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Lesbian, Gay, and Bisexual College Students' Knowledge, Perceptions, and Beliefs about HIV/ AIDS

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LESBIAN, GAY, AND BISEXUAL COLLEGE STUDENTS' KNOWLEDGE,
PERCEPTIONS, AND BELIEFS ABOUT HIV/AIDS

A Thesis

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Master of Arts

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The lesbian, gay, and bisexual population (LGB) has the highest percentage of new HIV/AIDS infections between the ages of 13-24 years (Center for Disease Control, 2012). The following study investigated the knowledge, perceptions, and beliefs of HIV/AIDS among the LGB college student population at a mid-Atlantic university. The data for this study was collected from a sample of 20 college students. The instrument utilized was the HIV/AIDS: Knowledge, Attitude, and Perceptions Survey. The study sought to answer the research question: "What are lesbian, gay, and bisexual college students' knowledge, perceptions, and beliefs with respect to HIV/AIDS?" The data analysis revealed that participants have a basic understanding of HIV/AIDS knowledge, perceptions, and beliefs. The research problem, research question, and the significance of the study are discussed. In addition, a review of literature, the methodology, the findings, implications for practice and research, and limitations of the study are discussed.

Keywords: lesbian, gay, and bisexual, HIV/AIDS education, college students, student affairs

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CHAPTER ONE

INTRODUCTION

The first cases of human immunodeficiency virus (HIV) were discovered in 1981 in San Francisco and New York City (Curran & Jaffe, 2011). These early cases were disguised as cancer and other infections caused by suppressed immune systems. In order to identify what was occurring, the Center for Disease Control and Prevention (CDC) analyzed the similarities among the patients in hopes of finding a common thread. Curran and Jaffe (2011) went on to say that the CDC recognized that all of the affected men were gay. In response to this finding, the CDC named this syndrome Gay-Related Immunodeficiency Disease. Later, the CDC renamed the virus, acquired immunodeficiency syndrome, or AIDS, in order to correct the misconception that this disease only affected gay men (Curran & Jaffe, 2011). The lesbian, gay, and bisexual population has been affected by HIV/AIDS; not only by the physical harm it causes, but also by the social stigma that automatically associates HIV/AIDS with people who identify as LGB, particularly gay men.

The CDC (2012) stated that one of the major reasons HIV/AIDS is increasing among the general population is complacency underscored by the belief that one can live a long life even with the HIV infection. Today's younger generations did not grow up during a time when HIV/AIDS was, essentially, a death sentence. The complacency present in the younger generations is especially true for lesbian, gay, and bisexual youths. The CDC (2013) conducted an analysis through the "Youth Risk Behavior Survey" in 2011 and found that sexual minorities, especially LGB students, are more likely to engage in risky sexual behaviors such as sex at younger ages, multiple sexual partners, and no condoms or protective barriers. Other behaviors that go beyond sexual acts, but show a trend toward risky, self-destructive behaviors include alcohol abuse, drug abuse, and attempted suicide (CDC, 2013).

The combination of a substantial percentage of new infections (50%) occurring among people under the age of 25 years (CDC, 2012) and the high probability of sexual minorities engaging in risky sexual practices (CDC, 2013) it is important to gain an understanding of the LGB college students' knowledge, perceptions, and beliefs surrounding HIV/AIDS. Limited research restricts the efforts provided by student affairs professionals to ensure LGB college students are receiving adequate information on HIV/AIDS prevention. In response, the researcher examined current knowledge, perceptions, and beliefs of the LGB college student population. Contained within this chapter are the introduction to the problem, the research question, and the significance of conducting the study.

Definitions of Terms

Before continuing with the problem statement, the research question, and the significance of the study, several terms will be defined. These terms are provided to offer clarity for the reader.

College student. The term *college student* will be used in this document to refer to students who are of traditional college age (18-24 years).

HIV/AIDS. *HIV* stands for the human immunodeficiency virus and *AIDS* stands for the acquired immunodeficiency syndrome (Curran & Jaffe, 2011). These two terms will be abbreviated as *HIV/AIDS* in this document. In addition, these terms may be used interchangeably.

Lesbian, Gay, Bisexual (LGB). The term *lesbian* will refer to women who have sex with women (WSW). The term *gay* will refer to men who have sex with men (MSM). The term *bisexual* will refer to a person who has sex with both men and women. The term transgender,

which is often associated with the LGB population, is intentionally excluded from this study because this identification is a gender identity not a sexual orientation. Members of the transgender community can participate in this study if they identify with the sexual orientation of lesbian, gay, or bisexual.

Statement of the Problem

There is a pressing need for greater awareness about HIV/AIDS on college campuses (Loffredo & Opt, 2004). This need is especially urgent due to the increasing percentage of traditionally aged LGB students (18-24) who are being diagnosed with HIV/AIDS (CDC, 2012). Approximately 50 % of new infections of HIV/AIDS in the United States occur among people under the age of 25 years (Brown, Jara, & Braxton, 2005). While many students understand how HIV/AIDS is transmitted, Lewis and Malow (1997) found that college students, in general, believe they have no personal risk of infection and, consequently, engage in high-risk sexual behaviors. Due to these findings, more recent research has been conducted in order to understand the beliefs and knowledge of college students, which yield similar results (i.e., Lee, Kockman, & Sikkema, 2002; Lewis, Miguez-Burbano, & Malow, 2009; Marsiglia, Jacobs, Nieri, Smith, & Booth, 2013; Opt & Loffredo, 2004; Patel et al., 2013), but this research has limitations with respect to the diversity of the participants involved. In particular, subpopulations such as the LGB college student have not been a primary focus.

In 2003, men who have sex with men (MSM) represented the highest proportion (46%) of new cases of HIV infection among men (CDC, 2004). An even more troubling statistic is that in 2009, 91% of all HIV diagnosed infections in adolescents and young adults (i.e., 13-19 years old) resulted from male-to-male sexual contact (CDC, 2012). Data from the 2004 National HIV

Behavioral Surveillance (NHBS) system showed that many HIV infected MSM (especially young MSM and Black MSM) are unaware of their infection status (CDC, 2004).

Although lesbian women or women who have sex with women (WSW) are at a lower risk of contracting HIV/AIDS than men who have sex with men (MSM) or men who have sex with women (MSW), they may engage in behaviors that put them at risk as well (Gay Men's Health Crisis (GMHC), 2009). Behaviors that put women at risk are: increased number of sexual partners, use of injection drugs, exposure to fluids known to transmit HIV (i.e. menstrual blood and vaginal secretions), and unprotected sex with men (GMHC, 2009). This is important to note because research indicated that WSW showed higher rates of infection than women who said they were exclusively heterosexual (Bevier, Chaisson, Heffeman, & Castro, 1995). Farquhar, Bailey, and Whittaker (2001), stated that the other behaviors that pose a threat to HIV transmission are unprotected oral sex, sharing of sex toys, and fisting (i.e., inserting a fist into the vagina or rectum of a sexual partner).

Additionally, bisexual individuals, similar to MSM and WSW, as a group partake in high-risk behavior with greater frequency than their heterosexual counterparts. In a recent study examining the sexual behaviors of women in low risk populations, 11% identified as bisexual and reported a higher rate of substance use while having sex than lesbian and heterosexual women involved in the study (GMHC, 2009). Further, many bisexual women (as well as lesbians) may have sex with multiple males in an attempt to convince family members that they are not gay (Rosario, Meyer-Bahlburg, Hunter & Gwadz, 1999). Through these acts, bisexual individuals put themselves at risk for HIV transmission.

In addition to sexual behaviors that put LGB individuals at risk, are the stigmatizing effects of HIV infection (Herek, Capitanio, & Widaman, 2002). In a recent study, the primary

reason women were not tested for HIV was because of the negative stigma associated with HIV (GMHC, 2009). According to the Center for Disease Control (2004), the fear of having a positive HIV test is one reason many gay men are not tested. Similarly, the GMHC (2009) stated that among the reasons women did not want to get tested were fear of what the results may be (64.4%) and the concern of what others may think about testing positive (58.7%). The stigma associated with HIV/AIDS puts everyone, LGB and heterosexual, at risk for HIV transmission. Those who are less likely to get tested will not know their HIV/AIDS status and consequently (if they are infected) will continue to spread the disease. According to the CDC (2012), 18.1% of people (heterosexual and LGB combined) are unaware of their HIV positive status. Due to the fear of being HIV positive LGB individuals are not being tested. This increases the risk for LGB individuals who are sexually active within the community if individuals are not engaging in safe sex practices. People who are HIV positive are more likely to infect others if they are unaware of their condition (CDC, 2012).

Caldeira, Singer, O'Grady, Vincent, and Arria (2012) asserted, "Human Immunodeficiency Virus (HIV) remains a major public health challenge worldwide and a persistent risk to young people" (p. 363). Statistics demonstrate that HIV/AIDS is an epidemic in society and even more specifically on college campuses in the United States (Lindley, Nicholson, Kerby, & Lu, 2003). This researcher believes that the lack of knowledge among LGB college students about HIV/AIDS contributes to both the practice of risky behaviors and a fear about getting tested for HIV infection. Therefore, research needs to be conducted in order to determine the knowledge, perceptions, and beliefs of this population with respect to HIV/AIDS. With this targeted research, adequate education programs and prevention trainings can be implemented more effectively.

Research Question

Given the limited information on the knowledge, perceptions, and beliefs of LGB college students in respect to HIV/AIDS, it is necessary for more research to be conducted. The researcher in this study attempted to answer the question: “What are lesbian, gay, and bisexual college students’ knowledge, perceptions, and beliefs with respect to HIV/AIDS?”

Significance of Study

As stated by Schaller (2011), “Statistics have proven that LGBTQ people constitute a relevant part of every community in the United States” (p. 100). Therefore, there is a need to be inclusive in the services offered by institutions (Schaller, 2011). The CDC (2012) argued that young LGB adults need to feel safe and supported within their environments. In addition, colleges need to understand why some LGB students are engaging in risky behaviors in order to establish safe environments and to create an effective HIV preventative program to serve this population (CDC, 2012). Stigma and discrimination contribute to the increased risk for a number of health threats for the LGB population (CDC, 2010). Therefore, increased research allows for a) student affairs professionals to receive updated information; b) students to feel their needs are being addressed; and c) students to be exposed to accurate and updated knowledge.

With increased research, student affairs professionals, as well as the students they serve, may benefit. Research will help aide professionals who work within student affairs on college campuses by providing them with information to guide their decisions when planning HIV/AIDS preventative programs for the LGB student population. The professionals that may gain insight as a result of this research includes, but is not limited to, health and wellness professionals, residence life professionals, and counseling professionals. Implications for prevention of high-risk behaviors as well as increased awareness on college campuses may occur as a direct result.

Students who are served by more informed professionals may also benefit from this research. These professionals can help LGB students gain more knowledge about HIV/AIDS and learn how to prevent infection. Consequently, students will also gain a sense that this is a disease that could infect them or someone in their lives. With increased awareness and knowledge surrounding HIV/AIDS, students will have the opportunity to manage behaviors that put them most at risk for HIV/AIDS. In addition, given the focus on LGB students, professionals will be able to create a perception that the college is caring and concerned about all of its students. This is beneficial to students because they will feel as if professionals care about their unique needs as a community rather than grouping them in with the entire population of students.

Also, by understanding these factors, LGB college students will be able to receive accurate and updated information from student affairs professionals. This is important because professionals need to be more proactive on HIV/AIDS rather than reactive (Hoban, Ottenritter, Gascoigne, & Kerr, 2003). The LGB population is the only population where new HIV infection is increasing instead of declining (CDC, 2012). It is time to gain more research on the LGB population surrounding HIV/AIDS so that professionals can take the necessary steps to provide education for these young people.

Summary

This chapter introduced the current study's aim to provide insight regarding lesbian, gay, and bisexual college students' knowledge, perceptions, and beliefs regarding HIV/AIDS. The researcher defined important terms that will be used throughout this document as well as the statement of the problem, the research question, and the significance of the study. The next chapter will provide a review of literature, which includes an overview of the knowledge regarding HIV/AIDS, knowledge, perceptions, and beliefs of HIV/AIDS, implications of college

professionals and health services in the United States. In addition, the instrument that was used for this study, the HIV/AIDS: Knowledge, Attitude, and Perception Survey (Sileo & Sileo, 2008), will be discussed in detail.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

In 2004, Colin Powel stated, “HIV/AIDS is the greatest threat of mankind today, the greatest weapon of mass destruction on earth...” (cited in Stine, 2005, p. 11). The World Health Organization (2004) listed HIV/AIDS as the sixth leading cause of death worldwide with 1.6 million people succumbing to the infection annually. The Center for Disease Control and Prevention (2013) reported that each year there are about 50,000 new infections in the United States. HIV diagnosis in men, between the ages of 13 and 24, who have sex with men (MSM) increased on average 12.4% per year from 2001 to 2006 (CDC, 2013; Wolitski & Fenton, 2011). There is less concern regarding HIV/AIDS transmission amongst women who have sex with women (WSW), which is reflected in the non-inclusive classifications by the CDC which groups HIV positive WSW with heterosexuals and injection drug users (Dworkin, 2005). College students in general have a greater risk of contracting HIV/AIDS due to a higher likelihood of having multiple partners and engaging in risky sexual behaviors (CDC, 2013).

In order to better understand the HIV/AIDS epidemic and the relation to the lesbian, gay, and bisexual (LGB) college student population, this chapter will include: 1) a brief overview of knowledge regarding HIV/AIDS; 2) knowledge, perceptions, and beliefs of HIV/AIDS; and 3) the implications for college professionals in the United States. A description of the instrument that was used for this study concludes this chapter.

Overview of Knowledge Regarding HIV/AIDS

The HIV/AIDS epidemic has plagued the United States for over 30 years. In this short amount of time, much has been learned about its transmission, stages of infection, and

stigma/discrimination. In this section, an overview of HIV/AIDS will be discussed in order to inform the reader about the factual knowledge used to inform this study.

In 1981, Los Angeles, CA saw its first five cases of what is now called HIV/AIDS (Curran & Jaffe, 2011; Stine, 2005). The first cases of HIV occurred in gay men and were originally believed to be *Pneumocystis carinii* pneumonia (PCP). PCP is generally seen among populations with suppressed immune systems. The individuals who were presenting with symptoms of PCP were otherwise thought to be healthy. It was later determined that the onset of PCP in these individuals was due to the immunosuppressant nature of the HIV infection (Stine, 2013). Stine (2005) explained that the CDC believed these cases were unusual because they occurred in one city. It was reported that HIV/AIDS was connected to a "...homosexual lifestyle or disease acquired through sexual contact and PCP in this population" (Stine, 2005, p. 26). In July 1981, a month after the CDC report, 26 new cases were found in New York City and San Francisco; once again, all of the people infected, were gay men.

In 1982, this infectious disease became known as the "4 H disease" due to its prominence in homosexuals, Haitians, heroin users, and hemophiliacs (Curran & Jaffe, 2011; Stine, 2013). During this time, the media described this disease as Gay-Related Immune Deficiency or GRID due to its overwhelming prominence in the gay community. In 1983, the first two cases of AIDS presented itself in two heterosexual women (Stine, 2013). These two individuals were infected from their male partners who were injection-drug users. These cases suggested to researchers that AIDS was not specifically a gay disease; any person could acquire the syndrome through an exchange of bodily fluids such as semen, blood, breast milk, or vaginal secretions. As a result, it became known as Acquired Immune Deficiency Syndrome (or AIDS) because within every infected patient there was a "cellular deficiency of the human immune system" and the infection

was, "...acquired from an environmental agent" (Stine, 2005, p. 27). Stine (2013) notes that AIDS is called a syndrome due to the presence of multiple diseases one acquires due to AIDS. People who have AIDS do not die from it; instead, they die from the diseases that are obtained because of AIDS (Curran & Jaffe, 2011; Stine, 2013).

In the early 1980s, scientists were in search of the cause of AIDS. In 1983, Luc Montagnier and his colleagues at Pasteur Institute in Paris discovered the answer. According to Stine (2013), Montagnier, wrote the first report on a T cell retrovirus and Montagnier named it lymphadenopathy-associated virus (due to its discovery in a patient with lymphadenopathy). This discovery was controversial in global politics due to a similar discovery by Robert Gallo of the United States. Gallo named his virus HTLV III, which stands for the Third Human T Cell Lymphotropic Virus (Curran & Jaffe, 2011; Stine, 2013). Both, Montagnier and Gallo were named as co-discoverers to avoid a political battle between France and the United States. The virus was then named the Human Immunodeficiency Virus (HIV) by the Human Retrovirus Subcommittee of the Committee on the Taxonomy of Viruses (Curran & Jaffe, 2011; Stine, 2013). To gain a more in-depth understanding of HIV/AIDS the high-risk behaviors and transmission of HIV/AIDS, the stages of HIV/AIDS, and the stigma associated with HIV/AIDS are described.

High Risk Behaviors and Transmission of HIV/AIDS

According to Stine (2013) and the CDC (2013), 90% of all infections occur from sexual contact. More specifically, HIV/AIDS can be spread through four different bodily fluids: blood, semen, vaginal secretions, and breast milk (CDC, 2013). In addition, the most common pathways for HIV/AIDS to spread in the United States are through unprotected vaginal or anal sex and/or through sharing needles. Factors that increase the likelihood of transmitting the virus include: a)

having sex with multiple partners; b) age mixing (patterns of having sex between multiple different age groups); and c) lower socioeconomic status (Stine, 2005). Other factors include high rates of sexually transmitted infections (STIs) and low rates of male circumcision (Stine, 2005).

There are many misconceptions regarding the behaviors and avenues of transmission regarding HIV/AIDS. Some common misconceptions are that HIV can be "...spread through tears, sweat, coughing, or sneezing" (Stine, 2005, p. 192). In addition, some people falsely believe that HIV can be spread through toilet seats, drinking glasses, personal contact, or phones. Stine (2005) also explained that there is no risk of transmitting HIV through kissing or through insects such as mosquitoes.

Stages of HIV

According to Stine (2005), HIV consists of two strands, HIV-1 and HIV-2. HIV-1 is a more lethal strand of the virus and is most often referred to when referencing HIV while HIV-2 is primarily found in West Africa and is less lethal. The HIV virus depletes T4 helper cells or CD4+ cells, which are needed for "...cell-mediated immunity and in the production of antibodies" (Stine, 2005, p. 29). The absence of cell-mediated immunity and antibodies causes a weakened immune system; subsequently, leading a person to die from an infectious disease.

Four stages of infection characterize HIV: acute infection, asymptomatic, chronic symptomatic, and AIDS (Stine, 2005). HIV/AIDS is a progressive disease. Beginning with the transmission of the HIV virus and ending with acquired immune deficiency syndrome, there are multiple stages that sufferers encounter. Initially symptoms of HIV infections have flu-like symptoms followed by a dormant period in which HIV transmission to sexual partners has the

highest prevalence. Eventually, if not properly treated, the infected will succumb to AIDS and then will die from an AIDS-related disease.

Acute infection. The acute infection stage is also known as the primary HIV infection stage (Stine, 2005). During this stage is when the virus uncontrollably mutates itself at a fast rate inside the host (Stine, 2005). An excess of one million copies per milliliter of blood is produced during this stage of high reproduction and only occurs between two and eight weeks. Stine (2005) explained that during this time, a temporary illness such as an influenza type cold could develop. This is referred to as the acute retroviral syndrome. During the acute infection stage, patients go through a period called the window of infectivity before seroconversion, a period characterized by the "...presence of detectable HIV antibody in the serum" (Stine, 2005, p. 162). During this time, patients are ten times more infectious than at any other stage of their HIV infection (Stine, 2005). Throughout this stage, T4 cells are consistently being infected and replaced. In addition, the immune system fights to kill the HIV infection but eventually fails. Stine (2005) explained that eventually the T4 cells are not replaced and HIV progresses.

Asymptomatic stage. The asymptomatic stage is characteristic of the dormant stage of HIV. Throughout this stage the production of new T4 cells and antibodies to the virus occur; however, there is continued concurrent destruction of T4 cells at a reduced rate (compared to the acute phase). During this time, traces of HIV in the blood are very low, but still prevalent. The patients that are in this stage appear healthy but have a higher likelihood of transmitting the infection due to the dormant nature (Stine, 2013).

Chronic symptomatic. The chronic symptomatic stage is the last stage before the diagnosis of AIDS. The duration of this stage can last anywhere from a few months to years. Viral replication continues during this stage of HIV (Stine, 2013). The T4 cells of a patient

reduce significantly during this time and symptoms develop because of this reduction.

Increasingly low T4 levels will cause thrush (oral infection), oral lesions, and other infections.

Stine states that 30% will develop AIDS within five years of this stage if they are not using HIV drug therapy.

Acquired immune deficiency syndrome. Acquired immune deficiency syndrome (AIDS) is the last stage of the HIV infection. A person who is at the AIDS stage has aggressively low levels of T4 cells. AIDS-defining illnesses such as pneumonia, tuberculosis, toxoplasmosis, and salmonellosis become prominent during this stage of the virus. Due to advances in medicine, individuals who reach this stage in the virus usually overcome multiple illnesses and live a longer life as a result (Stine, 2013). Due to the multistage progression of HIV/AIDS individuals may live for years with the virus and may be subject to not only the negative health effects of the virus but also social stigma surrounding HIV/AIDS.

Stigma of HIV/AIDS

In 2005, the Joint United Nations Program on HIV/AIDS (UNAIDS), defined HIV/AIDS stigma as, "...multi-layered, tending to build upon and reinforce negative connotations through the association of HIV and AIDS with already-marginalized behaviors" (p. 7). The stigma that surrounds HIV manifests itself in the negative views (i.e., infected people are immoral because of their behaviors) that some people hold about those who are HIV positive (UNAIDS, 2005). Some would argue that these individuals are believed to *deserve* their HIV positive status and are often times associated with drug users, homosexual behaviors, and/or are promiscuous (UNAIDS, 2005).

According to Stine (2005), the stigma around these behaviors was heightened because the "...nation was not ready to talk about subjects like anal sex, needles, and condoms" (p. 24).

Women, in particular, faced discrimination based on their HIV positive status because of the lack of readiness to talk about the highly sexualized behaviors associated with this infection. Society silenced and excluded women from the greater conversation in order to uphold the image of a fundamentally moral woman (Dworkin, 2005). While there is an external stigmatization of HIV/AIDS, there is also an internalized stigmatization of people infected as well (Lee, Kochman, & Sikkema, 2002; UNAIDS, 2005).

Internalized stigmatization can be experienced by HIV infected individuals along a wide spectrum of severities from feelings of embarrassment to feelings of self-hatred (Lee et al., 2002). Internalized stigma discourages people who are HIV positive to seek counseling or support and can cause feelings of isolation and alienation. These individuals may avoid asking for help for fear that others might find out they are HIV positive (Lee et al., 2002; UNAIDS, 2005). As HIV infection symptoms become more severe in an individual, an increase of internalized HIV stigma can occur (Lee et al., 2002).

The HIV/AIDS stigma can have multiple effects on society. For example, individuals are more likely to have a low perception of personal risk regarding the contraction of HIV/ AIDS (UNAIDS, 2005). This low perception of personal risk stems from the stigma that HIV/AIDS is associated with certain subgroups, such as gay and bisexual men and drug users; therefore, if the individual does not identify with one of these stigmatized groups, they believe they are not at risk to contract HIV/AIDS (UNAIDS, 2005). Stigma may also prevent people from going to the doctor to confirm if they are HIV positive. Individuals who may potentially be infected with HIV/AIDS avoid being tested because they do not want to associate themselves with the stigmatized groups that are generally associated with the HIV virus. Therefore, they are actually

putting their health, as well as their sexual partners health at risk by not seeking medical attention (UNAIDS, 2005).

Discrimination also occurs towards people who are HIV-positive due society's fear of contracting the disease. Examples of this type of discrimination such as reduced standard of care, denial of access to health-care services, denial of employment, exclusion of HIV-positive individuals from pension schemes or medical benefits, dismissal of teachers, or mandatory segregation of HIV-positive individuals can be seen in multiple settings such as schools, prisons, health care facilities, and the workplace. UNAIDS states that the stigma reassures the "...power and domination..." (p. 8) of those who do not have HIV/AIDS over those who do. Those who do not have HIV/AIDS believe that they are justified in treating those with HIV/AIDS differently because the infected are seen as unclean or immoral and have brought this upon themselves through their improper sexual acts. Individuals who behave in this manner may believe that they are superior to those with HIV/AIDS because they have behaved in a more moral manner (UNAIDS, 2005). These preconceived notions of HIV/AIDS contraction and stigmatization stem from the general populations knowledge, perceptions and beliefs about HIV/AIDS. The next section will look further into the knowledge, perceptions, and beliefs about HIV/AIDS of the general United States population, traditional college age student population, and the lesbian, gay, and bisexual traditional college age population.

Knowledge, Perceptions, and Beliefs About HIV/AIDS

In 2012, the Kaiser Foundation completed a survey of Americans' knowledge, perception, and beliefs about HIV/AIDS. This study consisted of a random sample of 1,524 adults ages 18 and older who lived in the United States. Approximately, 182 respondents were between the ages of 18 to 24 and 82 of the 182 respondents received some level of college

education. The survey reported that American's that had less knowledge of the transmission of HIV/AIDS were more likely to feel uncomfortable working with or having food prepared by someone who was infected with HIV/AIDS (Kaiser, 2012). Marsiglia, Jacobs, Nieri, Smith, Salmone, and Booth (2013) suggested that having knowledge does not guarantee safe behavior during sexual activities. Many are aware that HIV/AIDS is a widespread epidemic, but behaviors reveal that this awareness does not reflect feelings of vulnerability towards contraction. Conversely, feelings of invincibility often surface, and a consequence of those feelings may be poor sexual practices.

The Kaiser Foundation survey (2012) revealed many misconceptions about HIV/AIDS; for example, 27% of people had the misconception that HIV can be transmitted through sharing a drinking glass and 17% believed that HIV could be spread by touching a toilet seat. The perception that society can be complacent about HIV/AIDS is one of the more significant revelations from the survey. Statistics from the survey also showed that 44% of people between the ages of 18-29 are "not at all concerned" with HIV/AIDS. An additional 28% expressed they were "not too concerned" about the disease. Additionally, 89% of people believed that HIV positive individuals could lead healthy, productive lives. The fact that 46% of individuals compared HIV/AIDS to a manageable chronic disease such as diabetes or high blood pressure also speaks to this notion of contentment (Kaiser, 2012). Stine (2005) argued that the perception of the AIDS pandemic has changed significantly over the past three decades. In 1987, 70% of Americans believed that AIDS was the number one cause of death compared to 15% in 2004 (Stine, 2005). This drop may support the assertion that people are complacent when it comes to HIV/AIDS. The next section will look further into the relationship between traditional college

age students and HIV/AIDS. Specifically, the sexual behaviors of this population and the knowledge, perceptions, and beliefs will be analyzed surrounding HIV/AIDS.

College Students and HIV/AIDS

The Fall 2013 enrollment projections from the National Center for Education Statistics (NCES, 2012) reported a record 21.8 million students were enrolled in colleges and universities in the United States. An estimated 13.4 million are enrolled as full-time students. According to NCES (2012), this is an increase of about 6.5 million students since the fall of 2000. With growing numbers, it is important to be able to understand the new traditional age college student cohort in order to be able to assess their needs and behaviors. Patel, Rana, Thomas, Barnhart, Flanigan, van den Berg, and Chan (2013) stated that traditional college-age students "...are often characterized as being sexually active and having high-risk behaviors, such as multiple sexual partners and inconsistent condom use" (para. 2). These behaviors make HIV prevention and education a challenge for college professionals (Patel et al., 2013). Specifically, college professionals who work in health centers need to constantly adapt their educational programs to meet the needs of the changing college student population (Keeling, Avery, Dickson, & Whipple, 2011).

Sexual behaviors of college students. Information regarding the behaviors of high school students can serve as a predictor of college student behaviors (Patel et al., 2013). Statistics show that 46% of students are having sex, some are as young as 13 (CDC, 2012). Risky sexual habits are being formed at a young age, which, in turn, makes the job of a college professional more difficult because students are entering college with already formed sexual behaviors (Patel et al., 2013).

When asked, 40% of sexually active high school students reported they did not use a condom the last time they had sex (CDC, 2012) even though the most effective way to prevent the transmission of HIV is by using a condom or protective barrier during sexual engagements (El Bcheraoui, Sutton, Hardnett, & Jones, 2013). Not surprisingly, the behaviors of these young high school students continue as they move into college (ACHA, 2012). The behaviors that can lead to HIV/AIDS that college students most commonly engage in are sex with multiple partners and unprotected anal or vaginal sex (Opt & Loffredo, 2004; Opt, Loffredo, Knowles, & Fletcher, 2007; Stine, 2013).

The American College Health Association's (ACHA) 2012 National College Health Assessment analyzed the 28,237 completed surveys by college students throughout 51 postsecondary institutions in order to assist health educators and administrators. The collected data focused on students' health habits, behaviors, and perceptions. According to the ACHA's 2012 National College Health Assessment, 47.4% of students reported they did not use a contraceptive the last time they had vaginal intercourse. Only 64.1% who reported contraception use stated that it was a condom. Moreover, students were asked to identify if they had anal sex or oral sex within the last 30 days prior to taking the assessment. Of those who reported engaging in oral sex (42.4%) only 5.5% of the individuals reported using protective barrier and of those who engaged in anal sex (4.95%) only 29.7% reported using a protective barrier (ACHA, 2012).

Knowledge, perceptions, and beliefs about HIV/AIDS of college students. Opt and Loffredo (2004) conducted research to expand upon the previous findings of Lewis and Malow (1997) concerning HIV knowledge and perception. Their research focused on three dimensions: a) HIV/AIDS knowledge and perceptions; b) testing behaviors; and c) sexual practices. Participants of this cross-sectional study were 18-21 years of age and a survey was used to

collect the data (Opt & Loffredo, 2004). A majority of the participants (89%) stated, "...they believe that AIDS is a serious or very serious problem for college students" (p. 393). In addition, out of the total participants, 82.2% said they received HIV/AIDS education in either middle school or high school. Participants' prior HIV/AIDS education might have contributed to the finding that the participants appeared to be knowledgeable about HIV/AIDS. Participants answered a majority of the questions correctly regarding treatment, prevention, and transmission. Interestingly enough, research (El Bcheraoui, Sutton, Hardnett, & Jones, 2013) showed that students who perceive an average to high level of risk of contracting HIV were less likely to use a condom even if they were knowledgeable about the consequences of not using one. Further, 36% of students reported not using a condom--even though they were knowledgeable about HIV transmission--because they were not planning to have sex. Spontaneity proved to be a reason for the lack of condom use among participants (El Bcheraoui et al., 2013).

Another study by Thompson-Robinson, Richter, Shegog, Weaver, Trahan, Sellers, and Brown (2005) looked at the perceptions and behaviors of Black college students at historically Black colleges and universities' (HBCUs). The findings indicated that students believed media and hip-hop culture had a strong influence on their "...sex roles, decisions, and actions" (p. 27). Students' perceptions of safe sex, or the lack thereof, was highly influenced by the words and actions of celebrities that they admired (Thompson-Robinson et al., 2005). In addition, students stated that religious teachings influenced their behaviors regarding sex. These two influences reveal how popular culture and personal beliefs play a role in student's behaviors. Many of the students referenced religious and family beliefs; for example, that one should wait until marriage before engaging in sexual intercourse. Additionally, students expressed their belief that "...HIV dialogue [before engaging in sex] may be detrimental to their relationship" (Thompson-Robinson

et al., 2005, p. 16). The authors summarized that educators need to provide students with the tools on how to negotiate safer sex so that students will perform less risky behaviors (Thompson-Robinson et al., 2005). Often, these tools and resources are geared toward the heterosexual college student and not specifically geared toward the lesbian, gay, and bisexual college student population. Due to the historical ties to the lesbian, gay, and bisexual community, it is important to understand the LGB student populations' knowledge, perceptions, and beliefs about HIV/AIDS.

LGB College Students and HIV/AIDS

In the 1980's, when the HIV/AIDS epidemic was becoming a reality, the majority of infected people in the United States were gay men (Spiller, Stiles, Carlston, & Hise, 2012; Stine, 2005; Stine, 2013). As a result, the epidemic was immediately associated with homosexuality and became known as the "gay plague" (Spiller et al., 2012, p. 74). Prejudice created a stigma that HIV/AIDS is only associated with gay men and due to this stigma, effective HIV/AIDS prevention programs were difficult to accomplish (Herek, 1999; Spiller et al., 2012). In order to develop intervention strategies it is crucial to understand the knowledge, perceptions, and beliefs of LGB college students as well as the current institutional support available to this population.

Behaviors of LGB college students. HIV/AIDS disproportionately affects the gay and bisexual male population. The CDC (2013) reported in its 2009 report that 61% of young men (ages 13-24) contract HIV through male-to-male sexual practices. The total number of HIV/AIDS diagnosis in 2009 was 8,294 of which 6,237 were young people ages 20-24 years. The CDC (2013) predicts that the high infection rate for MSM may be explained by a variety of factors. One factor might include a lack of knowledge about their infection status resulting in the lack of preventative measures such as using a protective barrier. In addition, people who fall

within lower socioeconomic status are not receiving education regarding safe sex practices and therefore have a higher likelihood of engaging in high risk behaviors. The CDC (2013) reported that 80% of gay and bisexual men in 15 different cities did not obtain effective prevention education. It is important to note that most of the sex education programs that are circulating information do not address sexual orientation and effective HIV prevention techniques for these sexual minorities (CDC, 2013). Another factor that contributes to the high rate of infection in the gay male population is the use of alcohol and illegal drugs. Alcohol, especially, is very common among young MSM and can lead to risky behavior such as unprotected sex. Lastly, a factor that potentially adds to the HIV infection rate in this population is the complacency that surrounds the risk of contraction. Younger generations are growing up in a world where improved treatments for HIV extend the lifespan of those infected. HIV/AIDS is no longer a death sentence for individuals infected with the virus. The CDC (2013) stated, that this complacency creates a perception that HIV/AIDS is less dangerous than its conception in the early 1980's.

Another sexual minority who may be present on college campuses are males who identify as heterosexual but engage in same-sex behaviors. Often, these individuals are known to be on the *down low* or DL (Malebranche, 2008). These individuals are often members of the Black community (Malebranche, 2008). It is important to consider that sexual behaviors do not always align with a person's sexual identity (Ford, Whetten, Hall, Kaugman, & Thrasher, 2007; Wapenyi, 2010). Although these men may identify as heterosexual they engage in sexual behaviors with both males and females (Malebranche, 2008). The high rates of HIV infection in the Black community is often blamed on the DL population and their behaviors (Malebranche, 2008). The Black community represents 44% of all new HIV infections among people 13 years old and over (CDC, 2013). This leads the public to believe that the DL community is the driving

force behind new HIV infections within the Black community. To further expand on this point, Ford et al. (2007) explained that the media has framed the “deviant immoral sexual behavior” (p. 209) of these men as the reason for HIV infection amongst “innocent women partners” (p. 209) in the Black community.

Many misconceptions involve the sexual activities surrounding lesbian and bisexual women and the transmission of HIV/AIDS. Many assume that these sexual exchanges have zero risk for infection (CDC, 2013; Diamant, Lever, & Shuster, 2000). In addition, the information surrounding lesbian sexual practices, lacks in-depth analysis of the dangers that may occur through the exchange of certain bodily fluids through penetrative sexual practices (i.e. vaginal or anal use of sex toys or body parts) or non-penetrative sexual practices (i.e. oral sex, direct genital-to-genital contact, or oral-anal sex (Marrazzo, Coffey, & Bingham, 2005). According to the CDC (2013), female-to-female transmission of HIV is difficult but not impossible through sources of transmission such as injection-drug use, sharing of sex toys, fisting, oral sex during the beginning, middle, and end stage of the menstrual period, and oral sex involving a large amount of vaginal secretions (CDC, 2013; Chu, Buehler, Fleming, Berkelman, 1990; GMHC, 2009).

A cultural standard is created in society that women should not disclose information about their sexual practices (GMHC, 2009). The lack of sexual freedom revolving around female sex practices results in a lack of information reported by lesbian women (GMHC, 2009). In addition, the lack of sexual freedom and the standard our society creates for women are mirrored in the categories that the CDC uses for documentation in their HIV Surveillance Report (2011). The last study on HIV/AIDS among WSW was conducted in 2004 by the CDC (2006). This study concluded that 60% of the reports lacked the information on whether the infected

women engaged in sex with other women. This is not surprising due to the classification system the CDC uses to categorize those who are infected. HIV infected WSW who also report having sex with at least one male is categorized as contracting HIV through heterosexual transmission (Dworkin, 2005). In the 2011 HIV Surveillance Study conducted by the CDC the categories for HIV transmissions between women are listed as follows: a) injection drug use; b) heterosexual contact; and c) other. These classifications eliminate the possibility of female-to-female transmission and may cause unrealistic perceptions and beliefs of the dangers (or lack of danger) for women who engage in sex with other women (Dworkin, 2005).

Knowledge, perceptions, and beliefs of LGB college students. Compared to previous college students, there is more knowledge and awareness regarding HIV/AIDS among today's college students (Brooke, Adam, McCauley, & Bortolin, 2010). Research revealed that the LGB college population has basic HIV/AIDS knowledge (Grin, Chan, & Operario, 2013) but there is gap between knowledge, safer sex intentions, and the realities of those interactions (Brooke et al., 2010). Interestingly, lesbian women and bisexual women who are college students reported having little knowledge of risk for HIV infection in female-to-female interactions (Brooke et al., 2010). This lack of knowledge most likely contributes to the misconceptions that they are at no risk for contraction. This perception is reinforced by the HIV transmission categories stated earlier.

Many LGB college students perceive safe sex practices as burdensome (Brooke et al, 2010). They reported several reasons why LGB college students did not engage in safe sex practices. First, they reported not using a condom because they were in the heat of the moment or they believed condoms would ruin the mood. Second, many did not want their partner to think that they were HIV-positive or to think that they did not trust them. Third, it stated that LGB

college students often times do not use a condom in monogamous relationships. Lesbians, in particular, have a perception that there is no risk for HIV infection and therefore rarely use protection (Brooke et al., 2010).

A recent study conducted by Parson, Lelutiu-Weinberger, Botsko, and Golub (2012) researched the common predictors of sexual risk for young gay and bisexual men. This study consisted of 188 gay and bisexual men of whom 140 had some level of college experience. The results of this research stated that substance use was a strong predictor of whether or not risky sexual behavior was conducted as well as the combination of anxiety and depression. More substantially predictive of unprotected sex was the belief that not using a condom would increase pleasure. It is important to understand the knowledge, perceptions, and beliefs of the LGB college student population so that college health services in the United States can further develop effective HIV prevention strategies. The next section will look more deeply into the role of college professionals and health services in the United States.

Implication for College Professionals and Campus Health Services in the United States

College is a very influential part of a young adult's life because it helps instill habits that can be beneficial or detrimental for one's health (Strand, Egeberg, & Mozumdar, 2010). Risky behaviors and poor lifestyle choices are likely to persist through life if students are not exposed to alternatives (Strand et al., 2010). Student affairs professionals are unable to quantify the number of LGBT college students on each campus but it is understood that LGBT students constitute every campus community (Sanlo & Espinoza, 2012). It is the role of the college professional to ensure that this population receives the support needed to be a successful student (Sanlo & Espinoza, 2012). This often times is considered to be the job of college professionals who provide services for the LGBT student population, specifically. Unfortunately, there are

only about 200 institutions that have identified staff or LGBTQ centers to provide these services (Consortium of Higher Education Lesbian, Gay, Bisexual, Transgender Resource Professionals, 2013; Sanlo & Espinoza, 2012). At most institutions various student affairs professionals in offices such as equity and diversity, health centers, and student life are expected to fill this role (Sanlo & Espinoza, 2012).

American College Health Association or ACHA (2012) reported that 25.7% of students surveyed at 51 institutions of higher education were tested for HIV at least once in their lifetime. This number is significantly low, considering that health centers are trending at colleges and universities (Strand et al., 2010). Patel et al. (2013) argues that HIV education and prevention are important services provided by college health services. This is supported by the increase rates of HIV testing when access to testing is available on college campuses (Caldeira, Singer, O'Grady, Vincent, & Arria, 2012).

College students are encouraged to take advantage of all the resources available to them in health centers on college campuses. These centers establish programs that focus on health promotion and prevention, mental health, counseling, health and safety, and medical care (Keeling, Avery, Dickson, & Whipple, 2011). Meeting the diverse needs of students is the main focus of health centers on campuses. The student's needs are met through goal-oriented programming focused on the well-being of the students as well as ways to overcome the barriers to health that many might face (ACHA, 2012). The services these centers provide intend to create inclusive environments that allow for students to learn more effectively. Health professionals on college campuses understand that health concerns threaten the learning environment and it is their role to help students manage these issues (ACHA, 2012).

Health Services offers a wide array of amenities for college students on campus. Nonetheless, college students have alternative methods of receiving information that may prove to be more insightful (Strand et al., 2010). Through their research, Opt and Loffredo (2004) concluded that most college students gain knowledge about HIV/AIDS through past high school classes (68.6%), pamphlets (64.1%), and TV news shows (64.8%). Students are more likely to receive information from the internet/web (43.1%) than college campus health centers (20.9%) and college courses (27.6%). Steps need to be taken in order to increase the education and awareness surrounding HIV/AIDS on college campuses so that students are receiving the correct information from college health educators.

The information distributed on college campuses is often centered on the needs of heterosexual students (Schaller, 2011). In general, the education reaching LGB students is filled with information that focuses on behaviors that these students might not encounter. When the information being provided to LGB students creates the perception that they may not contract HIV/AIDS, LGB students may feel as though they are not at risk of contracting the virus (Schaller, 2011). An example of this would be the first documented female-to-female transmission of HIV/AIDS. A lesbian college student who was HIV positive and sexually active was told by her physician that she only needed to wear a condom during sex with males (Dworkin, 2005).

HIV prevention programs have not met the needs of all students regarding strategies and techniques on how to diagnose HIV and manage HIV (Grin et al., 2013). Students who can identify early symptoms of HIV are more likely to seek medical care than those who cannot identify those symptoms (Grin et al., 2013). This education is vital because research showed that MSM will be more likely to refrain from risky sexual practices after they witness early

symptoms and may visit a clinic to get tested thus stopping the spread of the infection (Grin, et al., 2013). Preventative programs are ineffective towards LGB college students due to the lack of knowledge and understanding of their needs (Hightow, Leone, MacDonald, McCoy, Sampson, & Kaplan, 2006). College health professionals do not assess the LGB college student population frequently enough to understand their needs. Therefore, stronger and more effective outreach and education plans for these students are not produced. It is important for professionals to obtain valid and reliable measures that can support research and practice. The next section will discuss the instrument that was used in order to conduct the current study.

Measurement of Knowledge, Perceptions, and Beliefs of HIV/AIDS

The researcher measured the knowledge, perceptions, and beliefs of HIV/AIDS among lesbian, gay, and bisexual traditional college age students in this study. Sileo (1998) originally created an instrument that measures the knowledge, attitude, and perceptions of people regarding HIV/AIDS. In 2008, this instrument was adapted to measure the knowledge, perceptions and beliefs (rather than attitudes) of college age students by Sileo and Sileo (2008). The updated instrument was the tool used in order to conduct this research study. The updated HIV/AIDS: Knowledge, Attitude, and Perceptions Survey (HIV/AIDS: KAPS), developed by Sileo and Sileo (2008) includes 56 items to measure HIV/AIDS knowledge, beliefs, and perceptions of college students. Content validity of the instrument was determined by a panel of eight experts who analyzed the terminology and the ability of participants to understand the survey. The three instruments that influenced the creation of this instrument were the a) Morrow, Benton, Reves, and Pickering (1991) Survey; b) HIV/AIDS Survey (Evans, Melville, & Cass, 1992); and c) the HIV/AIDS: Knowledge, Attitude, and Perception Survey for Early Childhood Professionals or HIV/AIDS: KAPS-ECP (Sileo, 1998). These three surveys will be described in order to gain an

understanding of the HIV/AIDS: KAP survey, particularly, the HIV/AIDS: KAPS will be described in more detail due to the researcher's ability to gather more information on the instrument through the dissertation that was written in 1998 by Nancy Sileo.

Morrow, Benton, Reves, and Pickering (1991) Survey

The Morrow et al. (1991) survey was created to measure both knowledge about and attitudes toward HIV among parents and day care providers. This instrument was based on both the National Health Interview Survey (Dawson, 1990) and the pamphlet, *Understanding AIDS*. The questions assess demographics, knowledge about HIV transmission, and attitude about HIV (Morrow et al., 1991). A Likert-type scale is used to score all questions except the demographic questions. Interviews were conducted at day care centers in neighboring cities to determine which terms would be best understood by participants. The completed survey was piloted using a small group of parents and day care providers to ensure the comprehension of the items. The reliability, validity, and structure were not reported for this instrument.

HIV/AIDS Survey

The HIV/AIDS survey, developed by Evans et al., (1992), measures two scales: a) attitude of HIV/AIDS; and b) knowledge of HIV/AIDS. There are 16 items that focus on the positive and negative attitudes and were scored using a Likert-type scale. All of the questions in the knowledge section were true-false questions. Graduate students and experts who are knowledgeable about HIV/AIDS were used to determine the item clarity (Evans, et al., 1992). The reliability, validity, and structure were not reported for this instrument.

HIV/AIDS: KAPS-ECP

The HIV/AIDS: KAPS-ECP was originally used in a study conducted by Sileo (1998) that investigated the knowledge, attitudes, and perceptions of early childhood professionals.

Forty Likert-type questions (18 knowledge items and 22 attitude items) measure three scales: a) knowledge; b) attitudes; and c) perceptions. Professionals in the field of pediatric HIV/AIDS assisted in providing face and content validity of the instrument (Sileo, 1998) In order to support the experts' analysis that the instrument was valid, a small pilot study was conducted. The survey was distributed to 15 graduate students enrolled in a special education course and who received special training involving HIV/AIDS. A second pilot study was conducted to test the reliability of the instrument. The results for reliability were not reported for the second pilot study. This group consisted of 25 early childhood professionals who received zero training on HIV/AIDS. The data sets for both studies were compared to each other to determine the validity of the knowledge items.

The answers to each of the knowledge questions were assigned a score of 0 to 18 (Sileo 1998). The mean scores of both studies were then compared to each other to determine if the questions were valid. Sileo (1998) reported that the mean score of the first pilot test were 1.73 times higher than that of the second pilot test, thus leading Sileo to the assumption that the survey was valid. The alpha for the knowledge scale was reported for the second study at .62 and the attitudinal/perception scale was measured at .70. Both were considered sufficient even though these numbers are considered low. Sileo made the argument that the low alpha numbers might have been attributed to the small number of participants in the study.

HIV/AIDS: KAPS. The HIV/AIDS: KAPS, which is the instrument that was used for this study, was created by adapting the HIV/AIDS: KAPS-ECP (Sileo, 1998), HIV/AIDS survey (Evans et al., 1992), and the Morrow et al. (1991) survey (N. Sileo, personal communication, September 5, 2013). The HIV/AIDS: KAPS used by Sileo and Sileo (2008) met the needs of the current study in three ways. First, it measured HIV/AIDS knowledge, perceptions, and beliefs,

which were the primary focus of this study. Second, the questions did not target a specific population, allowing the researcher to use the instrument to measure the HIV/AIDS knowledge, perceptions, and beliefs among the LGB college student population. Third, the brevity of the instrument, likely, did not discourage college students from participating in the study. The limitations of the instrument will be discussed in Chapter Five.

Summary

This chapter provided an overview of HIV/AIDS; the knowledge, perceptions, and beliefs of the general population, the traditional college age student, and the LGB traditional college age student; the implications of college health services in the United States; and the HIV/AIDS: KAPS instrument, which was used for this study. The following chapter will discuss the methods used in conducting this study.

CHAPTER THREE

METHOD

The purpose of this research study was to analyze the knowledge, perceptions, and beliefs of HIV/AIDS among the lesbian, gay, and bisexual (LGB) college student population. This chapter will explain the methodology and the design that was employed in this study. First, the sample will be discussed followed by a detailed description of the instrument. Then data collection procedures and data analysis will also be described.

Methodology

The quantitative research approach for this study employed a descriptive design. According to Gay, Mills, and Airasian (2012), this type of research aims to answer questions about a population's perspectives on a topic or issue. The objective of the study was to understand the knowledge, perceptions, and beliefs about HIV/AIDS among LGB college-aged students. A cross-sectional design was used in order to understand these three constructs.

Sample

The researcher sought individuals for the sample who met all of the requirements for the following criteria: undergraduate students, age 18-24 years old, and LGB identified. The age range of 18 to 24 years old is largely considered traditional aged college students (Opt, Loffredo, Knowles, & Fletcher, 2007). This study was initiated at a mid-sized public institution in the mid-Atlantic region of the United States. The institution contains a population of approximately 15,000 students. Given that there are nearly 3.5% of lesbian, gay, and bisexual identified people living in the United States (Gates, 2011), the estimated number of LGB college students at this particular institution is 525 people. Because it was not possible to access and reach all LGB students at this institution, the questionnaire was initially distributed through a convenience

sampling technique. Then, the researcher employed a snowball sample technique (see Procedures section of this chapter) to generate a larger sample size suitable for data analysis: between 75 and 100 participants. The researcher used the snowball sampling technique in order to reach these individuals while also keeping their identities anonymous. This was done because some LGB members hide their identities from the general public but may share this survey with those who they may have a personal connection. The researcher did not reach the predicted sample size due to limitations that will be discussed in Chapter Five.

The total number of participants who filled out the survey was 28. Of the 28 participants, six were removed from the study because they were over the age of 24 (five of whom were graduate students). In addition, two were removed from the study because they identified a sexual orientation other than lesbian, gay, or bisexual. Therefore, the analysis for this study was based on the 20 undergraduate college-aged students, of which eight identified as lesbian, five identified as gay, and seven identified as bisexual. The age range for participants in this study ranged from 18 to 23 years of age. The majority of participants were either 20 or 21 years old. Table 1 identifies the additional demographic information collected from the resulting sample.

Table 1

Demographic Information

Variable	N	%
Gender Identity		
Female	15	75
Male	5	25
Sexual Orientation		
Lesbian	8	40
Gay	5	25
Bisexual	7	35
Age		
18	2	10
19	4	20
20	6	30

	21	6	30
	22	1	5
	23	1	5
Class			
	Freshman	4	20
	Sophomore	4	20
	Junior	5	25
	Senior	7	35
Race/Ethnicity			
	White	18	90
	Latino/a	2	10
In the past year have you been sexually active with women?			
	Yes	12	60
	No	8	40
In the past year have you been sexually active with men?			
	Yes	6	30
	No	14	70
Do you know someone with HIV/AIDS?			
	Yes	5	25
	No	15	75
Do you have a family member with HIV/AIDS?			
	Yes	0	0
	No	20	100
Have you considered being tested for HIV/AIDS?			
	Yes	11	55
	No	9	45
Have you been tested for HIV/AIDS			
	Yes	6	30
	No	14	70
Have you tested positive for HIV/AIDS?			
	Yes	0	0
	No	20	100

Instrumentation

The instrumentation that was used for this study was the HIV/AIDS Knowledge, Attitudes, and Perceptions Survey (HIV/AIDS: KAPS) developed by Sileo and Sileo (2008).

Permission to use this survey was obtained from the authors in the summer of 2013. This survey was originally developed to study American Indian university students' knowledge, perceptions, and beliefs regarding HIV/AIDS. In designing the survey, Sileo and Sileo (2008) used questions from various sources (see Chapter Two for details). The Likert-type survey measures five constructs: 1) factual knowledge about HIV/AIDS; 2) perceptions about sexual intercourse and condom use; 3) perceptions about susceptibility to HIV/AIDS; 4) perceptions of self-efficacy and HIV/AIDS; 5) and personal beliefs about HIV/AIDS (Sileo & Sileo, 2008). The scale responses for each item on each subscale are arranged as follows: a) definitely true; b) probably true; c) probably false; and d) definitely false.

HIV/AIDS: KAPS

The HIV/AIDS: Knowledge, Attitudes, and Perceptions Survey consists of 12 demographic items and 57 Likert-type items. The first four demographic items obtained information regarding gender identity, race and ethnicity, sexual orientation, and personal history dealing with HIV/AIDS (see Appendix C). The researcher intentionally allowed the participants to determine their sexual identity rather than use predetermined categories due to the ambiguity of classifications within the sexual minority population. The researcher assigned the sexual identities into three categories: a) lesbian; b) gay; or c) bisexual. The last eight items in the demographic information gathered data on sexual behaviors, relationship to people with HIV/AIDS, and HIV testing behavior.

As stated above, the 57 HIV/AIDS: KAPS items were grouped into five subscales: a) factual knowledge about HIV/AIDS; b) perceptions about sexual intercourse and condom use; c) perceptions about susceptibility to HIV/AIDS; d) perception of self-efficacy and HIV/AIDS; e)

and personal beliefs about HIV/AIDS (Sileo & Sileo, 2008). The subscales were scored by calculating the means.

Examples of the factual knowledge subscale are:

- “‘HIV positive’ status means the same as ‘full-blown AIDS;’” and
- “Persons with HIV/AIDS are entitled to equal civil rights protection under the law.”

Items for the subscale on perceptions about sexual intercourse and condom use are:

- “I will reduce the chance of pregnancy if I use a condom during sexual intercourse;” and
- “Condoms should be used when I do not know my sexual partner well.”

Examples of questions for subscale on perceptions about susceptibility to HIV/AIDS are:

- “Exposure to HIV/AIDS may be reduced by abstaining from vaginal, anal, and oral intercourse;” and
- “Exposure to HIV/AIDS may be reduced by ensuring that sexual partners are not HIV infected.”

Perceptions about self-efficacy subscale questions include:

- “It is acceptable for single people my age to engage in sex with a steady partner;” and
- “I can persuade my sexual partner to abstain from sexual intercourse.”

Finally, examples of questions for subscale on personal beliefs about HIV/AIDS are:

- “People with HIV/AIDS should be required to identify their health status to coworkers and employers;” and

- “People with HIV/AIDS should be required to identify their health status to coworkers and employers.”

This survey was designed to be completed in approximately five to ten minutes. The complete instrument and the subscale items are located, respectively, in Appendix C.

Procedures

Once approved by the university’s Institutional Review Board (IRB) for the Protection of Human Subjects, the researcher started data collection on February 28, 2014. First, the researcher made contact with the institution’s gay-straight student alliance through the organizations’ president and advisor. The purpose of this initial contact was to request permission to attend a meeting to explain the study to the members. Students were not asked to fill out a survey at the time of initial contact. In addition, the researcher asked both the president of the organization and the advisor to co-author an email that endorsed the research and encouraged members to participate in the study (see Appendix A). This email was sent out to all members of the organization (via its list-serv) in order to reach the individuals who may not have been at the meeting that the researcher attended. An explanation of the study, the criteria for participation, and an online link to the survey was incorporated into this email. Recipients of this email were asked to forward the email to any individual whom they believed met the criteria of the survey. As such, this study employed both a convenience sampling technique (i.e., inviting participants from the institution’s LGB student group) and a snowball sampling technique (i.e., asking those participants to invite additional participants). Reminder emails were sent out two weeks after the initial contact to the gay-straight alliance list-serv to remind members to participate in the study as well as to remind them to encourage others to participate. As an additional step,, the researcher gained IRB approval to send out individual emails to members of the LGB

community who were “out” on campus as well as to individuals who led two LGBT programs/committees on campus: SafeZone Training Program and the GLBT Commission. The research gained this approval at the end of the third week of data collection due to the low number of participants at that time.

The survey for this study was administered via Qualtrics, an online questionnaire distributor available to the researcher through the institution. The first page of the survey served as an introduction to the study and included a consent form for participants to electronically sign (see Appendix B). The second page of the survey led the participants to the demographic items and the HIV/AIDS: KAPS items (see Appendix C). Once participants completed the last item, they were brought to the last page of the survey (see Appendix D) which informed them of the following key elements of the study: 1) the researcher reiterated that the survey was confidential; 2) the researcher asked participants to share the link of the survey to any individuals that met the criteria provided; and 3) participants were provided the opportunity to receive the preliminary results of the survey upon request. After one month the Qualtrics survey was closed and the results of the surveys were prepared for analysis.

Data Analysis

All data was downloaded into Statistical Package for the Social Sciences (SPSS). The researcher calculated the reliability for each subscale and the entire measure. In addition, an inter-subscale correlation between the five subscales was conducted to determine if any relationships exist between the subscales. Furthermore, descriptive statistics were conducted for each subscale. This analysis is further explained in Chapter Four.

Summary

This chapter described the methodology of the current study on lesbian, gay, and bisexual college students' knowledge, perceptions, and beliefs about HIV/AIDS. Specifically, the sample, instrumentation, and data collection procedures were discussed. The next chapter will discuss the instruments' performance by reporting the reliabilities and inter-subscale correlation. Furthermore, a subscale analysis is provided, which reports the scale means, frequencies and descriptive statistics of the five subscales.

CHAPTER FOUR

RESULTS

This descriptive study sought to determine the knowledge, perceptions, and beliefs of LGB college students regarding HIV/AIDS. This chapter will report the results of the data collection of 20 participants in two parts: a) instrument performance (reliability and inter-subscale correlations); and b) subscale analysis (mean scores and frequencies).

Instrument Performance

The reliability and inter-subscale correlation will be discussed in this section. The researcher will begin by discussing the reliability of each subscale.

Reliability

The preliminary analysis involved the calculations of reliability for each of the subscales. A reliability test was conducted to measure if the questions within each subscale consistently measured the intended construct (Gay, Mills, & Airasian, 2012). A Cronbach's Alpha was used to determine reliability. It is important to note, an alpha coefficient of 1.0 indicates perfect reliability for an instrument (Gay, Mills, & Airasian, 2012). The results of the analysis are reported in Table 2.

Table 2

Reliability for Scale Variables (N=20)

Sub-Scale	Item N	Cronbach's Alpha
Factual Knowledge	12	.08
Perceptions about Sexual Intercourse and Condom Use	9	.67
Perceptions about Susceptibility	16	.42
Self-Efficacy	8	.51
Personal Beliefs	9	.44
Overall instrument	55	.68

Note. Items with zero variance were removed from scale

Only one of the subscales (i.e., Perceptions about sexual intercourse and condom use) had an alpha of over .60. The overall reliability of the instrument was $\alpha = .68$. Both suggest a moderate level of consistency. Sileo and Sileo (2008) reported an alpha of .62 for the factual knowledge subscale but did not report specific alpha scores for the other four subscales or the instrument overall. The subscales below .50 should be interpreted with caution because of the low reliability. Obtaining accurate reliabilities may be the result of a low number (N=20) of participants (Wells & Wollack, 2003). It is also possible that because a factor analysis was never conducted in developing the instrument, inaccurate factor loadings may be contributing to the low reliabilities.

Inter-subscale Correlation

The researcher conducted an inter-subscale correlation among the five subscales to determine if the instrument was measuring five independent constructs. The results of this analysis are presented in Table 3. The inter-subscale correlations matrix revealed that there are moderate to high correlations between the five subscales; however, low correlations exist between personal beliefs subscale and perception about self-efficacy to HIV/AIDS ($r=.06$); perception of sexual intercourse and condom use and personal beliefs ($r=.37$); and personal beliefs and perception of susceptibility to HIV/AIDS ($r=.31$). These low correlations suggest the items in each of these subscales are likely measuring independent constructs. The high correlations on the remaining subscales suggest that they are not measuring five independent constructs. The researcher's interpretation of these findings is that the instrument is likely measuring one or two constructs rather than five independent constructs. It is important to note that the researcher elected not to conduct a factor analysis of the instruments' five subscales due to the small number of responses (N=20).

Table 3

Inter-subscale Correlations Matrix

Sub-Scale	1	2	3	4
1. Factual Knowledge	--			
2. Perception of Sexual Intercourse and Condom Use	.76**	--		
3. Perception of Susceptibility	.61**	.68*	--	
4. Perception about Self Efficacy	.66**	.57**	.42	--
5. Personal Beliefs	.57**	.37**	.31**	.06

Note.

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Sub-scale Analysis

The primary analysis of this study includes the scale means and the descriptive statistics and the frequencies for the five subscales. The researcher will begin by discussing the scale means of each subscale.

Scale Mean

All of the subscales utilized a Likert scale that ranged from 1 (definitely true) to 4 (definitely false). In order to insure that all items were measuring in the same direction, the researcher used a reverse-scoring technique on certain items. The researcher had to determine which items would be reverse-scored because this information was not provided by the author of the survey. As a result, higher mean scores indicate an accurate understanding, perception, or belief about HIV/AIDS. See Table 4 for the computed means, standard deviations, and ranges for each subscale and the instrument as a whole. The highest mean reported was for the perception about sexual intercourse and condom use subscale. The lowest mean reported was for the perception about susceptibility to HIV/AIDS subscale. The means will be discussed further in

Chapter Five. The next section will discuss the KAPS subscales and the items, specifically, the descriptive statistics and the frequencies for the five subscales.

Table 4

Descriptive Statistics for Scale Variable

Sub-Scale	Mean	Std.Dev.	Min.	Max
Factual Knowledge	3.33	.27	2.50	3.62
Perceptions about Sexual Intercourse and Condom Use	3.44	.41	2.20	3.89
Perception about Susceptibility	3.18	.29	2.45	3.56
Self-Efficacy	3.25	.39	2.25	4.00
Personal Beliefs	3.42	.39	2.20	3.90
All Scales	3.31	.26	2.42	3.61

KAPS Subscales and Items

In this section, the responses of the 20 participants who completed the survey are reported. The descriptive statistics and the frequencies for the five subscales are discussed in detail.

Factual knowledge. The majority of the 13 fact-based scaled items were answered correctly. For example, 80-100% of participants answered ten out of the thirteen subscale items correctly. For the statement, “A student may become infected with HIV/AIDS from a mosquito bite” 79% of participants indicated correctly that it was either probably false or definitely false.

Table 5

Results on Factual Knowledge Subscale

Item	N	Definitely True	Probably True	Probably False	Definitely False
Everyone infected with HIV will develop AIDS	20	2 (10%)	9 (45%)	7 (35%)	2 (10%)
*Persons with HIV/AIDS are entitled to equal civil rights protection under the law	20	16 (80%)	2 (10%)	2 (10%)	--
*HIV infection can be spread through breast milk	20	6 (30%)	9 (45%)	4 (20%)	1 (5%)
HIV/AIDS can be cured if treated early	20	1 (5%)	3 (15%)	8 (40%)	8 (40%)
*A person with HIV can infect another person even if there are no symptoms	20	15 (75%)	5 (25%)	--	--
*I will avoid getting HIV/AIDS and other sexually transmitted diseases if I abstain from any sexual activity	20	12 (60%)	4 (20%)	3 (15%)	1 (5%)
“HIV-positive” status means the same as “full-blown AIDS”	20	5 (25%)	15 (75%)	--	--
*Universal precautions should be used whenever body fluids are present	19	14 (74%)	5 (26%)	--	--
*A person may become infected with HIV/AIDS from unprotected sex with a person who has HIV/AIDS	19	16 (84%)	3 (16%)	--	--
*Exchange of body fluids is one way of transmitting HIV/AIDS	19	15 (79%)	4 (21%)	--	--
*HIV/AIDS usually does not cause the death of an infected person with the disease	19	8 (42%)	--	5 (26%)	6 (32%)
A person may become infected with HIV/AIDS from a mosquito bite	19	1 (5%)	3 (16%)	10 (53%)	5 (26%)
HIV/AIDS is restricted to the LGBT community	19	--	--	--	19 (100%)

Note.

* Reverse scored items

The data indicates that two items were answered incorrectly by the majority of participants. On the item, “Everyone infected with HIV will develop AIDS,” more than half of participants (55%, n=11) answered either definitely true or probably true. On the item, “HIV/AIDS usually does not cause the death of an infected person with the disease,” 42% of participants answered either definitely true or probably true (n=8), whereas, 58% (n=11) stated that the statement was either probably false or definitely false. See Table 5 for the frequencies for each fact-based item.

Perception about sexual intercourse and condom use. There are ten items in this subscale. The majority of the responses suggest that the participants had an accurate perception about condom use and sexual intercourse. Specifically, 80-100% of participants answered nine out of the ten items correctly. Many of the responses demonstrated an accurate knowledge on how to use condoms correctly and how to have safe sexual experiences. See Table 6 for the frequencies for each item on the perception about sexual intercourse and condom use subscale.

Table 6

Results of Perception About Sexual Intercourse and Condom Use Subscale

Item	N	Definitely True	Probably True	Probably False	Definitely False
*I will reduce exposure to HIV/AIDS with proper use of a condom during sexual intercourse	20	12 (60%)	8 (40%)	--	--
*Condoms should be used when I do not know my sexual partner well	20	17 (85%)	3 (15%)	--	--
*I will not get HIV/AIDS and other STD's if I use a condom	20	--	8 (40%)	10 (50%)	2 (10%)
Condoms should not be used if a male sexual partner withdraws prior to ejaculation	20	--	2 (10%)	3 (15%)	15 (75%)
Exposure to HIV/AIDS may be reduced by using a lambskin condom	20	2 (10%)	2 (10%)	7 (35%)	9 (45%)
*Condoms should be used in heterosexual intercourse even if a female sexual partner uses birth-control pills or other hormonal birth-control	20	13 (65%)	5 (25%)	2 (10%)	--
*I will reduce the chance of pregnancy if I use a condom during sexual intercourse	19	15 (79%)	4 (21%)	--	--
*I will prevent pregnancy if I abstain from sex	19	10 (53%)	5 (26%)	2 (11%)	2 (11%)
*Condoms should be used if people of any age are sexually active	19	13 (68%)	6 (32%)	--	--
*Condoms should be used even if people are in a long-term mutually monogamous relationship	19	8 (42%)	7 (37%)	4 (21%)	--

Note.

* Reversed scored items

Perception about susceptibility to HIV/AIDS. This subscale is the largest subscale for the HIV/AIDS: KAP Survey. The items on this subscale yielded a great deal of variance. For the item, "Exposure to HIV/AIDS may be reduced by examining sexual partner's sores or abrasions"

participants' answers were split between both definitely true and probably true (50%, n=10) or probably false and definitely false (50%, n=10). Similarly, participants' answers were split for the item, "A person may become infected with HIV/AIDS when giving blood." The correct answer to this item is false. See Table 7 for the responses to each item in the perception about susceptibility to HIV/AIDS subscale.

Table 7

Results of Perception About Susceptibility to HIV/AIDS Subscale

Item	N	Definitely True	Probably True	Probably False	Definitely False
*Exposure to HIV/AIDS may be reduced by examining sexual partner's sores or abrasions	20	3 (15%)	7 (35%)	5 (25%)	5 (25%)
*Exposure to HIV/AIDS may be reduced by ensuring that sexual partners are not HIV infected	20	10 (50%)	8 (40%)	2 (10%)	--
A person may become infected with HIV/AIDS from a toilet seat	20	1 (5%)	--	5 (25%)	14 (70%)
*Exposure to HIV/AIDS may be reduced by avoiding simultaneous use of drugs and or alcohol prior to and during sexual activity	20	10 (50%)	5 (25%)	5 (25%)	--
Exposure to HIV/AIDS may be reduced by engaging in unprotected sex with someone I know well	20	--	3 (15%)	9 (45%)	8 (40%)
*Exposure to HIV/AIDS is reduced when abstaining from vaginal, anal, or oral sex	20	11 (55%)	8 (40%)	1 (5%)	--
Exposure to HIV/AIDS may be reduced by engaging in oral sex without a protective barrier	20	2 (10%)	2 (10%)	7 (35%)	9 (45%)
*I consider myself at risk of becoming infected with HIV/AIDS or other STDs	20	1 (5%)	5 (25%)	8 (40%)	6 (30%)
A person may become infected	20	6 (30%)	4 (20%)	4 (20%)	6 (30%)

with HIV/AIDS when giving blood					
*Exposure to HIV/AIDS may be reduced by careful selection of sexual partners and knowledge of their past sexual activities	20	11 (55%)	7 (35%)	2 (10%)	--
*Exposure to HIV/AIDS may be reduced by avoiding sexual activities that cause bleeding of vaginal or anal tissue	20	10 (50%)	9 (45%)	1 (5%)	--
*Exposure to HIV/AIDS may be reduced by decreasing the number of sexual partners	19	10 (53%)	9 (47%)	--	--
*Exposure to HIV/AIDS may be reduced by using a condom and water-based lubricant	19	6 (32%)	11 (58%)	2 (11%)	--
*I will prevent exposure to HIV/AIDS if I abstain from all sexual activities	19	10 (53%)	5 (26%)	2 (11%)	2 (11%)
*Exposure to HIV/AIDS may be reduced by avoiding contact with semen, blood, or vaginal secretions of sex partners	19	14 (74%)	5 (26%)	--	--
*Exposure to HIV/AIDS may be reduced by restricting sexual intercourse to a single partner	19	8 (42%)	9 (47%)	2 (11%)	--

Note.

* Reversed scored items

In addition, six participants perceived a level of risk of becoming infected with HIV/AIDS or other STIs, whereas 14 of participants lacked the perception that they are at risk. This will be discussed further in Chapter Five.

Perceptions about self-efficacy and HIV/AIDS. This subscale contains eight items. This subscale had relatively wide variance among several items. The responses reveal that 40% of participants answered either probably false or definitely false to the item “I can persuade my sexual partner to abstain from sexual intercourse.” In addition, only half of the participants (50%,

n=10) stated that they “discuss HIV/AIDS and safe-sex practices with others.” Only 37% of participants (n=7) stated that they “discuss HIV/AIDS and safe-sex practices with my sexual partner.” See Table 8 to view the results for each item on this subscale.

Table 8

Results of Perception of Self-Efficacy Subscales

Item	N	Definitely True	Probably True	Probably False	Definitely False
*I can persuade my sexual partner to use a condom	20	15 (75%)	4 (20%)	1 (5%)	--
*I can persuade my sexual partner to abstain from sexual intercourse	20	6 (30%)	6 (30%)	6 (30%)	2 (10%)
*I feel more responsible about my sexual behavior if I use a condom	20	15 (75%)	4 (20%)	1 (5%)	--
*It is acceptable for single people my age to engage in sex with a steady partner	20	14 (70%)	5 (25%)	1 (5%)	--
*I discuss HIV/AIDS and safe-sex practices with others	20	4 (20%)	6 (30%)	9 (45%)	1 (5%)
*I engage in safe-sex behavior practices	20	6 (30%)	9 (45%)	3 (15%)	2 (10%)
*I discuss HIV/AIDS and safe-sex practices with my sexual partner	19	4 (21%)	3 (16%)	6 (32%)	6 (32%)
*I should know the HIV/AIDS status of a person with whom I have sexual intercourse	19	15 (79%)	4 (21%)	--	--

Note.

* Reversed scored items

Personal beliefs about HIV/AIDS. This subscale includes 10 items. The item, “HIV/AIDS is not a world-wide pandemic as portrayed by the media” revealed that 26% of participants believed the statement to be either definitely true or probably true, which is inaccurate. The researcher will comment on this result further in Chapter Five. See Table 9 to view the results for each item in this subscale.

Table 9

Results of Personal Beliefs Subscale

Item	N	Definitely True	Probably True	Probably False	Definitely False
*Persons with HIV/AIDS can look healthy	20	14 (70%)	6 (30%)	--	--
People with HIV/AIDS should be required to identify their health status to coworkers and employers	20	2 (10%)	2 (10%)	9 (45%)	7 (35%)
I am uncomfortable around people with HIV/AIDS	20	1 (5%)	4 (20%)	9 (45%)	6 (30%)
*I would hug and touch a person with HIV/AIDS	20	16 (80%)	3 (15%)	1 (5%)	--
The LGBT population is responsible for introducing and maintaining the HIV/AIDS health problem in the United States	20	--	--	6 (30%)	14 (70%)
Children, adolescents, and young adults with HIV/AIDS should be required to identify their health status in school settings	19	--	5 (26%)	6 (32%)	8 (42%)
I would object if a counseling center for HIV/AIDS opened in my neighborhood	19	--	--	2 (11%)	17 (89%)
*HIV/AIDS prevention education should be integrated into the school curriculum	19	19 (100%)	--	--	--
People with HIV/AIDS should wear medical identification bracelets	19	--	4 (21%)	8 (42%)	7 (37%)
HIV/AIDS is not a world-wide pandemic as portrayed by the media	19	1 (5%)	4 (21%)	5 (26%)	9 (47%)

Note.

* Reversed scored items

Summary

This chapter presented the findings of this quantitative study on lesbian, gay, and bisexual college students' knowledge, perceptions, and beliefs of HIV/AIDS using the HIV/AIDS: KAP Survey. The data on the instrument performance and data on the sample using the instrument were reported in this chapter. Caution should be used when interpreting the data due to the relatively low reliabilities reported. In general, the responses indicate an accurate understanding of HIV/AIDS, yet, reveals a wide variance regarding perceptions about self-efficacy and HIV/AIDS. In the next chapter, a discussion of these findings will be presented. In addition, the implications for practice, future research, and the limitations will be provided.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

This descriptive study sought to identify lesbian, gay, and bisexual college students' knowledge, perceptions, and beliefs about HIV/AIDS. To accomplish this, the researcher distributed an online questionnaire to members of the gay-straight alliance and relied on snowball sampling to reach participants. The findings discussed in this chapter were collected from 20 participants. This chapter will include a discussion of the findings, implications for practice and research, and limitations of the study.

Discussion of the Findings

This section discusses the preliminary findings of the study including the subscale means and an analysis of the subscales.

Subscale Means

The scale means reported in Table 4 provide some insight on the different subscales. Higher scores for this survey reflect an accurate understanding of the construct that subscale is measuring. The HIV/AIDS: KAP survey did not include instructions for interpreting the scores; therefore, the following interpretations are drawn from the subscale scores relative to one another. Overall, participants' mean score for all five subscales were between 3.18 and 3.44. The researcher will discuss these subscales in order from highest to lowest.

The subscale measuring perceptions about sexual intercourse and condom use received the highest mean score overall of 3.44. This subscale measured the participants' awareness surrounding sexual intercourse and protection against sexually transmitted infections (STIs) and unwanted pregnancy. The personal beliefs subscale received the second highest mean score of 3.42. This subscale measured views about the physical appearance of people who are HIV positive, the laws and rights of these individuals, and the degree to which HIV/AIDS is a

pandemic. The subscale measuring factual knowledge received the next highest mean score of 3.33. This subscale measured participants' command of the facts related to HIV/AIDS. The items discussed in this subscale included basic knowledge that one should receive in a K-12 academic setting. The subscale measuring perceptions about self-efficacy and HIV/AIDS received a mean score of 3.25. These items assessed the participants' own sexual agency with respect to persuading a sexual partner to use a condom, abstaining from sex, or talking about safe-sex practices with others. Lastly, the subscale measuring perception about susceptibility to HIV/AIDS scored the lowest mean score. The items that were asked in this subscale included items about vulnerability to HIV/AIDS.

The overall scores indicate that the participants for this study have an accurate understanding of knowledge, perceptions, and beliefs surrounding HIV/AIDS. A comparison between the highest and the lowest subscale suggest that participants have a better awareness surrounding sexual intercourse and protection against STIs and unwanted pregnancy than an understanding of their own vulnerability to HIV/AIDS. This may indicate that participants have a great understanding of the dangers of HIV/AIDS but do not perceive themselves at risk for contracting HIV/AIDS. This is consistent with Marsiglia, Jacobs, Nieri, Smith, Salmone, and Booth's (2013) suggestion that having knowledge does not guarantee safe behavior during sexual activities. In addition, this may be explained by the increasing complacency that often surrounds HIV/AIDS due to the belief that one can now live a long life even with the HIV infection (CDC, 2012). As stated earlier, younger generations are complacent about HIV/AIDS because they did not grow up during a time when HIV/AIDS was, essentially, a death sentence. Furthermore, these findings translate to other characteristics of younger generations. For example, recent news suggests that young adults are refusing to buy health insurance as a result of Obamacare

due to the perception of invincibility. De Marco and Hernandez (2014) identify these young adults as “young invincibles” (p.1), adults who are typically between the ages of 18 to 34 years. These individuals understand that they could potentially need health insurance; yet, they believe health insurance is unnecessary due to their invulnerability.

Analysis of the Subscales

This section will discuss the findings related to the five subscales: a) factual knowledge; b) perception of sexual intercourse and condom use; c) perception of susceptibility and HIV/AIDS; d) perception about self-efficacy and HIV/AIDS; and e) personal beliefs about HIV/AIDS.

Factual knowledge. Participants answered the majority of the factual knowledge items correctly in this study. The scale mean of 3.33 supports the suggestion that the participants in this study were generally knowledgeable about HIV/AIDS. The data indicates that two items were answered incorrectly by the 20 participants. On the item, “Everyone infected with HIV will develop AIDS,” more than half of participants (55%, n=11) answered either definitely true or probably true. On the item, “HIV/AIDS usually does not cause the death of an infected person with the disease,” 42% of participants answered either definitely true or probably true (n=8), whereas, 58% (n=11) stated that the statement was either probably false or definitely false. These items may have been answered incorrectly due to a gap in up-to-date information accessible to participants. During the onset of HIV/AIDS in the United States, it was believed that HIV infected people were dying from the infection; however, (as stated in Chapter 2) most people infected with HIV/AIDS die from infectious diseases due to the weakened immune system (Stine, 2005). The item, “A student may become infected with HIV/AIDS from a mosquito bite” represented one of the lower scored items (79% of participants stated correctly that it was either

probably false or definitely false). This was not surprising to the researcher due to the misconception that is often associated with this fact. The basic knowledge surrounding HIV/AIDS reported in this study is consistent with Brooke, Adam, McCauley, and Bortolin's (2010) findings that there is more knowledge and awareness regarding HIV/AIDS among today's college students.

Perception about sexual intercourse and condom use. Participants were able to accurately demonstrate an understanding and knowledge about using condoms correctly and how to have safe sexual experiences. Participants' responses emphasized the importance of using condoms during sexual intercourse. This was surprising to the researcher due to overwhelming number of participants who identified as lesbian and as bisexual women in the current study (n=15) and who answered the items in support of using condoms during sexual intercourse. It appears that the female participants are aware of the necessity of wearing a condom with male partners; however, they may be unaware or choose not to use protection while engaging in sexual intercourse with a female partner. Research showed that lesbian and bisexual women believe they are at no risk for contracting AIDS (Brooke et al., 2010); therefore, many lesbian and bisexual women do not use protection.

Perception about susceptibility and HIV/AIDS. This subscale consisted of the largest number of items. The items asked participants to reveal the level of vulnerability they feel to HIV/AIDS. The item "I consider myself at risk of becoming infected with HIV/AIDS or other STDs" revealed that 70% of participants do not feel they are at risk for contracting HIV/AIDS. This is consistent with the research that stated feelings of invincibility often surfaces even with an understanding that HIV/AIDS is a pandemic (Kaiser, 2012). In addition, responses were varied for the item "Exposure to HIV/AIDS may be reduced by examining sexual partner's sores

or abrasions.” Participants correctly answered “definitely true” or “probably true” at a rate of 50%; however, 50% of the participants incorrectly answered this item. A lack of education surrounding this item may contribute to this variance. Furthermore, participants were split when answering the item “A person may become infected with HIV/AIDS when giving blood.” The answer for this item is false. The variance in these scores may be due to a misinterpretation of the question; the history of blood donations and HIV/AIDS may have led some participants to believe this question was asking about “*receiving* blood donations” instead of “giving blood donations.” Darling (2013) reported that in the 1980’s, hemophiliacs were acquiring HIV-related symptoms at an alarming rate due to HIV positive donors infecting the blood supply. As a result, people who are HIV positive or associated with HIV such as, intravenous drug users and men who have sex with men, were banned from donating blood by the FDA. The persistent and lingering effects of this history may contribute to the divided responses from participants even though HIV transmission has not occurred from a plasma-derived product since 1987.

Perception about self-efficacy and HIV/AIDS. The answers to the items in this subscale revealed inconsistencies between the participants’ knowledge and participants’ perception regarding self-efficacy. Research showed that LGB college students are less likely to talk about safe-sex practices for fear that their partner may believe they do not trust them (Brooke et al., 2010). This is consistent with the data collected from this study. Only 37% of participants stated that they “discuss HIV/AIDS and safe-sex practices with my sexual partner.” In addition, 75% of participants’ state that they engage in safe-sex behavior practices; yet 25% state that they do not. Research stated that open communication between partners about HIV/AIDS leads to safer sex practices (Simoni & Pantalone, 2004). Interestingly, participants all believed that they should know the HIV/AIDS status of a person with whom they are engaging in

sexual intercourse; however, only 37% of participants discuss HIV/AIDS and safe sex practices with their partner and only 50% discuss HIV/AIDS and safe sex practices with others.

Personal beliefs about HIV/AIDS. Participants responded to 10 items in this subscale. Participants exhibited positive beliefs about HIV/AIDS. The items in this subscale asked participants to reveal their personal beliefs surrounding people who are HIV positive and the education needed surrounding HIV/AIDS. The majority of items revealed positive beliefs surrounding HIV/AIDS. For example, 95%-100% stated they “would hug or touch a person with HIV/AIDS” and that the LGBT population is not responsible for introducing and maintaining the HIV/AIDS health problem in the United States. The most interesting response for this subscale was the last item that stated, “HIV/AIDS is not a world-wide pandemic as portrayed by the media.” The majority of participants (73%) answered this item as false and 27% stated that this statement was true. These findings are inconsistent with the percentage reported by Stine (2005) that stated only 15% believe HIV/AIDS is a pandemic proving complacency surrounding HIV/AIDS.

The analysis of the five subscales above seems consistent with research, which showed that LGB college students have a basic HIV/AIDS knowledge (Grin, Chan, & Operario, 2013). This study further substantiates the Kaiser’s (2012) finding that knowledge about HIV/AIDS does not guarantee safe sexual practices.

Participants’ perceptions about HIV/AIDS were reflected in their responses. Participants were asked to identify whether they considered being tested for HIV/AIDS (“yes”=11, “no”=9) and whether they have been tested for HIV/AIDS (“yes”=6, “no”=14). The participants’ answers were consistent with the findings reported by UNAIDS (2005). One interpretation of their findings was that stigma might prevent people from seeking HIV testing. In addition, participants

were asked to identify whether or not they discuss HIV/AIDS and safe-sex with others. Participants (50%) stated that they do not engage in this practice. Simoni and Pantalone (2004) stated that open communication will likely lead to safe sex; however, stigma creates a barrier for people to engage in these conversations for fear of rejection, discrimination, or abandonment if they are HIV positive. Although stigma was not directly measured in the current study, the consistency of the findings between the current study and other studies suggests that participants in the current study may not want to talk about HIV/AIDS due to the stigma surrounding HIV/AIDS.

In addition to stigma, the findings from the current study also raise a question about the possibility of complacency. The Kaiser Foundation Survey (2012) reported that 72% of participants stated they are “not at all concerned” about HIV/AIDS, suggesting that society is complacent about HIV/AIDS. This is consistent with the findings of the current study. Complacency may be used to explain why the majority of participants did not believe they were at risk of becoming infected with HIV/AIDS or other STDs (70% of respondents stated they were not at risk). The majority of participants in this study identified as lesbian college students, which may be the reason for the low perception of risk. This population has a low perception of risk for HIV/AIDS due to the education they receive, which states that lesbian sexual activities typically do not lead to the transmission of STDs (Diamant, Lever, & Schuster, 2000). The next section will discuss the implications.

Implications

The following section will discuss the implications for practice and future research relating to the knowledge, perceptions, and beliefs of lesbian, gay, and bisexual college students regarding HIV/AIDS.

Implications for Practice

As the results of this study have shown, there are inconsistencies between participants' knowledge about HIV/AIDS and participants' sexual behaviors. Participants' revealed an understanding of basic knowledge about HIV/AIDS and positive beliefs; however, as stated earlier, the data suggests stigma and complacency may play a role in preventing safe sexual practices in the LGB college student population. These findings inform the student affairs practice of the specific needs and prevention strategies to promote HIV prevention among the LGB college student population. The following sections will discuss college professionals and health services practices as well as general prevention strategies.

College professionals and campus health services. College professionals and health services need to ensure that the LGB college student population receives the support needed to be a successful student (Sanlo & Espinoza, 2012). As stated earlier, much of the information provided by health services is unconsciously targeted towards the heterosexual majority (Schaller, 2011). Therefore, LGB college students may not feel the information relates to them personally. Therefore, they lack the perception that they are vulnerable to contracting HIV/AIDS, which is reflected in the data of the current study. The information provided in this study suggests that participants' perception of HIV/AIDS is influenced by the stigma and complacency that surrounds safe sex practices. Therefore, HIV prevention strategies are needed to educate LGB college students on how to combat the stigma and complacency surrounding HIV/AIDS.

HIV prevention strategies available to combat the stigma and complacency on college campuses include a) curriculum infusion; b) environmental interventions; c) peer education; d) social norming; and e) special events (Hoban et al., 2003). First, the technique of infusing

HIV/AIDS education into the academic curriculum allows for campuses to reinforce important facts about HIV/AIDS to individuals who may not be reached by health services. This may include culturally specific information about HIV/AIDS that is associated with at-risk populations. This information could include information about the stigma and complacency that surrounds HIV/AIDS. This technique is especially useful when infusing HIV/AIDS knowledge into unrelated disciplines such as a history, math, or science courses. Commuter students and/or part-time students may benefit the most from curriculum infusion because they may not participate in traditional programming events. Second, professionals can strive to create an environment that supports a healthy community through wellness initiatives, resources, and policies that prioritize the need to address HIV/AIDS on college campuses. Creating an environment that supports healthy and safe sexual practices may allow for the adoption of such practices. Third, campuses can strive to create peer education programs that allow for students to learn how to navigate conversations with sexual partners, create open forums for discussion, and combat views of invincibility among college students. Professionals can combat views of stigma and complacency surrounding HIV/AIDS by allowing peer educators to stress vulnerability to HIV/AIDS by culturally tailoring education about stigma and complacency to their peers. Fourth, Hoban et al (2003) stated, social norming initiatives have been proven successful at decreasing the number of alcohol violations on college campuses. Normalizing safe sexual behaviors may prove successful in decreasing the amount of risky behaviors conducted on college campuses. Hoban et al (2003) state that research involving the practice of normalizing safe sexual behavior has not been completed but may prove beneficial. Lastly, college campuses can combat the stigma and complacency surrounding HIV/AIDS by planning and implementing campus wide events that highlight these particular issues to the larger population.

Prevention strategies. Traditionally, prevention programs and strategies are geared toward promoting safer sexual behaviors; however, behavioral alterations solely will not eliminate the risk of HIV transmission. AmfAr (2011) stated, small changes in sexual behavior are not sufficient in protecting populations against infection when a high risk of HIV exposure is present because there are other factors that contribute to higher rates of sexual risk such as untreated sexually transmitted diseases, undiagnosed HIV infection, and lower rates of antiretroviral therapy (ART) use. Behavioral interventions are unsuccessful in addressing these additional factors when it is the only prevention strategy used. The social norms and culture of a collective population need to be considered for a holistic approach (amfAr, 2011). To promote successful HIV prevention programs for the lesbian, gay, and bisexual college student population, colleges and universities need to adopt a multifaceted approach to HIV prevention by addressing the knowledge, perceptions, and beliefs (in addition to sexual behaviors). This approach should be data driven in order to create effective programs (Hoban, Ottenritter, Gascoigne, & Kerr, 2003) and should be adopted universally across offices and departments. Studies have shown the following initiatives are the most effective for HIV prevention: small-group discussions, outreach to at-risk populations, training of peers and volunteers, safer-sex kits, large-group discussions, support groups, and individual counseling (Hoban et al., 2003).

Implications for Future Research

The availability of current, up-to-date information on the knowledge, perceptions, and beliefs of the lesbian, gay, and bisexual college student population is limited but provides an array of potential research to be conducted (Lindley et al., 2003). Based on the data collected from the current study, a quantitative study focused on stigma and complacency among the LGB population may allow practitioners to identify factors that discourage HIV testing and

prevention; therefore, facilitating efficient and effective HIV prevention strategies such as confidential HIV testing centers, HIV education combating stigma associated with HIV/AIDS, or programs that create awareness around the realities of HIV/AIDS infection among LGB college students.

Moreover, studying the stigma that influences the open communication, or lack thereof, between members of the LGB college student population may allow for college professionals and health services to develop HIV prevention programs that teach students how to combat the stigma surrounding conversations involving HIV/AIDS. This information may provide professionals with the knowledge to provide a hands-on-learning environment that teaches the LGB college student population how to navigate these difficult conversations.

Furthermore, the current study did not specifically focus on the sexual behaviors of LGB college students or HIV testing behaviors; however, these were referenced throughout the current study as a result of the information gathered. A study focused on HIV testing behaviors in the LGB college student population may allow for college professionals and health services to create HIV prevention strategies that provide accessible rapid HIV tests to LGB college students. Moreover, participants (100%) stated that they believed HIV/AIDS prevention education should be integrated into the school curriculum. A study focusing on effective educational courses on HIV/AIDS would be beneficial for future education and outreach for LGB college students. Furthermore, based on the means collected from the current study, a study focused on the perceived vulnerability of LGB college students regarding HIV/AIDS would be helpful for college professionals and health services' efforts to conduct educational conversations surrounding LGB college students' perceived vulnerability towards HIV/AIDS.

Limitations

The study examined lesbian, gay, and bisexual college students' knowledge, perceptions, and beliefs regarding HIV/AIDS; however, when reading these results caution should be used when generalizing to the lesbian, gay, and bisexual college student population at-large. The researcher acknowledges four limitations that the reader should consider: a) limited available population and resulting sample; b) validity of answers; c) assumptions inherent in the instrument; and d) face validity and factor loading.

The size of the sample is a limitation of this study. The small sample size affects the validity of the findings and the researchers' ability to conduct analysis. The small sample size may have resulted due to the lack of visibility and access to the LGB population at the institution. In addition, the researcher relied on snowball sampling to acquire participants, which may have led to a small sample size due to participants not forwarding the survey on to others. The researcher attempted to increase the sample size by asking additional committees associated with the LGBT community on campus to forward the survey to known members of the LGBT community. This limitation may be resolved in future research by conducting this study at more than one institution, at an institution with a LGBT Resource Center, or by providing an incentive to encourage participants to complete the survey.

Moreover, self-report instruments are susceptible to social desirability (Adams et al., 2005). Although the researcher ensured participant anonymity, survey items about sexual attitudes and behaviors can feel risky to college students. This limitation may be resolved in future research by pairing the HIV/AIDS: KAPS with a social desirability scale to assess if social desirability may have influenced the participants' answers.

Furthermore, the assumptions underlying the instrument may have been a limitation for this study. A few of the items that were constructed for this survey were heteronormative in nature, which means, questions assumed that participants were engaging in heterosexual relations. Two examples of heteronormative items in the HIV/AIDS: KAP Survey include: a) “I will reduce the chance of pregnancy if I use a condom during sexual intercourse;” and b) “I will prevent pregnancy if I abstain from sex.” Originally, the instrument was used to determine the knowledge, perceptions, and beliefs of –presumably heterosexual–Native American college students. As a result of the heteronormative nature of the instrument, the lesbian, gay, and bisexual college student population who participated in this study may not have been able to fully relate to the items which may, in turn, have affected their participation or their responses. This limitation may be resolved in future research by creating more inclusive items with the permission of the instrument’s authors.

Lastly, the face validity and factor loading of items are limitations of this study. Participants’ responses may have been inconsistent due to multiple interpretations of an item. For example, the item “A person may become infected with HIV/AIDS when giving blood” may have been misinterpreted by participants (as was discussed in Chapter 5). In addition, because the author of the instrument did not report a factor analysis on the items, it is possible that some items are not loading accurately on the assigned subscales. For example, an item that was included on the perceptions about susceptibility to HIV/AIDS subscale might load more accurately on the factual knowledge about HIV/AIDS subscale was, “A person may become infected with HIV/AIDS from a toilet seat.” This limitation may be resolved in future research by, with the author’s permission, modifying the instrument and re-evaluating the instrument performance.

Summary and Conclusion

This chapter discussed the findings of the five subscales of the HIV/AIDS: KAPS. In addition, the chapter discussed the implications for practice, implications for future research, and the limitations of the study. The researcher discussed the problem and the significance of the study regarding lesbian, gay, bisexual college students' knowledge, perception, and beliefs about HIV/AIDS. A literature review was provided to establish the foundation of this study and the methodology was provided to explain the structure of the study. Furthermore, the data was provided with a discussion of the findings.

The findings of this study have attempted to answer the research question: "What are lesbian, gay, and bisexual college students' knowledge, perceptions, and beliefs with respect to HIV/AIDS?" As stated earlier, the data from the current study is consistent with the finding that LGB college students have a basic knowledge of HIV/AIDS but this fact does not guarantee safe sexual practices (Kaiser, 2012). In addition, the current study revealed that participants' perceptions about HIV/AIDS were consistent with the findings that stigma may prevent people from seeking HIV testing (UNAIDS, 2005) as well as talking about HIV/AIDS due to the stigma surrounding HIV/AIDS. Moreover, complacency may be used to explain why the majority of participants did not feel as if they were at risk of becoming infected with HIV/AIDS or other STDs. Furthermore, the majority of participants expressed positive beliefs about HIV/AIDS, which is supported by the personal beliefs subscale receiving the second highest mean score.

Student affairs professionals from the institution of the current study and the participants may benefit from the findings. The insights may provide practitioners with an understanding lesbian, gay, and bisexual college students' knowledge, perceptions, and beliefs surrounding HIV/AIDS. In addition, the LGB college student population will benefit from programs or

services that are provided to address the findings of this study. The findings of this study cannot be generalized to larger populations, but student affairs professionals who may work with this particular population can use the data provided to influence their practice to be more inclusive in their efforts to reach out and educate all college students about safer and healthy sexual practices.

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Appendix A

GAY-STRAIGHT ALLIANCE MEMBERSHIP EMAIL

Hello,

I am a graduate student at Indiana University of Pennsylvania. A curriculum option in my program is to complete a thesis study. I am conducting a research study titled “Lesbian, Gay, and Bisexual College Students’ Knowledge, Perceptions, and Beliefs about HIV/AIDS.” The purpose of the project is to obtain information from lesbian, bisexual, and gay college students (ages 18-24) about the knowledge, perceptions, and beliefs about HIV/AIDS.

I have asked the president of the gay-straight alliance, [name removed], and the staff advisor, [name removed], to cosponsor this email to ensure you that the survey is confidential. Your participation in this study is completely voluntary and you can opt out of the survey at any time by just closing your browser.

The survey is very brief and will only take about 5-10 minutes to complete. If you are willing to participate, please click the link below to access the survey. Also, at the end of the survey, if you are willing, please feel free to forward this email to any IUP student who meets the specific criteria for this study (undergraduate student, 18-24 years old, self-identified lesbian, gay, or bisexual individual). Furthermore, the preliminary results will be available for all participants upon request at the end of the survey.

LINK: https://iup.qualtrics.com/SE/?SID=SV_eKBb259DWjhZHjn

I appreciate the time you took to read this email and thank you in advance if you choose to participate.

Thank you.

Appendix B

INFORMED CONSENT

Lesbian, Gay, and Bisexual College Students' Knowledge, Perceptions, and Beliefs about HIV/AIDS

The following information is provided in order to help you make an informed decision whether or not to participate in this research study.

The purpose of this study is to gain a better understanding of lesbian, gay, and bisexual college students' knowledge, perceptions, and beliefs about HIV/AIDS. This information can inform campus administrators and health professionals about the educational programs they provide to students. This online survey will take no longer than 10 minutes to complete.

Your participation is completely voluntary and you are under no obligation to participate. Because the survey is administered through a third party service, it will be impossible for the researcher to link your responses to your name or email address. Your responses will be considered only in combination with those from other respondents. The information obtained in the study may be published in journals or presented at a professional conference. If you choose to participate, you can stop taking the survey and exit your browser at any time.

If you are willing to participate in this study, please indicate so by clicking on the agree box on the bottom of this page.

If you have any questions about the survey please contact Jamie Piperato at ltvs@iup.edu. The summary of the findings will be available to each participant upon request. The procedure to request these findings will be explained at the end of the survey. The faculty advisor for this research is Dr. John Mueller. This research has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (724.357.7730). If you have questions about the research, research subjects' rights or research results, contact the following person:

Jamie Piperato
Graduate Student
Indiana University of Pennsylvania
Department of Student Affairs in Higher Education
ltvs@iup.edu

Appendix C

DEMOGRAPHICS AND HIV/AIDS KAPS

Demographics

Gender: _____

Age: _____

Class Year:

- Freshman
- Sophomore
- Junior
- Senior
- Graduate

Race/Ethnicity _____

Sexual Orientation: _____

In the past year have you had sex with women?

- Yes
- No

In the past year have you had sex with men?

- Yes
- No

Do you know someone with AIDS?

- Yes
- No

Do you have a family member with AIDS?

- Yes
- No

Have you considered being tested for HIV/AIDS?

- Yes
- No

Have you been tested for HIV/AIDS?

- Yes
- No

Have you tested positive for HIV/AIDS?

- Yes
- No

HIV/AIDS KAPS

Answer Key: (1) Definitely True (DT); (2) Probably True (PT); (3) Probably False (PF); (4)

Definitely False (DF)

Item	(1) DT	(2) PT	(3) PF	(4) DF
1. Everyone infected with HIV will develop AIDS				
2. Persons with HIV/AIDS can look healthy				
3. Exposure to HIV/AIDS may be reduced by examining sexual partner's sores or abrasions				
4. I can persuade my sexual partner to use a condom				
5. Persons with HIV/AIDS are entitled to equal civil rights protection under the law				
6. I will reduce exposure to HIV/AIDS with proper use of a condom during sexual intercourse				
7. HIV infection can be spread through breast milk				
8. Exposure to HIV/AIDS may be reduced by ensuring that sexual partners are not HIV infected				

Item	(1) DT	(2) PT	(3) PF	(4) DF
9. A person may become infected with HIV/AIDS from a toilet seat				
10. HIV/AIDS can be cured if treated early				
11. A person with HIV can infect another person event if there are no symptoms				
12. I can persuade my sexual partner to abstain from sexual intercourse				
13. Condoms should be used when I do not know my sexual partner well				
14. Exposure to HIV/AIDS may be reduced by avoiding simultaneous use of drugs and or alcohol prior to and during sexual activity				
15. I feel more responsible about my sexual behavior if I use a condom				
16. I will not get HIV/AIDS and other STD's if I use a condom				
17. Exposure to HIV/AIDS may be reduced by engaging in unprotected sex with someone I know well				
18. People with HIV/AIDS should be required to identify their health status to coworkers and employers				
19. Exposure to HIV/AIDS is reduced when abstaining from vaginal, anal, or oral sex				
20. It is acceptable for single people my age to engage in sex with a steady partner				
21. Condoms should not be used if a male sexual partner withdraws prior to ejaculation				
22. Exposure to HIV/AIDS may be reduced by engaging in oral sex without a protective barrier				

Item	(1) DT	(2) PT	(3) PF	(4) DF
23. I consider myself at risk of becoming infected with HIV/AIDS or other STD's				
24. I am uncomfortable around people with HIV/AIDS				
25. A person may become infected with HIV/AIDS when giving blood				
26. Exposure to HIV/AIDS may be reduced by using a lambskin condom				
27. I discuss HIV/AIDS and safe-sex practices with others				
28. I will avoid getting HIV/AIDS and other sexually transmitted diseases if I abstain from any sexual activity				
29. Condoms should be used in heterosexual intercourse even if a female sexual partner uses birth-control pills or other hormonal birth-control				
30. I would hug and touch a person with HIV/AIDS				
31. The LGBT population is responsible for introducing and maintaining the HIV/AIDS health problem in the United States				
32. Exposure to HIV/AIDS may be reduced by careful selection of sexual partners and knowledge of their past sexual activities				
33. "HIV positive" status means the same as "full-blown AIDS"				
34. Universal precautions should be used whenever body fluids are present				
35. I engage in safe-sex behavior practices				
36. Exposure to HIV/AIDS may be reduced by avoiding sexual activities that cause bleeding of vaginal or anal tissue				

Item	(1) DT	(2) PT	(3) PF	(4) DF
37. Children, adolescents, and young adults with HIV/AIDS should be required to identify their health status in school settings				
38. I will reduce the chance of pregnancy if I use a condom during sexual intercourse				
39. Exposure to HIV/AIDS may be reduced by decreasing the number of sexual partners				
40. I would object if a counseling center for HIV/AIDS opened in my neighborhood				
41. A person may become infected with HIV/AIDS from unprotected sex with a person who has HIV/AIDS				
42. I discuss HIV/AIDS and safe-sex practices with my sexual partner				
43. Exposure to HIV/AIDS may be reduced by using a condom and water-based lubricant				
44. I will prevent exposure to HIV/AIDS if I abstain from all sexual activities				
45. HIV/AIDS prevention education should be integrated into the school curriculum				
46. People with HIV/AIDS should wear medical identification bracelets				
47. Exchange of body fluids is one way of transmitting HIV/AIDS				
48. HIV/AIDS usually does not cause the death of an infected person with the disease				
49. I will prevent pregnancy if I abstain from sex				
50. Exposure to HIV/AIDS may be reduced by avoiding contact with semen, blood, or vaginal secretions of sex partners				
51. Condoms should be used if people of any age are sexually active				
52. A person may become infected with HIV/AIDS from a mosquito bite				

Item	(1) DT	(2) PT	(3) PF	(4) DF
53. HIV/AIDS is not a world-wide pandemic as portrayed by the media				
54. Exposure to HIV/AIDS may be reduced by restricting sexual intercourse to a single partner				
55. I should know the HIV/AIDS status of a person with whom I have sexual intercourse				
56. Condoms should be used even if people are in a long-term mutually monogamous relationship				
57. HIV/AIDS is restricted to the homosexual population				

Appendix D

CONCLUSION OF SURVEY

Lesbian, Gay, and Bisexual College Students' Knowledge, Perceptions, and Beliefs about HIV/AIDS

Thank you for completing this survey. Please remember that the answers you have provided in this survey are confidential. There is no way the researcher can link the answers you provided to your email address, name, or any identifiable information.

Please forward this survey to any IUP student who meets the specified criteria of the survey (undergraduate, 18-24 years old, self-identified lesbian, gay, or bisexual individual). Please copy and paste the below link to share.

LINK: https://iup.qualtrics.com/SE/?SID=SV_eKBb259DWjhZHjn

Also, feel free to request the preliminary results of the survey by emailing the researcher at ltvs@iup.edu.

(Note: There is no way the researcher can link the answers you provided by emailing the researcher to request the preliminary results).

Thank you once again!
Good luck with the rest of your semester.

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Appendix E

SUBSCALE ITEMS

Subscale	Items
Factual Knowledge About HIV/AIDS	1, 5, 7, 10, 11, 28, 33, 34, 41, 47, 48, 52, 57
Perception about Sexual Intercourse and Condom Use	6, 13, 16, 21, 26, 38, 49, 51, 56
Perceptions about Susceptibility to HIV/AIDS	3, 8, 9, 14, 17, 19, 22, 23, 25, 32, 36, 39, 43, 44, 50, 54
Perceptions about Self-Efficacy and HIV/AIDS	4, 12, 15, 20, 27, 35, 42, 55
Personal Beliefs about HIV/AIDS	2, 18, 24, 30, 31, 37, 40, 45, 46, 53.

For scoring instructions, please contact the instrument's developer, Dr. Nancy Sileo at nmsileo@gmail.com.