the age of 18? Yes No
   If you answered yes to this question, please do not complete this survey.

2. Are you older than the age of 25? Yes No
   If you answered yes to this question, please do not complete this survey.

3. Are you married? Yes No
   If you answered yes to this question, please do not complete this survey.

Please read and follow the directions to each section as specified below. Reminder: If you are under the age of 18, you must have parental consent to participate in this study. Participation in this study is voluntary and is not to be linked whatsoever to course assignments or grades.

HIV/AIDS Information
Please answer each question below by writing a check mark (✓) in the appropriate box:

4. What do the following acronyms mean? Why is this important?
   HIV ______________________________  AIDS _____________________________
   STI _______________________________  STD _____________________________

<table>
<thead>
<tr>
<th>Question</th>
<th>True</th>
<th>False</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. More of HIV, the virus that causes AIDS, is found in blood and semen than in other body fluids.</td>
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<tr>
<td>6. It is estimated that nearly one million Americans are currently infected with the virus that causes AIDS.</td>
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<tr>
<td>7. If you do not use condoms, withdrawal of the male reproductive organism immediately before orgasm reduces the risk of getting the virus that causes AIDS to the point where it is highly unlikely that a person will get it.</td>
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<tr>
<td>8. A person is not very likely to get AIDS by sharing IV-drug needles with someone who has the virus.</td>
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<tr>
<td>9. These days, it is very unlikely that a blood transfusion would give a person the virus that causes AIDS.</td>
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<td>10. Unprotected oral sex is less risky for transmitting the virus that causes AIDS than unprotected vaginal sex.</td>
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<tr>
<td>11. People who have been exposed to the virus that causes AIDS show clearly visible symptoms of serious illness.</td>
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<tr>
<td>12. The virus that causes AIDS is not spread by sneezing or coughing.</td>
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<tr>
<td>Question</td>
<td>True</td>
<td>False</td>
<td>Don’t Know</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
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<tr>
<td>13. There are no cases of people getting the virus that causes AIDS from contact with saliva.</td>
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<tr>
<td>14. A person can be infected with the virus that causes AIDS for five or more years without developing AIDS.</td>
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<tr>
<td>15. People have gotten the virus that causes AIDS by donating blood.</td>
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<tr>
<td>16. It is unsafe to use drinking fountains or public toilets that might have been used by somebody who has the virus that causes AIDS.</td>
<td></td>
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<tr>
<td>17. People have gotten the virus that causes AIDS from infected people’s sweat in gymnasiums or health clubs.</td>
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</tr>
<tr>
<td>18. If you kiss someone who has the virus that causes AIDS, you will probably get the disease.</td>
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<td></td>
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<tr>
<td>19. A woman who is infected with the virus that causes AIDS can pass the disease to her infant.</td>
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<tr>
<td>20. The virus that causes AIDS is not spread by mosquitoes.</td>
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<tr>
<td>21. Through sexual intercourse, men can transmit the virus that causes AIDS somewhat more easily to women than women can transmit it to men.</td>
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<tr>
<td>22. Oil-based lubricants such as Vaseline should be used to lubricate condoms.</td>
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<tr>
<td>23. Condoms may be safely stored in one’s wallet for up to two months.</td>
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<tr>
<td>24. In order for a condom to effectively reduce one’s risk for the virus that causes AIDS, it must be put on before any sexual intercourse takes place.</td>
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<tr>
<td>25. Natural condoms made of animal products are as effective as latex condoms in preventing the virus that causes AIDS.</td>
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<tr>
<td>26. Medical experts believe that most people infected with the virus that causes AIDS will eventually develop AIDS.</td>
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</tr>
<tr>
<td>Question</td>
<td>True</td>
<td>False</td>
<td>Don't Know</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>In order for the virus that causes AIDS to be transmitted from one person to another, there must be direct contact between one person's blood, vaginal secretions or semen, and the other person's blood.</td>
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<tr>
<td>You should not buy condoms whose expiration date has passed.</td>
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<tr>
<td>Nonoxylnol-9 (found in some spermicides and foams) has been shown to kill the virus that causes AIDS.</td>
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<tr>
<td>People can get the virus that causes AIDS by eating food that has been prepared by someone who has the disease.</td>
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<tr>
<td>Children who have the virus that causes AIDS can easily spread the disease to other children.</td>
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</tr>
<tr>
<td>It is unsafe to share drinking glasses and eating utensils with people who have the virus that causes AIDS.</td>
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<td></td>
</tr>
<tr>
<td>Household pets can spread the virus that causes AIDS to people.</td>
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<tr>
<td>If a person has unsafe sex and an HIV blood test two weeks later indicates that he/she does not have the virus that causes AIDS, he/she can be fairly certain that they were not exposed to the AIDS virus.</td>
<td></td>
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<tr>
<td>When properly used, latex condoms greatly reduce the chance that the virus that causes AIDS will be transmitted through sexual intercourse.</td>
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<tr>
<td>According to a recent study, about 1 in 500 college students have been exposed to the virus that causes AIDS.</td>
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<tr>
<td>College students who get infected with the virus that causes AIDS during college will feel fine and show no symptoms of AIDS throughout their college career.</td>
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<tr>
<td>At the GVSU Health Center, condoms may be purchased 8 for $1.</td>
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<tr>
<td>At the GVSU Health Center, testing for HIV and other STDs is available, but at a cost.</td>
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</tr>
<tr>
<td>If you know a person's sexual history and lifestyle before you have sex with him/her, it is unnecessary to use condoms.</td>
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<tr>
<td>The way a person behaves around you when you first meet him/her is probably a good indicator of whether or not he/she is the type of person who may have been exposed to the virus that causes AIDS.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You really only need to use condoms during &quot;one night stands.&quot;</td>
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</tr>
</tbody>
</table>
### HIV/AIDS Preventive Behavior

We would like you to tell us whether you have done each of the following things during the time interval, which is indicated.

<table>
<thead>
<tr>
<th>Question</th>
<th>True</th>
<th>False</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>43. Having a sexually transmitted disease such as syphilis, herpes, chancroid, gonorrhea, etc., increases one’s chance of HIV infection.</td>
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</tr>
<tr>
<td>44. You can tell whether a potential sex partner is at risk for AIDS by how he/she dresses and looks.</td>
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<tr>
<td>45. When you feel you have gotten to know someone very well, you no longer need to practice safe sex with him/her.</td>
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<tr>
<td>46. Asking your partner(s) about his/her/their sexual history is a good way to find out whether or not to practice safe sex with him/her/them.</td>
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<td></td>
</tr>
<tr>
<td>47. As long as a person doesn’t belong to a “high risk” group such as gays or drug users, you really don’t need to worry about getting the virus that causes AIDS from him/her.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48. If two people have sex only with each other, they really don’t have to practice safe sex.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49. Individuals in urban areas should definitely follow safe sex guidelines, but individuals in rural areas really don’t need to.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please read and follow the directions to each section as specified below. **Reminder:** Participation in this study is voluntary and is not to be linked whatsoever to course assignments or grades.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>50. I have had sexual intercourse during my lifetime.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51. I have had sexual intercourse (sex in which the penis is put into the vagina, or sex where the penis is put into the rectum, but not oral) at least once during the past year.</td>
<td></td>
<td></td>
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<tr>
<td>52. I am currently in a relationship involving sexual intercourse.</td>
<td></td>
<td></td>
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<tr>
<td>53. I am currently involved in a monogamous relationship (neither of us have sexual intercourse with other people).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54. I have discussed safe sex with a sexual partner (or sexual partners) before having sex with him/her during the past month.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
<td>----------------</td>
</tr>
<tr>
<td>55. I have bought latex condoms during the past year.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56. I kept latex condoms some place nearby where they were easily available during the past year.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57. My partner(s) and I have used latex condoms when having sexual intercourse during the past year.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58. I knew that my partner(s) had an HIV blood test and I knew him/her/they had not been exposed to the virus that causes AIDS.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59. I have made an appointment to get a blood test to check whether I have been exposed to the virus that causes AIDS during the past year.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60. I have had a blood test to check whether I have been exposed to the virus that causes AIDS during the past year.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61. At some time in the past, I have had a blood test to determine whether I have been exposed to the virus that causes AIDS.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

62. If you had a blood test for the virus that causes AIDS, where did you have this blood test?

*Circle the letter which applies to you:*

A. On Campus Health Center
B. Clinic
C. Doctor’s office
D. Blood donation

Other ____________________________

<table>
<thead>
<tr>
<th>Question</th>
<th>Always</th>
<th>Sometimes</th>
<th>Never</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>63. When you had sexual intercourse during the past year, how often were condoms used?</td>
<td></td>
<td></td>
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<tr>
<td>64. In instances where condoms were not used, I have tried to convince or persuade my sex partner(s) to practice only safe sex (always using condoms) during the past year.</td>
<td></td>
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</tr>
</tbody>
</table>

65. Please circle any of the alternatives that apply to both you and your sexual partner(s) during the past year.

A. Both my sexual partner(s) and I have tested HIV negative.
B. Both my sexual partner(s) and I have never had any other sexual partner(s).
C. Neither of the above is true for my partner(s) and me during the past year.
D. I have not had any sexual partners during the past year.

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Demographics

Circle one:

66. Gender: Male Female

67. Age: Under 18 18-19 20-21 22-23 24-25 26 or older

68. Race/Ethnicity:

- White/Non-Hispanic
- Black or African American
- Hispanic
- American Indian or Alaska Native
- Asian or Pacific Islander (API)
- Other

69. College Classification:

- Freshman
- Sophomore
- Junior
- Senior
- Other

Thank you for your time.
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Proctor, Lynsey J. Apr-May 2003. Sex education can learn form bananas: we must bear in mind that for a certain number of people, ignorance rally will equal death. SIECUS Report, 31 (4), 27-29.


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Zebunnisso, Alimova. Apr - May 2003. AIDS: find a remedy for this disease; we have to draw the public’s attention to this problem: young people are in danger! SIECUS Report, 31 (4), 11-12.

Interviews


January 12, 2005

Regine Rucker
Public Administration Masters Candidate
Grand Valley State University
587 Cass Avenue SE
Grand Rapids, Michigan 49503

Dear Ms. Rucker:

I give you permission to use the questions from my IMB measurement tool for your Masters project.

Sincerely,

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