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UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

PERSONALIZING THE RISK OF AIDS:
INVESTIGATING THE ATTITUDES, COMMUNICATION AND
BEHAVIOR OF PEOPLE LIVING WITH HIV

A Dissertation
SUBMITTED TO THE GRADUATE FACULTY
In partial fulfillment of the requirements for the
degree of
Doctor of Philosophy

By
Tara L. Crowell
Norman, OK
1999

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A Dissertation APPROVED FOR THE
DEPARTMENT OF COMMUNICATION

BY

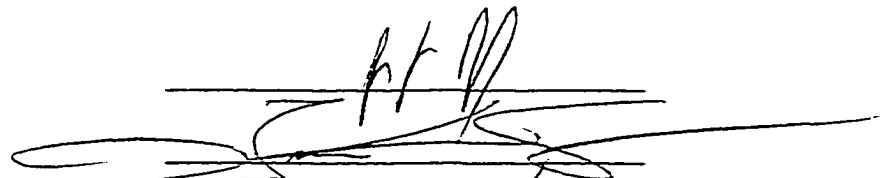
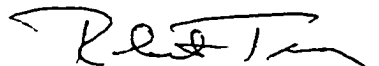
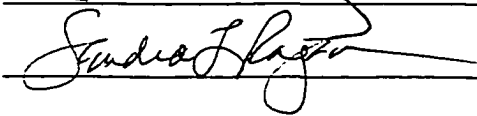

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ABSTRACT

Statistics indicate that the number of HIV positive heterosexuals continues to increase, and AIDS prevention is now an international concern. Researchers states that HIV negative individuals still engage in risky sexual behaviors even though they are knowledgeable about HIV and skillful in prevention methods. Further investigation reveal that an individual's attitudes may interfere with the link between his/her HIV knowledge, skill level, and actual sexual behavior. This research posits that an individual's attitudes and communication regarding HIV directly influence his/her sexual behavior. Overall, previous research indicates that if an individual perceives him-herself as invulnerable to HIV, he/she is less likely to engage in safer sexual communication and/or behavior. Thus, recent scholars posit that personalization may be a key factor is getting individuals to engage in safer sexual practices.

Research states there is a positive correlation between personalizing the risk of HIV and engaging in safer sex practices. Although limited research exists on the subject, direct contact with an individual who is HIV positive is one variable that holds promise for influencing an individual to personalize his/her risk of HIV. Specifically, an individual who is exposed to an HIV positive person that he/she perceives as similar to him-herself, is more likely to personalize the risk of AIDS. However, many sexually active heterosexuals do not have an abundant amount of contact with someone who is heterosexual, HIV positive, and posses similar characteristics. Furthermore, many individuals are uninformed about the behavioral,

social, and psychological characteristics of heterosexuals living with HIV. Therefore, the purpose of this dissertation is to identify, and uncover the characteristics of individuals who acquired HIV through heterosexual activities.

Forty HIV positive heterosexuals, who were infected through heterosexual sexual activity, completed an on-line questionnaire. Each participant provided information on their perceived HIV knowledge, perceived risk of HIV, safer sex communication, and safer sex behavior prior to infection. Participants' responses to closed and open ended questions were analyzed to identify the characteristic of heterosexuals living with HIV and determine if HIV positive and HIV negative individuals hold similar levels of safer sex knowledge, attitudes, communication, and behavior. Additionally, participants based on their experience living with HIV, provided suggestions and/or advice to HIV negative individuals.

Results of this study indicate that prior to infection, HIV positive heterosexuals reported having similar safer sexual beliefs, attitudes, communication, and behaviors to those not infected with virus. Specifically, participants reported moderate levels of knowledge regarding HIV, and low levels of condom use when engaging in oral, vaginal, and anal sex. These results are consistent with past research on HIV negative individuals' safer sex knowledge and behavior. Thus, this study reveals no real differences between HIV positive and HIV negative individuals' awareness of the virus or condom usage.

Another similarity revealed between HIV positive and HIV negative individuals was their attitudes toward HIV and safer sex behaviors. Results indicate

that prior to infection, HIV positive individuals had moderate to high levels of trust for their partners, low levels of perceived risk of infection, and high levels of perceived partner safety. Additionally, this study found a negative relationship among participants' level of vulnerability, perceived partner safety, and partner trust. Participants' perception of partner safety combined with partner trust explained 40% of their perceived level of risk. Past research on HIV negative individuals yields similar findings of the relationship between individuals perceived invulnerability, trust, and perceived safety of partner.

Participants in this study reported high levels of willingness to engage in safer sex communication, but low levels of actual communication. Further, results revealed that participants who engaged more often in safer sex communication were more likely to use condoms. In this study the positive relationship between communication and condom use is similar to results from past research findings. Additionally, participants reported high levels of condom self-efficacy and moderate levels of assertiveness; both variables positively correlated with condom use. Again, these results parallel past findings and illustrate similarities between the two groups. Finally, participants reported that they believed they did not need to discuss using condoms because they were not at risk. Previous research reveals that HIV negative individuals' reported holding the same beliefs.

Findings of gender differences and differences in relational status are also important. Specifically, men reported higher levels of condom-self-efficacy, and argumentativeness; whereas women perceived their partners as "safer" than did men.

Additionally, those in serious relationships perceived their partners as safer than those in casual relationships. These results have implications for the design of future prevention messages and programs.

High levels of personalization of HIV were found neither in this sample nor in other research focusing on HIV negative individuals. The absence of personalization provides one possible explanation for many of the above findings—high knowledge and skill levels, but low levels of safer sex communication and behavior due to the low levels of perceived risk of infection. Without personalization of the risk of HIV, individuals are not motivated to convert their beliefs and skills into corresponding behaviors (safer sex communication and condom use). In attempting to increase individuals' personalization of HIV, this study investigates the personal and social characteristics of heterosexuals living with HIV to determine if similarities exist as well as how these similarities may motivate individuals to engage in safer sex communication and behavior.

Results from this study one step in understanding the personal and social characteristics of heterosexuals living with HIV. While this study uncovers many similarities between HIV positive and HIV negative individuals, future researchers need to collect more information from heterosexuals living with HIV to fully comprehend the magnitude of its effects. Once more in-depth knowledge is obtained, scholars can apply the premises of Social Comparison Theory to identify more effective ways to use these common safer sex beliefs, attitudes, and behaviors to increase personalization of HIV. Personalization of HIV, as a basis for prevention

messages and programs, can ultimately change individuals' safer sex behaviors and decrease the spread of HIV.

PERSONALIZING THE RISK OF AIDS:
INVESTIGATING THE ATTITUDES, COMMUNICATION AND
BEHAVIOR OF PEOPLE LIVING WITH HIV

Chapter I

Introduction

Background of the Problem

Human immunodeficiency virus (HIV), the virus responsible for acquired immune deficiency syndrome (AIDS), was isolated and identified in 1981 (Barre-Sinoussi et al., 1983; Gallo et al., 1984). Since the official identification of this disease, the number of reported cases of HIV has grown rapidly in the United States and other countries (Ahituv, Hotz & Philipson, 1996). Subsequently, AIDS is now recognized as one of the most serious infectious disease epidemics of modern times (Kulstad, 1988). Levy (1992) estimates that 1 out of 100 adult men and 1 out of 800 adult women in the United States are now infected with HIV. According to the 1997 World Health Organization (WHO) report, about 1.5 million people died of AIDS in 1996, and WHO conservatively approximates that 40 million people worldwide will be diagnosed as HIV positive by the year 2000.

Even though HIV is now an international killer, individuals still tend to perceive themselves as invulnerable (Raghubir & Menon, 1998). However, the statistics no longer indicate that AIDS is primarily a problem for homosexual men; HIV is spreading rapidly among teenagers (Kolata, 1989) and heterosexual adult males and females (Centers for Disease Control (CDC), 1994 & 1995). In 1994, the

CDC estimated that AIDS was the leading cause of death for all men between the ages of 25 to 44 and the fourth leading cause of death among women in the same age group. In addition, a recent press release indicated that 10% of the new HIV cases are individuals over the age of 50 (The National HIV/AIDS Conference Update, March 24, 1999).

The 1997 WHO indicates that 75% of HIV infections in adults throughout the world were transmitted through unprotected sexual intercourse, and heterosexual intercourse (vaginal and anal) accounted for more than 70% of the cases. The CDC reports that 62% of new AIDS cases in 20-24 year olds during the period from July 1991 to June 1992 were acquired HIV through sexual activities (as cited in Ahituv et al., 1996). In addition, Decarlo (1996) notes that the number of women between the ages of 20 and 29 with heterosexually acquired AIDS increased by 96% annually since 1988. In January 1997, The Joint United Nations Programme on HIV/AIDS reported that 42% of the 21 million adults, worldwide living with AIDS are women. Further, many of these documented HIV/AIDS cases were a result of a single episode of heterosexual intercourse (Raghubir & Menon, 1998).

These statistics paint a frightening picture of the increase in HIV positive cases; and the results of these studies illustrate the fact that this virus does not discriminate by age, gender, or sexual orientation. Considering the nature of this virus and the fact that there is no cure or available vaccine for AIDS, one of the only current ways to control the spread of this epidemic is through psychosocial means (Treffke, Tiggermann, & Ross, 1992). Specifically, an individual's behaviors are the

primarily means by which he/she can reduce his/her risk of acquiring HIV. In response to this present quandary—how to control HIV through behavior modification, Ahituv et al. (1996) indicate:

If in response to this increasing risk, the sexual practices (in other words, the demand for [safer] sex) of sexually active members of the population do not change, then the rate at which AIDS spreads through the population will be determined solely by this increasing level of risk and not by an adaptation in behaviors. (p. 870)

Additionally, Phillips (1988) states AIDS is a behavioral disease, and thus one risk-reducing behavior to contain the spread of HIV is the adoption of safer sex practices. Perhaps the most widely promoted specific behavior is the use of condoms (Treffke et al., 1992). Reiss and Leik (1989) utilized probability modeling to test the risk reduction value of two behavioral strategies: decreasing the number of sexual partners and using condoms. Their results indicate that “consistent and careful condom use is a far more effective method for reducing HIV infection than is reducing the number of sexual partners” (p. 411).

Factors Influencing the Problem

Unfortunately, many individuals still engage in sexual activities without using condoms. Although college students and young adults are knowledgeable about the transmission of HIV and methods to reduce their risk of acquiring it, they still engage in unprotected sexual activities (Baldwin & Baldwin, 1988; Brafford & Beck, 1991; Freimuth, Edgar & Hammond, 1987). Gray and Sacrine (1989) reported that 66% of sexually active college students do not use condoms. Further, current research indicates that most of the general public is well informed about the transmission and

prevention of HIV and AIDS (Mann, Tarantola & Netter, 1992). Yet most individuals report using cognitive heuristics to distort estimations of their partner's and their own AIDS risk behavior rather than engaging in prevention strategies (Hammer, Fisher, Fitzgerald, & Fisher, 1996; Misovich, Fisher, & Fisher, 1997; Morris & Swann, 1997; Offir, Williams, Fisher, & Fisher, 1993; Williams et al., 1992). More specifically, when an individual possesses attitudes and beliefs that he/she is not at risk of contracting HIV, he/she perceives no need to use a condom when engaging in sexual activities. In support, Catania, Coates, Stall and Turner (1992) found that less than one fifth of heterosexual couples reported consistently using condoms.

Research indicates that an individual's willingness, intent, and actual communication with partners regarding condom use are three factors that predict condom use (Adelman, 1991; Cantania et al. 1992; Edgar, Hammond, & Freimuth, 1989; Lear, 1995; Oakley & Bogue, 1995). However, research finds little, if any, safer sexual communication occurring between intimate partners. An individual often reports no reason to discuss safer sex or condom use because he/she perceives little or no risk of acquiring HIV (Ehde, Holm, & Robbins, 1995; Ishii-Kuntz, Whitbeck, & Simons, 1990; Raghubir & Menon, 1998; Timmins, Gallois, Terry, McCamish, Kashima, & Terry, 1993).

In addition, an individual may perceive little, if any, need to use condoms because he/she believes that he/she already engages in safer sex by choosing a partner who is "safe" (Ishii-Kuntz et al., 1990). Thus, an individual who believes that "unsafe" people are somehow distinguishable from safe people can recognize and

avoid "unsafe" people as sexual partners (Ishii-Kuntz et al., 1990). Also, studies (e.g., Ishii-Kuntz et al., 1990; Pilkington, Kern, & Indest, 1994) report that when an individual trusts their partner, feels more positively about their partner and the relationship, and experiences like/love for and commitment to his/her partner, he/she is less likely to use condoms and is less concerned about AIDS and sexually transmitted diseases (STDs). Hence, an individual may perceive him-herself to be at low risk or may possess a sense of being "untouchable" with regard to acquiring HIV because of a high level of trust for his or her partner. An attitude of invincibility may play a substantive role in an individual's likelihood of risky sexual behavior (Ehde et al., 1995; Timmins et al., 1993). Therefore, individuals' attitudes and behaviors may have significantly contributed to the constant increase in the spread of HIV since its identification almost 20 years ago.

An individual's perceived invulnerability, subsequent inability to personalize the risk of HIV, and enactment of risky sexual behaviors are critical concerns (Ehde et al, 1995; Ishii-Kuntz et al., 1990; Raghubir & Menon, 1998; Timmins et al., 1993). Even with the identification of these factors, research on personalizing the risk of acquiring HIV has only scratched the surface. During the last 20 years, most social science HIV/AIDS research focused on prevention methods using a strictly educational approach (Fisher, 1990; Health Promotion on Campus, 1991; Morbidity & Mortality, 1996; Turner, Korpita, Mohn, & Hill, 1993). More specifically, early researchers identified an individual's knowledge of HIV/AIDS and safer sex attitudes and behaviors. Since isolating these factors, research has done little, in addition to

educational approaches, to attempt to change an individual's safer sexual attitudes and behaviors as mitigating factors in control efforts.

Research indicates educational programs are necessary but not sufficient for producing the desired change in an individual's safer sex behaviors (Holtgrave et al., 1995; Stryker et al., 1995). In the absence of a successful vaccination, programs designed to prevent HIV infection through education are likely to remain the only manageable way to affect rate of infection (Stryker et al., 1995). As a result, Stryker et al. (1995) note that behavior modification is the single most important factor in HIV prevention, as long as an individual's safer sex attitudes are addressed. For educational programs to be effective in behavioral modification, researchers are realizing that an individual needs to first personalize the risk of HIV.

Prevention of the Problem

Once an individual personalizes the risk of HIV, there is a greater chance that he/she will change their attitudes and engage in safer sexual behaviors (Ehde et al., 1995; Ishii-Kuntz et al., 1990; Raghubir & Menon, 1998; Timmins et al., 1993). Many theories that attempt to explain human behavior, especially behavior change, include some aspect of personalizing risk, or perception of punishment/negative outcome (e.g., Social Learning Theory, Bandura, 1977b; Social Exchange Theory, Roloff, 1981; Personal Motivation Theory, Rogers, 1975; Uncertainty Reduction Theory, Berger & Callabrese, 1975; Positive Outcome Values Theory, Sunnafrank, 1986; Expectancy Violation Theory, Burgoon 1978; Health Belief Model, Janz & Becker,

1984; Rosenstock, 1974). All of these theories posit that the element of perceived risk is crucial to behavior change.

While the mass media is an important source of information on HIV and AIDS, interpersonal means (e.g., friends, family members, individuals who are similar to oneself) are integral to an individual's personalizing the risk of HIV. Cline and Engel (1991) suggest that although mass media sources clearly provide the greatest amount of information, they were less likely to influence an individual's behavioral change. In contrast, another study found that 90% of the participants perceived interpersonal sources as highly credible sources of information, and thus were more likely to have an influence on an individual's behavior (Marin & Marin, 1990). In addition, Wolitiski et al. (1996) argue that interpersonal sources are more trustworthy than mass media, and they may actually have a greater potential to motivate change in risk-related attitudes and behaviors, especially if the individual can connect/relate to the interpersonal source.

In support of the influence of interpersonal sources on behavior change, research indicates that an individual who knows or has known someone with HIV is more likely to perceive the risk of HIV and use condoms (Raghubir & Menon, 1998; Swann, Silvers, & Proske, 1995; Timmins et al., 1996). Additionally, Rye (1998) reports that participants exposed to six young HIV positive men and women, with whom they could easily identify, were more likely to fear AIDS, perceive a risk of contracting HIV, use a condom in the future, talk to their partner about safer sex, and get an HIV test than those who did not. Fisher and Misovich (1990) also posit that an

individual is more likely to attend to AIDS prevention messages from a similar individual, rather than those from other sources.

Past research indicates that many individuals are knowledgeable about HIV and have the necessary skills to engage in safer sexual communication and behavior, but choose not to. An individual's attitudes of invulnerability to HIV have been identified as factors that moderate this relationship. Therefore, research needs to further investigate the attitudes, beliefs, and behaviors of HIV positive individuals. Based on Festinger's (1954) social comparison process, if an individual knows someone with HIV or is exposed to a similar other who is HIV-positive, then there should be an increase in the individual's personalization of HIV. Once an individual changes his/her attitude by personalizing the risk, he/she may be more motivated to take precautions against contracting HIV. Yet many individuals still hold attitudes of invulnerability, and hence believe there is no need to engage in safer sexual behaviors.

Despite an individual's beliefs regarding his/her own and or his/her partner's risk of HIV, the increasing number of HIV positive cases suggests that individuals are at risk. Statistics indicate that the number of HIV positive heterosexuals continues to increase. Thus, researchers need to investigate individuals living with HIV to determine not only their demographic categorizations but also their psychological characteristics. By identifying this information, researcher can establish if similarities exist between heterosexuals infected with HIV and those who are not. If a connection between the knowledge, skills, attitudes, and behaviors of HIV-positive and HIV-

negative individuals can be established, there may be a greater chance for non-infected individuals to personalize the risk of HIV and to engage in proper precautions.

By isolating the characteristics of heterosexuals infected with HIV through heterosexual sexual activities, individuals will be more aware of the possible similarities between themselves and those whom the virus affects. With this information, an individual may be less inclined to use stereotypes and lifestyle differences as reasons for not personalizing the risk of HIV. When the argument that HIV positive individuals are different becomes less plausible and personalization increases, there may be a greater chance that individuals will be motivated to engage in self-protection behaviors. Once individuals begin to engage in safer sexual communication and behavior, there is a greater likelihood that seropositive cases will decrease.

Significance of the Study

The purpose of this dissertation is to investigate individuals currently living with HIV/AIDS, who acquired the virus through heterosexual activities, to uncover their attitudes and behaviors prior to acquiring this disease. This study examines:

1) an individual's perceived awareness and knowledge of HIV and safer sexual behaviors prior to acquiring HIV; 2) an individual's safer sexual attitudes, specifically his/her level of perceived invulnerability to acquiring HIV, level of partner trust, and perception of partner(s) safety prior to acquiring HIV; 3) other reasons an individual states for not engaging in safer sexual behaviors prior to acquiring HIV; and 4) the

relationship between safer sexual behavior and an individual's quantity and quality of safer sexual communication with his/her partner prior to acquiring HIV.

Answers to these questions may build a connection between individuals living with HIV and those who are not infected. By uncovering accurate information about individuals living with HIV, and illustrating the similarities between these two groups, heterosexual HIV negative individuals can start to acknowledge that they are not so different from individuals living with HIV. Further, if similarities are established researchers can explore the use of Social Comparison Theory for future prevention messages and programs.

Past research on Social Comparison Theory argues that when an individual views him-herself as similar to another individual he/she is more likely to personalize the attributes of this person. Specifically, if an individual views him-herself as similar to someone who is HIV positive, he/she may be more likely to engage in self-protection behaviors to reduce his/her risk of HIV. Once researchers identify if similarities exist between HIV positive and HIV negative individuals, Social Comparison Theory may be useful in constructing future HIV prevention messages and programs. Specifically, research can focus on the effectiveness of Social Comparison Theory in getting an individual to personalize HIV. Then, once personalization is established, research can focus on its influence on behavior change. Social Comparison Theory holds great potential for reducing the spread of HIV; but only if individuals' differences can be disregarded and a common bridge built, a

bridge that links the knowledge, beliefs, attitudes and behaviors of HIV positive to those who are HIV negative.

Chapter II

Literature Review

HIV & Safer Sex Knowledge

In 1981, the United States CDC reported a rare type of pneumonia in five homosexual males in Los Angeles, CA. This was the first identification of the HIV infection. However, HIV existed before 1981. Scientists identified the first known case of the AIDS virus from plasma drawn from an African man forty years ago (USA Today, February 4, 1998). In 1982, United States health officials coined the term "AIDS" to identify this new disease in which the immune system collapses for no apparent reason. Extremely large proportions of individuals who acquire HIV develop AIDS. Additionally, scientists found evidence indicating that an individual transmits HIV through blood and other body fluids. Ten years later, in 1991, WHO reported that nearly 10 million people worldwide were HIV-positive and estimated that 40 million would be by the year 2000. Presently, there is no cure for HIV, no available vaccine, and an individual who has AIDS will eventually die.

The rate and number of AIDS related deaths are directly influenced by advancements in AIDS treatment¹. Recent years have marked major advances in AIDS treatment. For the first time since the epidemic began, *death rates* have dropped in the United States, in large part because new drugs are helping patients live longer" (ABC News, 1999). Furthermore, the CDC (1998) reported that AIDS went

¹ People diagnosed with HIV are not considered AIDS cases until they actually develop symptoms of the disease. Thus, delaying the onset of AIDS and prolonging the lives of AIDS patients can reduce the number of AIDS, deaths even while there is little change in the rate of new HIV cases (USA Today, 1998; CDC, 1998).

from beginning the 10th to the 14th leading cause of death. In part, this recent phenomenon is a result of the introduction of new drugs. New drugs, known as protease inhibitors, stop the virus from replication. Crixivan and Norvir, the first two powerful protease inhibitors, were introduced to the market in March of 1996.

Reports indicate these inhibitors are often used in combination "cocktails" with less recent drugs, called reverse transcriptase inhibitors. Such drugs, which include AZT and 3TC, may slow the spread of HIV in the body and delay the onset of opportunistic infections (CDC, 1998). The new combination drug therapies are effective in many cases; however, while these medications prolong life, a substantial number of individuals with AIDS cannot tolerate their toxic side effects (Mother's Voice, 1999). Thus, the virus can become resistant to both classes of drugs, and 50% of those taking the drug cocktail still have the virus in their system (Mother's Voice, 1999). In addition, protease inhibitors are expensive and involve a complicated regimen of up to 20 pills a day. Therefore, the development of new drugs may slow down the rate of AIDS related deaths, but these drugs are certainly not a cure for HIV. "People are living longer . . . but with a steady infection rate, it means the epidemic is not going away" (USA Today, April 23, 1998).

The rate of HIV infection has not abated, and there is still no cure or vaccine for HIV. The vaccine recently approved for testing will not be available for three to four years. Unfortunately, the scientists who have recently discovered how HIV attacks a human cell, are now largely pessimistic about the efficacy of this vaccine (CDC, 1999). Based on these findings, prevention methods need to focus on reducing

the rate of transmission.

An individual can transmit HIV through four bodily fluids: vaginal secretions, semen, breast milk, and blood. These fluids enter the body through mucous membranes—vagina, mouth, rectum, eyes, urethra, cuticles, cervix, and nose. Since the identification of HIV, individuals have acquired the virus through blood transfusions (first documented case in 1982), IV drug use, pregnancy and childbirth, unprotected sexual activities (oral, anal, and vaginal sex), and deep kissing in one or two rare cases (CNN News, 1998). Specifically, research indicates that the primary mode of transmission is unprotected sexual activity, with IV drug use being the second most common route of infection (Allen & Emmers-Sommer, 1998; Raghubir & Menon, 1998).

In the mid-to-late 1980s, many people thought that education was the best line of defense against the spread of HIV, especially true given that medical researchers did not foresee the development of vaccine against HIV in the near future (Barnes, 1987; Norman, 1986; Lenaghan & Lenaghan, 1987; Weisburd, 1987). Green and Kreuter (1991) explain that health education “provides the consciousness-raising, concern-arousing, action-stimulating impetus for public involvement and commitment to social reform essential to its success in a democracy” (p. 14). Thus, during the last two decades, health professionals, scientists, and the government spent a great deal of time, money, and effort on the development and implementation of health prevention programs and school based educational programs (Fisher, 1990;

Health Promotion on Campus, 1991; Morbidity & Mortality, 1996; Turner, Korpita, Mohn, & Hill, 1993).

Many of these educational programs focused on HIV awareness, transmission of the virus, and prevention methods. O'Donnell (1986) states that "awareness increases the participant's understanding of or interest in health related topics" (p. 6). Thus, before an individual is ready to change his/her behaviors to become healthier, he/she may first need to modify knowledge, attitudes, and beliefs. In turn, awareness conveyed by outside sources may prime an individual to change his/her behavior. This notion is equivalent to the traditional educational approach to behavior change (O'Donnell, 1986).

Due to the reliance on the traditional education approach to behavior change, there are numerous awareness and educational programs focusing on the use of condoms during sexual activity (CDC, 1998). Considering prevention methods are one of the strongest weapons against the spread of HIV, and condoms have been shown to reduce an individual's risk of contracting HIV (Feldblum & Fortney, 1988; Phillips, 1988; Reiss and Leik, 1989; Treffke et al., 1992), individuals need to be knowledgeable of and skillful with all aspects of condom use. Thus, an individual's condom self-efficacy may play a vital role in his/her safer sex behavior. However, government sponsored educational campaigns and programs to prevent HIV have had little impact on the behavioral (especially condom use) of the general public (Campbell & Waters, 1987; Gallup, 1987; Orton & Samuels, 1988; Sherr, 1987; Wober, 1987).

One government agency conducted research to understand why educational programs fail to produce the desired behavior change. The National Commission on AIDS Behavioral and Social Science Report (1993) describes eight factors necessary for an individual to change his/her sexual behavior; and therefore, lower the risk of HIV infection:

- (1) an individual must have a strong intention to implement the risk-reduction/avoidance behavior
- (2) there must be no environmental barriers blocking the behavior change
- (3) an individual must possess the necessary skills to execute the behavior change
- (4) an individual must perceive the “pros” of the new behavior as greater than the “cons ”
- (5) an individual must have the perception that peers encourage the behavior change
- (6) there must be consistency between individuals’ self-image and the new behavior
- (7) an individual must perceive that the new behavior is positively reinforced
- (8) an individual needs to believe that they can actually perform the new behavior.

“These factors have been empirically confirmed as important for averting or reducing HIV-related risk behavior” (Holtgrave et al., 1995, p. 137). Thus, HIV health-promotion programs should not only be concerned with how they structure their messages; but they also need to ensure that the content of the messages is directly connected to the factors associated with behavior change (e.g., perceived risk).

Although behavior change with respect to condom has been less than successful, prevention programs have succeeded in increasing general knowledge about HIV. Research indicates that approximately 97% of young adults are knowledgeable about HIV and methods of transmission and prevention (Bruce et al., 1990). However, this knowledge has not lead to behavior change—the consistent use

of condoms during sexual activities (Baldwin & Baldwin, 1988; Brafford & Beck, 1991; Freimuth et al., 1987; Gray & Sacrine, 1989; Mann, Tarantola & Netter, 1992). Thus, researchers began to explore how an individual crosses the bridge between knowledge and behavior (Adelman, 1991; Bandura 1988; Edar et al., 1989; Oakely & Bogue, 1995).

Researchers investigated factors related to HIV prevention including an individual's attitudes and beliefs about safer sexual behaviors, an individual's ability and willingness to actually engage safer sexual behaviors, and an individual's communication regarding safer sexual communication. Results from these investigations (explained in detail in the follow sections), suggest that knowledge alone is a weak indicator of condom use; whereas, attitudes, willingness, skills, intent, and actual occurrence of communication regarding condom use may be more effective in predicting condom use. Hence, a clearer understanding of HIV relevant cognition (knowledge about HIV) from an individual is a useful basis for effective campaigns and programs, but other psychological (safer sex attitudes and beliefs) and behavioral (safer sexual communication) factors are essential components for influencing future behavior change.

Safer Sex Attitudes

Although awareness and knowledge are necessary for behavior change, they may not be sufficient. Knowledge alone has not led to greater condom use (Bruce et al., 1990; Baldwin & Baldwin, 1988; Brafford & Beck, 1991; Freimuth et al.,). Another factor, attitude, may play a role in an individual's use of condoms. An

individual's attitude often interferes with his/her desire or perceived need to use condoms (Catania, Coates, Stall & Turner, 1992; Ehde et. al, 1995; Ishii-Kuntz et al., 1990; Raghubir & Menon, 1998; Timmins et.al., 1993; Wulfert & Wan, 1995).

Various attitudes that may inhibit perception of risk are reviewed below.

Invulnerability

One attitude that interferes with an individual's adoption of safer sexual behaviors is a feeling of invulnerability to acquiring HIV (Ehde et al, 1995; Ishii-Kuntz et al., 1990; Raghubir & Menon, 1998; Timmins et al., 1993). Most heterosexuals continue to perceive that they are not at risk or are invulnerable, and therefore have not changed their behavior (Catania et al., 1992). Wulfert and Wan (1995) argue that a major goal in developing more effective prevention and behavior change programs is to understand the psychological and social-psychological determinants of people's decisions to adopt or not to adopt AIDS risk reduction behaviors. In addition, researchers must comprehend the crucial element that attitudes can play in behavior change if they ever hope to understand and change human behavior. The following model conceptually describes the relationship between attitudes and behaviors and illustrates the importance of an individual's perception of risk in this process.

The Health Belief Model

The Health Belief Model (Janz & Becker, 1984; Rosenstock, 1974) states that an individual's prevention actions result from a decision-making process through which he/she evaluates the severity of a disease, the degree to which they believe

themselves susceptible to it, and the benefits and barriers he/she expects from adoption of prevention methods. In addition, research using The Health Belief Model indicates support for psychological as well as behavioral changes in contraceptive use (e.g., Green & Kreuter, 1991).

The Health Belief Model provides an appropriate and valid framework in which to describe the psychological and behavioral factors associated with condom use. The Health Belief Model illustrates that “behavior is predicted from both the individual’s valuation of an outcome and the expectation that a specific action will result in that outcome” (Becker, Maiman, Krischt & Drachman, 1977, p. 349).

Becker et al. (1977) posit that several conditions must exist before it is possible for an individual to change his/her behavior. First, an individual must be motivated to achieve success or avoid failure. Second, an individual must be driven to attain a particular goal. Finally, an individual must subjectively estimate the perceived benefits of an outcome. Further, and more specifically related to HIV, Green and Kreuter (1991) identify similar conditions needed to facilitate change. They argue that an individual must meet the following four criteria:

1. he/she must believe that his/her health is in jeopardy
2. he/she must perceive the potential seriousness of the condition in terms of pain, discomfort, time lost from work, economic difficulties, and loss of life
3. on assessing the circumstances, he/she must believe that benefits stemming from the recommended behavior outweigh the costs and inconvenience, and are indeed possible
4. there must be a “cue to action” or a precipitating force that makes the individual feel the need to take action.

Thus, these conditions provide an overview of the psychological and behavioral factors researchers need to take into consideration when attempting to influence behavior.

Other research on condom use offers additional support for behavioral change models, particularly the Health Belief Model that take into account psychological factors for HIV prevention, (Bandura, 1988; Brafford & Becker, 1992; Cantania, et. al, 1990; Hansen et.al, 1990; Raghubir & Menon, 1998; Wulfert & Wan, 1995). For example, studies reveal that that many college students (e.g., Keeling, 1987; Metts & Fitzpatrick, 1992; Pilkington et al., 1994), individuals in serious and/or marital relationships (Emmers-Sommer & Crowell, 1999; Willing, 1994) and older adults (Laumann, Gagnon, Michael, & Michaels, 1994; Wellings, Field, Johnson, & Wadsworth, 1994) have yet to personalize the risk of HIV. These findings coincide with the first two components/conditions of Green and Kreuter's (1991) application of the Health Belief Model.

Conditions one and two—perceived risk and consequence of risk. Green and Kreuter (1991) argue that each of the four conditions needs to be present in order to facilitate behavior change. The first two conditions of this model indicate that in order for an individual to change his/her behavior, he/she needs to perceive a risk and that one or more serious consequences are associated with this risk. The serious risk and the deadly consequences of AIDS are obviously apparent, although they frequently are not personalized. An individual may often feel “safe” with his/her partner and relationship, and these perceptions frequently exacerbate feelings of invincibility

(Keeling, 1987; Metts & Fitzpatrick, 1992; Pilkington et al., 1994). Specifically, an individual may increase his/her actual risk of obtaining an STD or HIV through his/her sense of invulnerability (Cline, Freeman & Johnson, 1990). McCarty (1981) posits that an individual's normative beliefs—the degree to which beliefs are personalized—account for more variance in intended condom use than attitudes. “It is possible for an individual to believe that people who engage in specific behaviors may be at risk but to deny increased risk for him/herself, even when at clear risk” (Hansen, Hahn, & Wolkenstein, 1990, p. 623). Heider (1958) first proposed this concept of Perceived Personal Immunity (PPI); and this attitude identified was later identified among cigarette smokers (Hansen & Malotte, 1986), alcohol abusers (Leigh, 1987), and individuals who experienced a variety of health problems (Weinstein, 1987).

Personal beliefs about the risk of HIV infection and the perception of one's own risk as small may explain why many educational approaches have not resulted in behavior change (Moore & Rosenthal, 1991, Timmins, et al., 1993). Timmins et al. (1996) posit that:

Increased knowledge does not lead to a decrease in risky behaviors among people who do not perceive their risk of contracting the virus as high (e.g., Baldwin & Baldwin, 1988; Fisher & Fisher, 1992), and knowledge may not be associated with the risk assessments among people who have a history of high risk-taking, such as adolescents (Gold, 1993; Kelly, St Lawrence, Brasfield, & Hood, 1987). (p. 2)

Overall, many individuals perceive themselves to be at low risk or believe themselves “untouchable” with regard to HIV. These two factors may play a large role in their enactment of risky sexual behaviors. Numerous studies indicate a correlation between

such attitudes and an increased likelihood of risky sexual behavior. For instance, Ehde et al. (1995) report that students rate their risk of HIV infection as minimal or none at all. In another study, students from a rural Midwestern state rated their risk for HIV/AIDS between minimal and none, even though they reported frequently engaging in vaginal, anal, and oral intercourse without the use of condoms (Ehde et al., 1995). Further, in a study of alcohol use and sexual behavior among college students, results reveal two pertinent findings: (a) both sexes drink heavily and engage in risky sexual behavior; and (b) the majority of men and a large number of women do not believe that they could become infected as a result of their sexual behavior (Carroll & Carroll, 1995).

Condition three - benefit vs. cost. Another condition influencing change is the benefit/cost ratio. An individual must perceive that the benefits stemming from the recommended behavior change outweigh the costs and inconveniences. If an individual perceives little benefit to condom use, he/she may perceive even fewer possible harmful effects of nonuse (Ehde et al., 1995; Ishii-Kuntz et.al, 1990; Raghubir & Menon, 1998; Timmins et al., 1993); this perception may be more extreme when coupled with the individuals feelings of invulnerability. Pilkington et al. (1994) support this idea and posit that, in general, an individual who has more positive attitudes toward condoms tends to have stronger intentions to use them and is more likely to do so. Conversely, condom use is less likely with an individual who has negative attitudes toward condoms.

While condom usage offers a number of advantages (e.g., reliability, safety, ease of acquisition, and protection against many STDs), condoms do not have a reputation for being an erotic or romantic component of sexual activity (Brown, 1984). Individuals often indicate reduced sensitivity; loss of spontaneity during intercourse; discomfort; unpleasant odor; and messiness as barriers to condom use (Sonnex, Hart, Williams, & Alder, 1989). In support, Crowell and Emmers-Sommer (1998) found that students report the perceived costs or negative aspects of condom use (e.g., inconvenience, breaking the mood, awkwardness, and physical undesirability) as reasons for not always using a condom. Similar reasons were also reported by individuals who were married or in serious relationships (Emmers-Sommer & Crowell, 1999; Willing, 1994). Hence, even if individuals are well informed regarding condoms, their negative attitude toward using them may play a role in their choice not to use them and to engage in unprotected sexual activity.

Condition four - cue to action. The last condition is fundamental to the entire model. There must be a “cue to action,” or a precipitating force that makes an individual feel the need to “take action.” As indicated above, an individual who is aware of the threat and risk of HIV or STDs due to unprotected sexual activities, may perceive little or no risk of contracting HIV. Hence, an individual lacks a motivational or precipitating force for changing their behaviors. Although educational programs, counselors, and the media has impacted individuals’ knowledge, they have not affected significantly an individual’s personalization of the risks associated with unprotected sexual activities (Stryker et al., 1995).

Clearly, the above research indicates that there are multiple factors, aside from an individual's knowledge and beliefs, important for the adoption of safer sexual practices. More specifically, McCarty's (1981) findings suggest that normative beliefs account for more variance in intended condom use than attitudes. Hansen, Hahn and Wolkenstein (1990) state that it is possible for an individual to believe that people who engage in specific behaviors may be at risk but to deny increased risk for him/herself, even when at clear risk.

Another factor associated with an individual's perception of risk is whether or not they know someone infected with HIV or someone who has died of AIDS (Swann et al., 1995; Timmins et al., 1996). An individual who reports knowing someone who contracted HIV or died of AIDS is more likely to personalize the risk of AIDS. In addition, these individuals are also more likely to engage in safer sexual behaviors. Hence, the personalization of AIDS may be the "cue to action" that is needed for an individual to change his/her behavior. This conclusion may provide one explanation for the greater frequency of condom use in homosexual communities than in heterosexual ones.

Homosexual communities were adversely affected early on in the HIV epidemic. Many homosexuals had to directly confront their risk of infection, and the devastating consequences of HIV. As a result, many homosexuals engaged in more self-protective behavior to reduce their risk of infection (AIDS Weekly Plus, 1996). Specifically, in San Francisco, new HIV infections among gay and bisexual men reached a high of 8,000 in 1982; but in 1994, the estimated number of new HIV

infections in this group was 650 (Coates, 1996). The fact that many homosexuals personally confronted the effects of HIV may have been a “cue to action” for safer sexual behavioral practices in this population.

Green and Krueter’s (1991) adaptation of the Health Belief Model offers a framework to better describe the relationship between an individual’s attitudes and safer sex behavior. An individual justifies having unprotected sex by rationalizing, ultimately shaping and impacting their attitudes about using condoms in sexual encounters. Many of these reasons are directly related to an individual’s relational status and their attitudes regarding these relationships (Crowell & Emmers-Sommer, 1998; Emmers-Sommer & Crowell, 1999; Lear 1995; Willing, 1994). Based on these findings, the following section reviews prominent research on AIDS and condom use to describe two primary reasons influencing an individual’s perceived invulnerability and sexual behaviors (Ehde et al., 1995; Ishii-Kuntz et al., 1990; Metts & Fitzpatrick, 1992; Pilkington et al., 1994; Raghubir & Menon, 1998; Timmins et al., 1993)

Trust

Trust is one factor that may contribute to an individual’s attitude of invulnerability. Researchers find that when partners indicate that they trust each other and believe they are in a monogamous dating relationship, they are less likely to use condoms than an individual who has multiple dating partners (Ishii-Kuntz, Whitbeck, & Simons, 1990). Crowell and Emmers-Sommer (1998) and Pilkington, et al. (1994) found that participants who felt more positively about their partner and the relationship—trusted one’s partner, reported like/love for one’s partner and

commitment—were less concerned about AIDS and STDs and were less influenced by these risks. Further, romantic feelings toward one's partner were associated with less fear of contracting AIDS and a lessened perceived susceptibility to contracting HIV.

One possible explanation for these findings is that general trust between couples increases as relationships grow, which leads to lower concern about contracting AIDS. Similarly, Metts and Fitzpatrick (1992) argue that condom use tends to be disregarded when partners achieve relational commitment and trust. Therefore, even if condoms are used in the early stages of relationships, as the relationship progresses and trust is established, an individual's perceived need to use condoms for contraception often declines. If an individual believes his/her partner is faithful and not infected, they will likely perceive condom use as unnecessary. In addition, as the relationship progresses and trust increases, condoms may no longer be the primary or desired form of contraception, and alternate forms of birth control are often sought (Crowell & Emmers-Sommer, 1998; Lear, 1995; Maticka-Tyndale, 1991; Metts & Fitzpatrick, 1992; Sonnex et al., 1989).

Among heterosexual couples, condoms are typically considered to be a method for birth control rather than a means for preventing sexually transmitted diseases (Maticka-Tyndale, 1991; Sonnex et al., 1989). As a result, if a couple uses another birth control method, such as the pill, they may be less inclined to use, or perceive a need to use a condom. "Sexually active [heterosexual] couples tend to use

other forms of contraceptives (typically birth control pills), reducing the risk of pregnancy but increasing the risk of exposure to AIDS” (Metts & Fitzpatrick, 1992, p. 3).

Safe Partner

A second factor that contributes to an individual’s attitude of invulnerability is the idea of a “safe partner”. More specifically, an individual may perceive that there is no need to use condoms because his/her partner is “safe”; and he/she does not perceive him/herself as engaging in unsafe sex. Metts and Fitzpatrick (1992) state:

It is misleading however to assume that all people who engage in sexual intercourse without using condoms are unaware of or have flagrant disregard for safer-sex practices. Many sexually active people do not use condoms, but assume they engage in safer sex because they have intercourse only with persons they believe to be ‘safe’. (p.1)

Thus, another determinant of an individual’s decisions regarding condom use is his/her perceived need for the use of condoms.

As stated in the introduction, an individual may perceive little, if any, need to use condoms because he/she believes he/she already engages in safer sex by choosing a partner who is “safe” (Metts & Fitzpatrick, 1992). One study indicates that the “most popular prophylactic” was the selection of a noninfected sexual partner (Ishii-Kuntz et al., 1990). Ishii-Kuntz et al. (1990) found that college students’ confidence in the safety of their partner stemmed from two presumptions. First, an individual usually chooses a partner from within his/her own social network; and, therefore, the partner is presumed to be safe. In support, Timmins et al. (1996) found that an individual’s perceived personal risk was influenced most by perceived risk of friends

and of people with the same sexual practices. The second presumption is that “unsafe” people are somehow distinguishable from safe people, and can be recognized and avoided as sexual partners.

Two other predominant contributors to an individual’s perception of a “safe” partner are: (1) a perception of a monogamous relationship, and (2) length and seriousness of the relationship (Crowell & Emmers-Sommer, 1998). Hence, an individual who believes he/she is in an exclusive relationship, has known the partner for a long time, or believes the relationship is serious reports little or no need for and use of condoms. These findings support literature that indicates individuals believe the safest sex is with a “safe” partner (Ishii-Kuntz, et. al, 1990; Metts & Fitzpatrick, 1992), and that there is a positive relationship between unprotected sex and perceived monogamy and/or partner trust (Ishii-Kuntz et al., 1990).

A partner’s perception of invulnerability holds dangerous implications when coupled with research on extramarital affairs and cheating. Frank Pittman, author of Private Lies: Infidelity and the Betrayal of Intimacy, estimates that 60% of men and 40% of women have had or will have an extramarital affair (cited in USA Today, February 10, 1998). Stebleton (1993) found that 36% of men and 21% of women at a Midwestern university reported being sexually unfaithful to his/her partner. Moreover, he found that 3/4 of men and 1/3 of women “never did ask” partners about past sexual history, and men admitted they lied to sexual partner(s) more often than women. Similarly, Cochran and Mays (1990) results indicated that both men and women lie to their partners in order to obtain sex; specifically, “both men and women

frequently reported that they would actively or passively deceive a dating partner in an effort to gain sex” (pp. 777). Finally, a recent study indicated that the four out of every ten HIV infected individuals (surveyed at two New England hospitals) failed to inform sex partners about their condition. Nearly two thirds of these individuals also reported they do not always use a condom (CNN News, 1998).

Despite an individual’s belief that he/she is invulnerable to HIV, due to partner trust, perceived monogamy, and/or a perceived “safe” partner may skew their attitude toward safer sex behaviors. An individual engages in unprotected or risky sexual behaviors based on his/her perception of invulnerability; and, if these perceptions are based on false pretenses, he/she may place him/herself at an even a greater risk of acquiring HIV.

Along with perceived invulnerability, trust, and partner safety, there are other reasons individuals report explaining why they choose to engage in unprotected sexual activities. These reasons may also contribute to an individual’s risky behavior, and ultimately his/her risk of HIV infection. Considering the relevancy and reported frequency of these reasons, the following section will briefly overview three other reasons individuals report for non-condom use: 1) negative attitudes toward condoms; 2) alternative forms of birth control; and 3) alcohol and drug use.

Negative Attitude Toward Condoms

“Attitude toward condoms” is another factor that may impact an individual’s decision to use or not use a condom. In general, an individual who has more positive attitudes toward condoms tends to have stronger intentions to use them and is more

likely to do so (e.g., Pilkington et al., 1994). Conversely, condom use is less likely with individuals who have negative attitudes towards condoms (McQueen & Uitenbroek, 1992).

As previously discussed, condom use offers a number of advantages (e.g., reliability, safety, ease of acquisition, and protection against many sexually transmitted diseases), but many individuals may not perceive condom use as an erotic or romantic component of sexual activity (Brown, 1984). With this observation, many individuals voiced reduced sensitivity, loss of spontaneity, discomfort, unpleasant odor, and messiness as reasons for non-condom use (Sonnex et al., 1989). To summarize, high level of HIV knowledge many individuals report does not necessarily impact the negative attitudes that hinder their use of condoms. Hence, individuals' attitude toward condom use causes them to overlook condoms as a method for reducing their risk of infection.

Alternative Forms of Birth Control

With the existence of negative attitudes toward condoms, an individual may opt for another form of birth control. Among heterosexual couples, condoms are typically considered a method of birth control rather than a means for preventing sexually transmitted diseases (Maticka-Tyndale, 1991; Sonnex et al., 1989). Hence, if couples use other forms of birth control methods they may be less inclined to use condoms. Moreover, when couples use the pill, many do not perceive the need to use a condom. In support, Metts and Fitzpatrick (1992) argue that if sexually active

couples use other forms of contraceptives (typically birth control pills), they may reduce their risk of pregnancy, but increase their risk of exposure to HIV.

Alcohol

Drinking alcohol is often a fundamental part of social life, and can be another factor that influences an individual's sexual behavior. The Nebraska Council to Prevent Alcohol and Drug Abuse (1994) states that alcohol and drug use increases unplanned pregnancies, reduces condom use, and increases the likelihood of multiple partners in many populations. Thus, regardless of whether or not an individual believes he/she engages in sex with a 'safe' partner, he/she may decide not to engage in safer sex (use a condom) because of alcohol consumption. Lear (1995) reports that college students drank for fun, and sometimes to encourage a potentially sexual situation. Specifically, she found the following two recurring themes: (a) drinking and not remembering sexual behavior; and (b) engaging in sexual behavior that one would not have not engaged in had one not been drinking. In addition, Crowell & Emmers-Sommer (1998) found that men were less likely to use a condom when they had been drinking alcohol. Finally, in a study of alcohol use and sexual behavior among college students (Carroll & Carroll, 1995), results indicated two pertinent pieces of information: (a) both sexes drank heavily; and (b) both sexes engaged in risky sexual behavior.

The above review of literature suggests that most individuals are knowledgeable about HIV, understand how it is transmitted, and are aware of various prevention methods. In addition, the research indicates that, many individuals still

engage in unprotected sexual activities due to their attitudes and beliefs. Both knowledge and attitudes influence behavior; in this case, safer sexual behavior and communication.

Safer Sex Behavior

The above research indicates that: (a) individuals do not use condoms when engaging in sexual activity; (b) an individual's perceived risk of HIV is related to his/her condom use; (c) there is a high probability that an individual who acquires HIV will then obtain AIDS which will eventually result in their death; (d) the number of heterosexual-HIV cases is increasing; and (e) there is a major push in our society to change an individual's sexual behavior in an attempt to reduce the number of cases of HIV infection. The following section briefly reviews literature regarding behavior change, illustrates the link between communication and behavior change, and summarizes literature on safer sexual communication.

Fear Appeals

There are many different approaches to the study of human behavior and behavior change. One popular approach is fear appeals, or messages that attempt to change behavior through the threat of danger associated with that particular behavior. For example, a common fear appeal meant to deter unprotected sex emphasizes the increased risk of obtaining an STD or HIV. Based on the logic behind the fear appeal, all that is needed to change an individual's behavior is an awareness of these dangers. Hence, an individual would either logically remove the danger or stop performing the dangerous behavior (Tanner, Day, & Crask, 1989). In this case, an individual would

get tested for STDs and HIV, and then engage in safer sex. Research does not support that individuals actually follow this logic, however,

Early work on verbal persuasion and fear appeals (Ray & Wilkie, 1970) reveals a curvilinear effect of fear and intention to adopt recommended behaviors. The more severe the fear appeal, the more likely the subject would adopt the recommended coping behavior up to some intensity of fear. At that point however, as severity of the fear appeal continues to increase, the likelihood of adopting the coping response begins to decline. (Tanner et al., 1989, p. 267)

This curvilinear relationship between fear and behavior change dominates discussions of models of behavior change in many marketing and advertising textbooks (e.g., Aaker & Myers, 1987; Dommermuth, 1984; Kotler, 1986). However, research findings contradict some of the underlying theoretical premises.

Several other scholars posit models that explain how fear appeals work. For example, Janis (1967) argues that the behavior change process is based on a need to reduce fear. Whereas, Leventhal (1970, 1982) on the other hand, suggests a parallel process model; the two processes being danger control and fear control. Similar to Leventhal, Bandura (1977) theorizes that effective coping defenses prohibit fear arousal. "Emotion (fear) and cognition (danger appraisal) interact to cause a search for coping behavior" (as cited in Tanner et al., 1989, p. 268). More specifically, if an individual currently has a coping behavior in his/her repertoire that is sufficient to address the dangerous situation, fear is not aroused. If an individual's repertoire does not include these coping responses, then fear arousal may occur. Fear, then, becomes a driving force for individuals to adopt effective coping behaviors.

Personal Motivation Theory

Unfortunately, searching for and adding effective behaviors to an individual's coping repertoire is not all that is required to influence behaviors. As Rogers (1975) states in his Personal Motivation Theory (PMT), it is not only important for an individual to possess coping strategies to deal with danger, but he/she must also believe in the viability of these coping response(s). In accordance with this conceptualization, Maddux and Rogers (1983) expand PMT to include self-efficacy. "They recognized that knowledge of an effective coping response was not enough for the subject to adopt that response: the subject must also believe in his or her own ability to perform that behavior" (as cited in Tanner et al, 1989, p. 269). In support, Tanner et al. (1989) find that traditional threat oriented fear appeals are less effective than appeals that also contain information concerning coping responses (which were high self-efficacy information brochures).

Self-Efficacy

In 1988, Bandura addressed the potential link between self-efficacy and condom use by arguing that experiencing personal control in sexual situations carrying a risk of infection requires an individual to possess self-efficacy in communication about sexuality and safer-sex practices. "Perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982a, p.122). Self-efficacy is a cognitive component of social learning theory that focuses on the capabilities of an individual, not on personal intentions.

An efficacy expectation is the conviction that one can successfully execute the behavior required to produce the outcomes. Outcome and efficacy expectations are differentiated because an individual can believe that a particular course of action will produce certain outcomes, but if he/she entertains serious doubts about whether he/she can perform the necessary activities, such information does not influence his/her behavior (Bandura, 1977a).

Expectations of self-efficacy are based on four sources of information:

(a) performance accomplishments, (b) vicarious experiences, (c) verbal persuasion, and d) emotional arousal (Bandura, 1977a). Performance accomplishments include an individual's experiences as well as the trial and error process of modeling others' behaviors. Vicarious experiences entail observing others' success in a given situation. Self-efficacy increases if an individual watches another similar to him-her succeed. An individual's self-efficacy is also based on the power of suggestion —verbal persuasion. Finally, emotional arousal is concerned with the anxieties and fears that an individual has about a given situation, as well as the attribution of success or failure. If an individual attributes his/her success to internal causes, his/her self-efficacy increases.

Self-efficacy is situation-specific and behavior-specific (Bandura, 1989).

Hence, an individual may have high self-efficacy about a behavior in some situations while possessing low self-efficacy about the same behavior in another situations. In an individual's experience, success increases self-efficacy while failure decreases self-efficacy, especially when one's attribution is based internally and effort is high. If an

individual has knowledge of a behavior but has low self-efficacy about the ability to display that behavior, that individual will be more likely to fail or be ineffective (Bandura, 1982b).

The relationship between self-efficacy and behavior is bi-directional (Bandura, 1982b). "Judgments of one's capabilities partly determine choice of activities and rate of skill acquisition and performance mastery, in turn, can boost perceived self-efficacy in a mutually enhancing process." (Bandura, 1982b). An individual's self-efficacy influences what he/she thinks, his/her self-esteem, the goals he/she sets, the effort he/she puts into personal interactions, and the situations that he/she selects (Bandura, 1989). Bandura (1988) posits that:

Managing sexuality involves managing interpersonal relationships. Problems arise in following safer sex practices because self-presentation often conflicts with interpersonal situations, the sway of coercive power, allurements, desire for social acceptance, fear of rejection and personal embarrassment can override the influence of the best informed consent. The weaker the perceived self-efficacy, the more such social and affective factors can increase the likelihood of risky sexual behavior. (p. 2)

Bandura's concept of self-efficacy gives researchers both a theoretical basis and a methodological perspective researchers can explore an individual's social skills, sense of control over sexual situations, and beliefs about personal ability to use condoms.

Brafford and Beck (1991) operationalized Bandura's self-efficacy construct by developing a condom self-efficacy scale for college students. The scale measures 15 factors that are identified as influence college students' self-efficacy with condom use. The following factors are most college students' frequently cited: (a) personal experience with condoms, (b) embarrassment when purchasing condoms, (c) alcohol,

(d) desire not to offend/insult partners by implying they are unclean or diseased, (e) reduction in excitement, (f) loss of spontaneity, (g) break in the mood, (h) lack of preparation, (i) lack of surety of partner's feeling about using a condom, (j) general embarrassment, (k) communication with partner, (l) embarrassment when talking about condoms, (m) fear that the partner will refuse if a condom is requested, (n) inability to maintain an erection with a condom, and (o) fear of the other person that the partner has had a past homosexual experience.

A study conducted by Valdiserri, Arena, Proctor, and Bonati (1989) supports, as well as expands, Brafford and Beck's (1991) factors influencing an individual's ability to use a condom. Furthermore, their results reveal certain gender differences in these factors (Valdiserri et al., 1989). These authors compare attitudes between women and men who report being "condom users" and "non condom users". Even though the majority of all individuals endorsed condom use as an important way to prevent the spread of HIV, 37% reported being uncertain of their ability to initiate use. In addition, 22% believed they would be too embarrassed to purchase condoms in a drug store. Women non-users were more likely to feel that: (a) most men do not like using condoms, (b) condom-protected intercourse would not be enjoyable, (c) they were less likely to report peer acceptance of condoms, and (d) they were more likely to be unsure about feeling "insulted" if a partner wanted to use a condom. Men non-users provide a variety of other reasons for lack of condom uses including: (a) a lack of ready access, (b) failure to plan for sexual intercourse, (c) the use of alcohol and or drugs prior to sex, (d) the belief that condoms impair sexual pleasure, (e) the

belief that condoms would be offensive to one's partner, and (f) the beliefs that condoms are either unnatural or immoral.

Crowell and Emmers-Sommer (1998) employed the condom self-efficacy scale with a student sample and found contradicting results. First, the authors determined that college students reported high condom self-efficacy, but they did not report having faced many of the issues that Braddford and Beck (1991) posit college students experience when addressing safer sex issues. Instead, Crowell and Emmers-Sommer (1998) concluded that college students are influenced primarily by relational factors, an issue Braddford and Beck do not address. They found that college students reported high levels of condom self-efficacy, yet still engaged in unprotected sexual activities. In this study, students' level of self-efficacy weakly correlated with both communicative coping styles in sexual situations and condom use. More specifically, their examination of coping styles revealed that students opt for non-communicative ways of coping in sexual situations (Crowell and Emmers-Sommer, 1998). Generally, students indicated that they perceive that they can communicate to a partner regarding condom use and use a condom; however, they have not yet adopted these behaviors. This findings illustrate the pivotal role communication can play in safer sex behaviors, hence, researchers need to explore the relationship between self-efficacy, communication, and condom use and whether or not relational factors play a role in an individuals risk reduction behaviors.

Safer Sexual Communication

Talk is the sex of the '80s. In a time when you can hardly initiate a handshake without a note from your doctor, conversation is not just a white-collar mating dance, it is the most intimate form of [safer] sex. Talk is the consummation devoutly to be wished; no wonder they call it intercourse. It is confession without penance, therapy on the cheap. It is also, in the right mouth, the last civilized popular art (Corliss, 1989, p. 65)

Research posits that one extremely important factor that will influence the presence or absence of condom use is verbal communication/talk. As Lear (1995) argues "communication is the medium of exploration of the complicated relations between behavior and culture, in this case, sexual culture" (p. 1312). To illustrate, Cantania et al.(1992) report cross-sectional data on sexual behavior and conclude interventions that targeting communication skills, and the eroticization of condom use, hold promise in promoting condom use. Further findings by Edgar et al. (1992) support the notion that willingness to initiate discussion about condom use may be the most important predictor of use. However, a question that remains unclear is: "what, if any safer sex communication takes place between partners?"

In Cline et al.'s (1990) study, results reveal that two thirds of sexually experienced heterosexual college students report talking with a sexual partner about AIDS. However, further examination of the data reveals that only one third of those who talk (or about one fifth of the sexually experienced sample) discussed topics related to AIDS prevention (e.g., condoms, sexual history, monogamy). In addition, 36.4% of the sample had not discussed AIDS at all with their partners, and 31.8% had no desire to discuss this topic. Finally, results reveal that women were more likely than men to discuss AIDS with their partner, which is consistent with past findings

(e.g., Bowen & Michal-Johnson, 1989; Ishii-Kuntz, 1988; Sunenblick, 1988).

Another study, focusing solely on women, reported that for women to be safe from HIV infection, they must not rely only on their own skills and efficacy concerning sexual behaviors and condom use, but also on their communicative ability to convince their sexual partner to use a condom (Gomez & Martin, 1996).

Interpersonal Communication Skills

Practicing safer sex involves a complicated process of believing in one's ability to engage in safer sex, as well as the interpersonal communication skills necessary to negotiate safer sex with a partner (Lear, 1995). Hence, an individual not only needs to have knowledge and skills regarding safer sex, but he/she needs to be capable of utilizing these skills and getting his/her partner to comply. An individual's lack of ability to perform the behaviors required for safer sex may be one reason that he/she is not "translating [his/her] knowledge into behavior change" (Brafford & Beck, 1991, p. 219). Focusing on communication skills, Oakley and Bogue (1995) report that more effective condom use is associated with having better partner communication about sex and birth control issues.

The relationship between condom use and communication is complex. It is not enough for individuals just to talk about safer sex; what is said, how it is said, and when it is said impacts condom use. "If communication about condom use is ineffective, then [safer] sex may not be practiced" (Edgar et al., 1989). Edgar et al. (1992) state that a low level of condom use is significantly accounted for by the inherent difficulties involved in negotiating condom use. In an earlier study, Edgar et

al. (1989) revealed that condom use is not typically an individual action, rather agreement and cooperation of both individuals is necessary for condom usage to occur. In addition, Adelman (1991) posits that resistance to safer sex, specifically using a condom, may also be greater if such usage is not communicated early in sexual episodes as a ground rule for intercourse. Given the likely impact of communication on condom use, it would be beneficial to uncover exactly the type and amount of communication that occurs regarding condom use between couples. In addition, researchers need to discover what types of communication lead to condom use and what types do not.

One communication variable found to be correlated with condom use is an individual's level of assertiveness. Assertive individuals are able to speak their minds; they act in their own best interests without denying or infringing upon the rights of others. In Your Perfect Right, Robert Alberti and Michael Emmons (1970) note that assertiveness is:

a behavior which enables a person to act in his [sic] own best interest, to stand up for himself [sic] without undue anxiety, to express his [sic] honest feelings comfortably, or to exercise his [sic] own rights without denying the rights of others. The assertive individual is fully in charge of him [sic] in interpersonal relationships, feels confident and capable without cockiness or hostility, is basically spontaneous in the expression of feelings and emotions, and is generally looked up to and admired by others. (p. 137)

Treffke et al. (1992) argue that assertiveness is likely to be a key variable in the complex social interaction of condom-use. Additionally, Ross (1988) suggests that the ability to raise the issue of condom use in sexual encounters without fear of rebuff

is the most important component of a general assertive personality style in these situations.

Many researchers found that assertive communication strategies are successful in safer sex negotiation and compliance (e.g., Edgar et al., 1992; Freimuth et al., 1992; Yesmont, 1992). Specifically, black women who took “sexual assertiveness” classes were twice as likely to use condoms consistently following these classes than those who took a standard two-hour AIDS information class taught in a clinic setting (Wingood & DiClemente, 1993, as cited in USA Today, February 11, 1998). Among other things, class content included how to put a condom on a partner, how to express sexual desires firmly, and how to cope with sexual situations when one or both participants have been drinking. Thus, an individual’s level of assertiveness should have a direct impact on his/her communication regarding condom use, and hence his/her actual condom usage.

Along with assertiveness, additional research on yields results linking other communication variables with condom use. As previously mentioned above, some researchers indicated a correlation between an individual’s belief regarding his/her ability to communicate about condom use (self-efficacy), a partner’s willingness to request condom usage and actual condom use. Specifically, Ross (1988) and Catania et al. (1989) found that willingness to request that a partner use a condom was a powerful predictor of condom use. An individual’s ability to communicate his/her desire to engage in safer sex by using a condom may be linked to knowledge, skill, and efficacy. Thus, lack of necessary communication and behavioral skills to engage

in safer sex is one possible explanation for the lack of condom use among college students. “These skills include the mechanics of using a condom itself, as well as the interpersonal communication skills necessary to negotiate [safer] sex with a partner” (Brafford & Beck, 1991, p. 219). An individual’s belief in his/her ability to perform specific behaviors (self-efficacy) with regard to condom use corresponds to the cognitive processing that regulates human behavior, especially behavior change. However, due to contradicting results explaining the relationships among self-efficacy, communication, and condom use, there may be other moderating factors that influence this relationship (Crowell & Emmers-Sommer, 1998). For example, an individual’s attitudes regarding safer sexual behaviors need to be taken into consideration.

Summary

Over the last two decades, HIV and safer sex researchers provided valuable contributions for advancing individuals’ awareness of HIV and understanding of safer sex behaviors. Although HIV knowledge increased, and individuals reported having the skills to engage in self-protection behaviors, certain beliefs and attitudes continue to block the bridge linking knowledge and behavior. Often an individual’s belief about his/her partner, relational status, and level of perceived risk inhibit self-protection behavior. Despite the fact that an individual is aware that careful and consistent condom use will reduce his/her risk of infection, he/she perceives that there is no need to engage in risk reduction behaviors. While individuals report possessing

the skills to engage in safer sex behaviors and a willingness to talk about safer sex, they do neither because they believe themselves to be invincible.

An individual's belief that he/she is invulnerable stems from his/her lack of ability to personalize the risk of HIV. Research suggests that personalization is often accomplished when an individual relates to a similar person or event. Recent studies reveal that individuals who report knowing someone with HIV or someone who has died of AIDS are more likely to personalize the risk of AIDS and change their behavior accordingly (safer sex communication and behavior). However, many heterosexuals report little to no contact with an HIV positive individual. Thus, lack of personalization of HIV may be due to the fact that many heterosexuals are unaware of people living with HIV. Often, individuals rationalize their own level of risk using inaccurate facts, myths, stereotypes, and complete fabrications of "the type" of people who are HIV positive.

Based on the discrepancies between an individual's safer sexual attitudes and behaviors, one possible solution is to investigate individuals living with HIV to determine if similarities exist between these individuals and HIV negative individuals. If similarities do exist, future research can explore the use of Social Comparison Theory in future prevention messages and programs. The following section provides a detailed rationale for studying the safer sex beliefs, attitudes, communication and behavior of heterosexuals living with HIV, and discusses the potential use of Social Comparison Theory to motivate individuals to personalize the risk of HIV.

Rationale

Personalization

Statistics indicate that the number of cases of individuals who are HIV-positive continues to increase, even though most people are knowledgeable about the disease, how it is transmitted, and prevention methods. The above review of literature and theoretical grounding illustrates many different aspects of an individual's beliefs, attitudes, behavior, and communication regarding HIV. In short, this research indicates that if an individual is unable to personalize the risk of HIV, he/she is unlikely to engage in safer sexual communication and/or behavior. Although limited research has been conducted, direct contact with an individual who has HIV is one approach that holds promise for influencing an HIV negative individual to personalize the risk of HIV. Personalization is more likely if an individual knows someone who is HIV positive (or has died from AIDS), and has interpersonal contact with this person. Through interpersonal contact, individuals are more likely to connect with and relate to HIV positive individuals. Once the individual perceives similarities between him/herself and these HIV positive individuals, he/she is much more likely to personalize the risk of AIDS.

Several studies link personalization of HIV with an intent to engage in future safer sexual communication and behavior due to interpersonal contact between similar HIV negative and HIV positive individuals (Raghubir & Menon, 1998; Rye, 1998; Swann et al., 1995; Timmins et al., 1996; Tigges, Willis, & Link, 1998). Personalization as a result of interpersonal contact, may provided one explanation for

the greater frequency of condom use in homosexual, rather than heterosexual, communities. Many homosexuals have had personal contact with HIV positive individuals and understand the ramifications of HIV. Unlike homosexuals, many heterosexuals have not had direct, interpersonal exposure to an HIV positive heterosexual. Moreover, researchers found that many heterosexuals report a desire to avoid contact with HIV positive individuals due to the fear of acquiring a contagious disease (Bishop, Alva, Cantu, & Rittiman, 1991; Connors & Heaven, 1995).

As a result of their lack of personal experience with and knowledge of people living with HIV/AIDS, many individuals hold negative attitudes toward people living with the virus (Bishop et al., 1991; Connors & Heaven, 1995; Pryor, Reeder, Vinacco & Kott, 1989). Specifically, research indicates that when an individual believes HIV can be transmitted through normal social contact he/she holds negative attitudes towards these individuals and want to avoid contact with them (e.g., blame and lack of sympathy) (Connors & Heaven, 1995). Researchers have determined that individuals who had negative attitudes toward people with HIV/AIDS believed these individuals were responsible for their behavior, but believed their own behavior was affected by powerful others, chance, or both (Connors & Heaven, 1995; Haven, Connors & Kellehear, 1992; Morton & McManus, 1986; Witt, 1990). Moreover, Hoorens and Buunk (1993) state:

There is now ample evidence that people show a strong tendency to underestimate their own health risk as compared to the risk they attribute to others. A relative underestimation of one's own health risks has been shown for health hazards such as AIDS (e.g., Bauman & Siegel, 1987; Joseph et al., 1987; Schneider, Taylor, Hammen, Kemeny, & Dudley, 1991; van der Velde, Hooijkaas, & van der Pligt, 1991), cardiac diseases (e.g., Dolinski, Gromski, & Zawisza, 1987; Lee, 1989; Weinstein & Lachendro, 1982) influenza (Larwood, 1978), and mental problems including attempted suicide (e.g., Drake 1987; Perloff & Fetzner, 1986). (p. 292)

Thus, an individual has a tendency to believe his/her health risks are different from others, even when they may not be. Many individuals may underestimate their level of risk by mentally drawing profiles of HIV positive individuals as very different from themselves. During a focus group with six heterosexual HIV positive individuals, not one participant, prior to infection, believed he/she was similar to someone who was HIV positive (Crowell, 1999). More specifically, individuals within the focus group indicated that they did not use condoms because they perceived no need for them; "We were not the type of people who would get HIV." These types of reactions and beliefs interfere with efforts to change an individual's safer sexual behavior (Herek & Glunt, 1988).

Social Comparison Theory

A perception of invulnerability continues to influence individuals' sexual behavior and increase their level of risk. As Hooren and Buunk (1993) note, it is impossible that the vast majority of a population will be better than average. In short, many individuals' perceived invulnerability is an illusion or an unrealistic perception, based on the statistical premise that the majority of the population can not fall above the mean. Due to the dire consequences associated with becoming infected with HIV,

an individual's myth of invulnerability needs to be replaced with his/her actual levels of risk. One way an individual may be able to realize his/her actual level of risk is if he/she compares him/herself to an HIV positive individual (Social Comparison Theory, Festinger, 1954). If an individual perceives similarities between him/herself and someone who is HIV positive, their differences become a less plausible rationale for his/her beliefs of invincibility. Past research argues that HIV negative individuals may be more likely to personalize the risk of AIDS if similarities between these two groups of individuals (HIV positive and HIV negative) are established (Fisher & Fisher, 1992; Fisher & Misovich, 1990).

The potential influence of perceived similarities on behavior change has been explored through a process called Social Comparison Theory. Social Comparison Theory proposes that an individual evaluates his/her personal attributes and situations by comparing him/herself with others (Buunk & Gibbons, 1997; Festinger, 1954; Suls & Wills, 1991), on a wide variety of dimensions: academic skills (Gibbons, Benbow, & Gerrad, 1994); attractiveness (Richins, 1991); current living situation (Bernstein & Crosby, 1980); coping abilities (Wood, Taylor, & Lichtman, 1985); health risk (Klein & Weinstein 1998); illness symptoms (Sanders, 1982); and behavior cessation efforts (Gibbons, Gerrard, Lando, & McGovern, 1991). Further, past research suggests that social comparison processes may operate differently in non-threatening versus threatening situations (Tigges et al., 1998). For examples, Wills (1981) proposed that when people are threatened, they tend to make downward comparisons; that is, they compare themselves with people who they see as different and worse off than

themselves. Although social comparison theory has not been extensively applied to the study of risky sexual behavior, evidence for the existence of downward comparison has been documented in other health-related studies (for citations see Tigges et al, 1998, p. 862). For example, people coping with threats of spinal cord injuries, breast cancer, depression, smoking cessation, acutely ill newborns, and rheumatoid arthritis report engaging in downward comparisons. Downward comparisons with regard to HIV could be one explanation for why an individual evaluates his/her risk of infection as little or none.

Festinger (1954) believes that social comparison is often motivated by a desire for accurate self-evaluation. However, a substantial amount of more recent research shows that self-evaluation is but one of several reasons for people to engage in social comparison (e.g., Sun & Croyle, 1995). According to Wood (1989), social comparison serves at least three goals: self-evaluation, self-improvement, and self-enhancement/self-protection. Felson and Reed (1986) argue that “other people’s performances and self-appraisals are sometimes highly predictive of our own self-appraisals” (p. 103). Also, the goal of self-enhancement or self-protection could provide the motivation an individual needs to personalize the risk of HIV, and to engage in safer sexual communication and behavior (Fisher & Fisher, 1992a; Fisher & Fisher, 1992b; Fisher & Fisher, 1992c). In addition, researchers posit that when an individual judges his/her risk of negative outcomes, he/she might compare him/herself with prototypes of individuals who experience these outcomes (Gibbon, Gerard & Boney McCoy, 1995; Klein, 1997; Weinstein, 1980).

One specific study that applies the principles of Social Comparison Theory to increasing an individual's personalization of HIV reports promising results. Rye (1998) designed a study comprised of a treatment group and a control group. The treatment group was exposed to six HIV positive individuals that were defined as "people like us." The control group received no treatment. Statistical analyses comparing the two groups indicated that the individuals who received the treatment reported significantly different results regarding their safer sex attitudes and future behaviors. Specifically, individuals in the treatment group had a significantly greater fear of HIV and a greater perceived risk of being infected with HIV. In addition, 56% of the individuals in the treatment group reported that they intended to use condoms in the future; 55% intended to talk to their partner about safer sex; and 28% reported that they would like to get an AIDS test. Once individuals are able to personalize the risk of HIV, these beliefs are likely to act as a motivation for individuals to engage in self-protection behaviors, in terms of safer sex communication and behavior.

The link between personalization and self-protection behaviors could prove to be an effective component in prevention techniques against the continuous spread of HIV. However, before this link can be established and consequences of this link can be evaluated, research needs to start at the beginning of this process. Initial steps need to be taken to delineate whether or not similarities exist between those who are infected and those who are not. The safer sex beliefs, attitudes, communication, and behaviors of HIV positive individuals prior to infection need to be explored. Past research provides us with this type of information about individuals who are not

infected, but what about individuals who are infected? Research needs to uncover whether there are possible differences in individuals' beliefs, attitudes, communication, and behavior that contributed to their HIV status. If similarities do exist, becoming aware of them may provide a basis for effective future prevention methods.

In addition to the possibility of uncovering similarities between these two groups, exploring the characteristics of individuals living with HIV holds another potential benefit. Prevention and education programs, thus far, have been developed from research focused primarily on high school and college aged HIV negative individuals. Utilization of samples from these populations continues to be a trend in safer sex research even though statistics reveal increasing HIV infection in populations other than adolescence/young adults. Uncovering information from HIV positive heterosexuals may shed light on certain dimensions of this virus that many are still unaware of. This type of information may not only raise individuals level of awareness, but also serve to alter their beliefs and attitudes.

Investigating the lives of HIV positive heterosexuals who acquired HIV through heterosexual sexual activity, prior to and since infection, may provide others with valuable insight. Hearing the voices and stories of HIV positive individuals may cause others to stop and reflect on similar situations they have confronted. HIV positive individuals have had to learn to cope with this virus. They face daily challenges in terms of their relationships, work, health care, sex, and sense of self. Through their experiences coping with these issues, HIV positive individuals have the

potential to provide perspicacity into HIV for others. This insight may furnish effective prevention messages to those who are still engaging in risky sexual behaviors. In addition, this insight into HIV may be beneficial in guiding the direction of future HIV educational and skills based programs. Lastly, there is potentially enormous heuristic value in exploring individuals living with HIV because it opens many new avenues for investigation.

Based on the above rationale, the purpose of this dissertation is to uncover the general attitudinal and behavioral characteristics of individuals who acquired HIV through heterosexual sexual activities. Specifically, this study investigates HIV positive individuals and identifies their perceived level of HIV knowledge, attitudes, and behaviors prior to obtaining the disease. The primary goals of this study are to identify the attitudes, beliefs, and behaviors of individuals living with HIV in order to decrease negative attitudes toward them (HIV positive individuals) and to establish a connection between HIV positive individuals and those who are not. Based on the premises of Social Comparison Theory, the establishment of commonality or similarity in the knowledge, attitudes, and behaviors of HIV positive and HIV negative individuals may be one way to get heterosexual, sexually active individuals to personalize the risk of HIV. The secondary goal of investigating individuals living with HIV is to expand the current prevention knowledge base. Past research primarily focuses on prevention methods based on information gathered from people who do not have the virus. Obtaining information based on individuals who acquired the virus

and are now living with it may illuminate new avenues for HIV and AIDS prevention research and intervention programs.

Research Questions

The research questions emerged from and correspond to the above literature review. The five areas of research from which the specific questions emerged include: (a) HIV and safer sexual knowledge, (b) safer sexual attitudes, (c) safer sex communication, (d) personalization, and (e) Social Comparison Theory.

The review of literature reveals that unprotected sexual activity is one of the two primary modes of HIV transmission (IV drug use is the other), and consistent condom use decreases the risk of acquiring and spreading HIV. However, many sexually active individuals are still not using condoms, despite their knowledge of HIV, how it is transmitted, and prevention methods. To establish if similar levels of knowledge and condom use between an HIV negative and an HIV positive individual exist, the knowledge level of an HIV positive individual, prior to acquiring the virus, needs to be determined. Thus, the following two research questions are posed:

RQ1a: What was an individual's level of HIV knowledge prior to acquiring the virus through heterosexual sexual activity?

RQ1b: What was an individual's use of condoms during sexual activity prior to acquiring the virus through heterosexual sexual activity?

Past research indicates that regardless of an individual's knowledge about HIV, he/she still engages in unprotected sexual activities. Further, although knowledgeable about the transmission of HIV and prevention methods, an individual's attitudes and beliefs interfere with safer sexual behaviors. Research illustrates that an individual believes there is no need to use or discuss condoms, when he/she believes he/she is not at risk of contracting HIV. An individual is more

likely to use cognitive heuristics—such as trust for partner, perceived monogamy, duration and type of relationship, and perception of a “safe” partner—rather than any other precautionary method as a form of safer sexual behavior. When an individual perceives him/herself as invulnerable to the disease, he/she is unable to personalize the risk of AIDS. This belief of invincibility may contribute to an individual’s lack of safer sexual behaviors. In addition, research indicates that an individual uses other reasons—such as negative attitudes toward condoms, alternate forms of birth control, and the alcohol and drugs use—for not using condoms. Based on these findings, researchers conclude that many sexually active heterosexuals believe that they are not at risk of acquiring HIV. Similarities in risk beliefs and the reasons supporting these beliefs between HIV-negative and HIV-positive individuals need to be established. First, however, the following variables must be identified about an HIV positive individual, prior to acquiring the virus. Thus, the following research questions are posed:

- RQ2a: What was an individual’s perceived risk of acquiring HIV prior to acquiring the virus?
- RQ2b: What was an individual’s level of trust for their partner prior to acquiring the virus?
- RQ2c: Did an individual perceive their partner as “safe” prior to acquiring the virus?
- RQ2d: Does an individual's level of trust and perceived partner safety predict an individual's perceived level of invulnerability?
- RQ2e: What reason(s) did an individual have for perceiving his/her level of risk of HIV infection, prior to obtaining the virus?

One factor that has been found to positively predict condom use is safer sexual communication. Research indicates that an individual must possess the interpersonal skills needed for condom suggestion, discussion, and the actual behaviors involved in using a condom. The belief by the individual that he/she is able to engage in these types of communication and behavior is called condom self-efficacy. Research indicates that sexually active individuals report high levels of condom self-efficacy. However, regardless of skill level, they still do not engage in safer sexual communication with partners prior to sexual activities. In addition, research supports the notion that an individual who is more assertive is more likely to suggest condom use and engage in communication regarding safer sexual practices. Although safer sexual communication is positively correlated with condom use, sexually active heterosexuals do not use communication skills to negotiate condom use. Thus, research needs to determine if similarities exist in communication skills and behaviors between an HIV-negative and an HIV-positive individual. First, however, these variables must be identified for an HIV-positive individual, prior to acquiring the virus. Thus, the following research questions are posed:

RQ3a: Did safer sexual communication occur between an individual and his/her partner prior to acquiring the virus?

RQ3b: How willing was an individual to communicate about safer sexual practices with a partner prior to acquiring HIV?

RQ3c: If safer sexual communication did occur, when did it occur, who initiated the communication, what was said, and was condom use a result of this conversation?

RQ3d: What was an individual's level of condom self-efficacy prior to acquiring the virus?

RQ3e: What are the relationships between condom self-efficacy and condom use, communication frequency, and willingness to communicate?

RQ3f: What was an individual's level of assertiveness regarding safer sexual behavior and communication prior to acquiring the virus?

RQ3g: What are the relationships between an individual's safer sex communication assertiveness and condom use, communication frequency, and willingness to communicate?

Although, an individual can never be sure of his/her actual risk, by taking precautionary measures (e.g., communicating with his partner and using condoms), he/she can reduce his/her risk of HIV. However, an individual is unlikely to attempt either of these two behaviors until he/she is able to personalize the risk of HIV. Research indicates that an individual who knows someone with HIV is more likely to personalize the risk of HIV and engage in safer sexual behavior. In addition, research suggests that an individual who can engage in social comparison with another and view him/herself as similar to the other is more likely to engage in self-enhancement or self-protection behavior. Therefore, by establishing the level of safer sexual knowledge, attitudes, behaviors, and communication of HIV-positive individuals, this research intends to make connections and identify similarities between HIV positive individuals and HIV-negative individuals. Consequently, an individual may personalize the risk of HIV, and may be more likely to change his/her behavior by engaging and engage in safer sexual practices. For the most part, past research bases prevention strategies on information obtained from a predominantly HIV-negative population. Therefore, it would be beneficial to obtain prevention advice and

suggestions from a population who has acquired and lives with HIV. Thus, the following research questions are posed:

- RQ4a: Did an individual know anyone who was HIV positive prior to his/her HIV infection?
- RQ4b: Did an individual believe he/she was similar to an HIV positive individual prior to his/her HIV infection?
- RQ5: Based on an individual's present understanding of the disease and the coping strategies he/she employs living with HIV, what HIV prevention suggestions or advice would an HIV positive individual give to an HIV negative individual?

The following section provides a detailed explanation of the methodology the employed in this study. Specifically, this section discusses the sample, the procedures used to obtain this sample, and the instruments used to answer the above research questions.

Chapter III

Methods and Procedures

This chapter entails: (a) an outline of the procedures utilized in the recruitment of participants; (b) a description of the participants; (c) an explanation of the instruments employed (d) an overview of data-collection procedures; and (e) a description of the data analysis procedures used to answer the research questions.

Participants

Power analysis

In order to estimate the number of participants needed for this study, a power analysis was conducted. According to Cohen (1992), "a statistical analysis exploits the relationship among four variables involved in statistical inference: sample size (N), significance criterion (α), population effect size (ES), and statistical power" (p. 156). In any research project, the investigator needs to know the N (total number of participants) necessary to attain a desired power for the specified alpha (α) and hypothesized effect size. It is important to determine the necessary N size, because of its relationship with power. For studies with a small N size, there is a greater probability of type II error (retaining the null when the null is false). There are two primary methods of guarding against type II error: loosening the alpha or increasing the N size. Although, increasing the alpha increases power, it also increases the probability of type I error (Allen, D'Alessio, & Brezgel, 1995). Therefore, the researcher wants a sufficient N size to attain a .80 degree power so that existing large effects would be revealed in the various statistical procedures. This is generally the

acceptable power level for social science research. Components of power are discussed in detailed below.

The significance criterion (α). The significance criterion or alpha represents the risk of committing type I error (rejecting the null when the null is true). Thus, the alpha represents the "maximum risk of attending such a rejection" (Cohen, 1992, p.156). In most social scientific studies, unless otherwise stated, alpha is usually set at .05, which according to Cohen (1990) is part of the Fisherian legacy.

This study is exploratory, it contains only research questions, and the majority of statistical analyses that were conducted to answer these questions were descriptive in nature. Therefore, significance levels were only considered for the Pearson's Correlations conducted to answer RQ3e and RQ3g, and the Multiple Regression to answer RQ2d. The significance level for the Multiple Regression (F) was set at the standard .05 level (nondirectional, two-sided). Similarly, The Pearson's Correlations (r) were set at an alpha at .05.

Power. Beta (β) is the probability of retaining the null when the null is false (type II error). Thus, $1-\beta$ is power, or the probability of rejecting the null when the null is true. In the statistical power analysis the only specification (a convention proposed for general use) for power is .80, $\beta = .20$ (Cohen, 1969, 1988). Cohen (1992) posits that a smaller value than .80 would incur too great a risk of type II error, and a larger value would demand an N that would probably exceed the researcher's resources. Therefore, for this study, determination of the necessary N was assessed using a power level of .80 ($\beta = .20$).

Effect size (ES). In the Neyman-Pearson method of statistical inference (Neyman & Pearson, 1928), the degree to which the H_0 (null hypothesis) is false is determined by the discrepancy between H_0 and H_1 (alternative hypothesis). This discrepancy is termed the effect size (ES). Determining the ES is the most difficult part of the power analysis. Cohen (1992) indicates that "this difficulty is at least partly due to the generally low level of consciousness of the magnitude of phenomena that characterizes much of psychology" (Cohen, 1992, p.156). Despite this difficulty, neither the power nor the N can be determined without the researcher having some idea about the size difference between the null and alternative.

First, an investigator needs to identify which statistical tests he/she will be conduct. Each statistical test has its own ES index. For example, testing the product-moment correlation of a sample for significance, the ES is simply the population r ; therefore, $H_0: r = 0$. If a researcher was interested in the significance of the difference between independent means, correlation coefficients, and/or proportions, then H_0 states that the difference is equal to zero (Cohen, 1992).

Cohen (1988, 1992) argues that investigators need a scale to convey the meaning of any given ES index. Thus, he proposes "as conventions or operational definitions small, medium, and large values for each [statistical test] that are at least approximately consistent across the different ES indexes for each statistical test" (Cohen, 1992, p. 156). In short, Cohen (1992) explains effect size as follows:

My intent was that medium ES represent an effect likely to be visible to the naked eye of a careful observer (it has since been noted in effect size surveys that it approximates the average size of observed effects in various fields). I set small ES to be noticeably smaller than medium but not so small as to be

trivial, and I set large ES to be the same distance above medium as small was below it. (Cohen, 1992, p. 156)

Specifically, the following are the small, medium, and large ES for the two statistical tests conducted in this investigation.

Test	ES Index	<u>Effect Size</u>		
		Small	Medium	Large
Pearson's Correlation Correlations	r	.10	.30	.50
Multiple Regression	R ²	.0196	.1304	.2592

Sample size (N). Based on the significance criterion, power, and effect size, researchers can determine the necessary N for each statistical test (Cohen, 1988; 1992). In order to run a Multiple Regression, with two predictor variables, alpha set at .05, power set at .80, and a large effect size (.2592), the necessary N size is 30. The same test with a medium effect size (.1304) would require an N size of 67. In order to run a Pearson's Correlation with alpha set at .05, power set at .80, and a large effect size (.50), the necessary N is 22. For the same test with a medium effect size (.30), the necessary N is 68.

Recruitment of Participants

Due to the specific criteria (i.e., HIV positive heterosexuals who obtained the virus through heterosexual, sexual contact) of the desired population, and the sensitive nature of the subject matter, collecting data on-line is one effective way to obtain this information. Recent studies found that an individual is more open with his/her

responses when responding to questions on-line rather than when responding to paper and pencil surveys, especially with personal issues (CNN, 1998; Sell, 1997; Read, 1991). In addition, Sell (1997) posits that on-line surveys have the “ability to reach relatively rare, hidden, and geographically dispersed populations” (p. 297). One specific study conducted by IBM (Read, 1991), which 90% of their employees completed, reveals several advantages of on-line surveys over traditional paper and pencil surveys. Specifically, the study suggests the following benefits: (a) employees prefer it, (b) it is faster, (c) it is more flexible and easier to analyze, (d) it is more efficient, (e) employees give more open responses, and (f) employees provide more written comments (30 to 35% increase in responses to open-ended questions). Although on-line surveys are a relatively new method of data collection, they hold great promise in reaching numerous populations, especially those dealing with rare diseases, and/or specific health behaviors/interests (Sell, 1997). Therefore, for this study, an on-line questionnaire, consisting of the various instruments outlined below, was constructed in order to address the proposed research questions.

Participants were solicited from on-line news groups, AIDS hotlines and support groups, AIDS chat lines, and AIDS organization web pages. This process proved to be a substantial undertaking, extremely time-consuming, and difficult. The following provides a detailed description of the steps involved in soliciting participants.

Step one. A search of AIDS newsgroups was conducted on <http://wren.supernews.com>, and the results of this search yielded the following list of newsgroups with a focus on HIV/AIDS:

1. AIDS
2. Med AIDS
3. Support AIDS Partners
4. cl.gesundheit.aids
5. fido7.aids-arc
6. fido7.aids-hiv
7. fido7.aids.data
8. fido7.aids.nl
9. hiv.sids.issues
10. hiv.aids.nl
11. soc.support.aids-HIV positive
12. z-netz.gesundheit.aids

Every week for a two month period, the researcher posted the following message to these newsgroups:

Hi, my name is Tara Crowell; I am currently a doctoral student at the University of Oklahoma. I am working on my dissertation entitled "Personalizing the Risk of HIV: An Investigation of the Attitudes, Communication and Behavior of Individuals Living with HIV."

The purpose of this dissertation is to uncover the prototype of individuals who acquired HIV through heterosexual sexual activities. This study will investigate HIV positive individuals and identify their levels of HIV knowledge, attitudes, and behaviors prior to obtaining the disease. The goal of this study is to use this information to establish a connection between HIV positive individuals and those who are not. Based on the premise of social comparison theory, the establishment of commonality or similarity of knowledge, attitudes, and behaviors between HIV positive and HIV negative individuals may be one way to persuade heterosexual individuals who are sexually active and HIV negative to personalize the risk of HIV.

In order to obtain the desired knowledge, I am attempting to collect information from individuals living with HIV. I have developed a closed and open-ended questionnaire for individuals to complete. I am asking for your assistance in the completion of this survey. Survey completion will take approximately 20-25 minutes. All participants must be at least 18 years of age and HIV positive heterosexuals who obtained HIV via

heterosexual, sexual activity. There are no other stipulations. The survey is on the following web site: <http://www.ou.edu/deptcomm/research/tara>

If you are eligible, please visit this site and participate. In addition, if you could pass this web site along, and/or link it to your homepage, put it in a newsletter, or send e-mail out to others, I would greatly appreciate it. If you need additional verification of this study, please feel free to contact Dr. Emmers-Sommer @ (405) 325-3111. I can be reached at (405) 579-4219, (405) 325-3924, or tcrowell@ou.edu. I am having a hard time getting this data collected and need all the help I can get. Thank you so very much for your time and effort. If you want, I can send you a copy of the final study, you just need to e-mail me with your address.

Sincerely,
Tara

Step two. The researcher performed a comprehensive search of all internet sites that deal with AIDS. This task was accomplished by using dogpile.com, a search engine that scans all other search engines — GoTo.com, Yahoo, Thunderstone, Excite Guide Search, Excite Web Search, Minning Co., Lycos Top 5%, Lycos, Altavista, Info Seek, What U Seek; Web Crawler, and Magellan. First, the researcher searched using the key words "AIDS" and "HIV." This search yielded over 5,000 relevant sites. Due to the extremely large number, the search was narrowed by using the key words "AIDS" and "support." This search produced approximately 500 sites.

The researcher then read through the list of these sites and, based on the name and description, visited those that appeared to be possibilities for recruiting participants (organizations, groups, or individuals that appeared to have direct contact—face-to-face or communication via internet or print—with HIV positive heterosexuals). After many hours of surveying these sites, it became apparent that

there were three types of sites: (a) informative sites; (b) organizations for treatment and support sites; and, (c) personal and social sites.

If sites were strictly informative—offered new information on HIV, treatment, prevention, medication, and contact information—the researcher learned of other possible links from these pages, but did not use these sites for recruitment of participants. The following are examples of sites of this nature:

www.cdc.gov/ - The Centers for Disease Control
www.catoe.ca - The Community AIDS Treatment Information Exchange
<http://www.goaskalice.columbia.edu/index.html> - Go Ask Alice - The Colombia University Education Program
<http://www.safersex.org/> - The Safer Sex Organization
<http://www.thebody.com/cgi/treatans.html> - The Body: An AIDS HIV Information Resource
<http://hivinsite.ucsf.edu/resources/> Gateway to AIDS Knowledge
www.prn.org - Physicians' Research Network in New York City
<http://hivcybermall.org> - HIV Cyber Mall
<http://www.iapac.org> - International Association of Physicians in AIDS Care
<http://www.critpath.org/aric> - AIDS Research Information Center
<http://www.paan.org> - The Physician Assistant AIDS Network (PAAN)

The second type of web site, those of specific organizations across the United States, directly address individuals living with HIV. Information on these web sites indicated that these organizations have direct and daily access to individuals living with HIV. Thus, these web sites were used for the recruitment of possible participants.

Recruitment of possible participants from these organizations entailed a series of steps. First, the researcher's recruitment message was sent to each web site that had an e-mail address for contacting a representative (90% of these sites have an

e-mail address for a contact person). In addition, phone calls were made to each organization that listed a phone number. Phone calls contained roughly the same information as in the recruitment message. Many times the contact person at the organization would instruct the researcher to put the request in writing and mail or fax him/her the request with a copy of the survey (between 15 to 20 letters were faxed or mailed). The letters followed the same format as the e-mail recruitment message—the researcher’s name, phone number, e-mail address, and affiliation, the purpose of the study, a description of potential participants, and, the web site address. Finally, flyers advertising the researcher’s web site were sent to organizations that agreed to display the flyers in their office (see Appendix A). The following is a list of all AIDS organizations that were either contacted by e-mail, phone, or both.

1. Wellness Center, Ft. Lauderdale
2. Positive Connections, North Miami
3. Comprehensive AIDS Program, Delray & West Palm
4. Center One, Ft. Lauderdale
5. Health Link, Ft. Lauderdale
6. AIDS Coalition of Tulsa
7. Tulsa Cares
8. C.A.R.E. Point, Oklahoma City
9. R.A.I.N Oklahoma, Oklahoma City
10. Catholic Charities, Oklahoma City
11. North Winds Living Center, Oklahoma City
12. Ryan White - Early Intervention AIDS Clinic, Oklahoma City
13. Red Rock, Oklahoma City
14. AIDS Resources Center, Dallas
15. AIDS Service of Dallas
16. AIDS Service of Northern Texas, Plano, Denton, Greenville, Rockwell
17. AIDS Arms, Dallas Texas
18. AIDS Red River, Sherman, TX
19. Oaklawn Community Services, Dallas, TX
20. HIV Center New York City
21. EFA - Better Existence with HIV
22. Paterson -Passaic County-Bergen County HIV Health Services

21. AIDS Education and Research Trust, West Sussex, England
23. United Communities AIDS Network
24. Stop AIDS Project
25. Colorado AIDS Project
26. AIDS Committee of North Bay and Area, Ontario, Canada
27. AIDS Community Resources
28. Health Canada - Division of HIV/AIDS Surveillance
29. San Diego's HIV POSITIVE HeteroSexual Dating Service
30. Metrolina AIDS project, North Carolina
31. Agape Family Service/MAP, North Carolina
32. AIDS Council of Northeastern New York
33. AIDS Center of Queens County
34. The Family AIDS Network, Grand Rapids, MI
35. Stlefa organization - support groups for individuals living with AIDS
36. AIDS Resources Center of Wisconsin
37. Florida HIV/AIDS hotline
38. Houston AIDS Information Link
39. Pittsburgh AIDS Task Force
40. Prevention Point Philadelphia
41. Sacramento AIDS Foundation
42. Whitman-Walker Clinic, Washington, D.C.
43. Charlotte's Web AIDS Project, Charlotte, N.C.
44. Center for AIDS Prevention Studies, University of California, San Francisco
45. Tucson Interfaith HIV/AID network, Tucson, AZ.
46. HIV Center Contact Information
47. Better Existence with HIV, Evanston IL.

The third type of web site included was a personal web page of individuals living with HIV or organized chat rooms that offered support for individuals living with AIDS. Some of these web sites were categorized by sexual orientation; but most catered to all individuals living with AIDS, regardless of how the disease was transmitted or sexual preference.

Personal web sites always contain an email address to contact the person. There were approximately 10 to 12 personal homepages accessed by the researcher using the same message posted on the organizations' web site. Web page owners at

three of these sites linked the researcher's survey site to their home pages. Two or three others sent e-mails to the researcher indicating that they were not eligible to participate, but would relay the web site address to others. Some of these same individuals were also members of the chat groups and e-mailed the researcher indicating that they would send a message about the study to the chat groups. Most of the chat groups were exclusive, meaning one needed to be HIV positive to even visit the site. Therefore, the researcher was unable to post recruitment messages on those particular sites. As a result, the researcher sent direct e-mail messages to the web masters for these chat rooms and asked them to post a message in the chat room asking for assistance with the researcher's on-line survey. About half the chat rooms posted the message, and the other half denied the request for a variety of reasons. The main reason was the sensitive nature of the questions; another reason was that the members felt that the purpose of the chat rooms was support, rather than solicitation. The following are a list of personal web pages and chat rooms contacted by the researcher:

1. hatgroups
2. genderaidshivnet.ch *
3. get-involved.com *
4. sci.med.aids
5. bionet.molbio.hiv *
6. misc.health.aids
7. AIDSChat@list.bot.com
8. HETERO-POSNET *
9. HIV Zone 11 Chat Room
10. HIV-Support@web-depot.com
11. Growth House (monthly e-mail covering resources for terminal care) *
12. Lighthouse Group *
13. People Living with AIDS Webring Homepage
14. Geocities.com - Heterochat Link (Personal homepage of HIV positive

- Heterosexuals)
15. Sharon's home page *
16. New Letter Index for AIDSLINE
17. Marty Howard's home page *

* Indicates the ones that allowed the researcher access

Description of Participants

Participants in the study were 40 heterosexual individuals diagnosed with HIV. All individuals were infected with the virus through heterosexual sexual contact. The sample consisted of 16 males (40%) and 24 females (60%). The unequal distribution of gender in this sample appears representative of the population of HIV positive heterosexuals (those acquiring the virus through heterosexual contact), as women are 19% more likely to obtain HIV through heterosexual sexual activity than men (CDC, 1997).

Participants ranged in age from 21 to 55 with a mean age of 39.2 years. Thirty three participants reported their race as white², while seven indicated that they were African American. In addition to these demographic variables, participants also provided information on relationship status and duration prior to infection, knowledge of their HIV infection, and birth control methods prior to infection.

With respect to relationship status and duration, four (10%) participants reported being single (not having sexual relations with anyone in particular), two (5%) reported causally dating someone, seven (17.5%) reported casually dating multiple partners, five (12.5%) reported exclusively dating one partner, three (7.5%)

² The U.S. Census Bureau defines "White (not of Hispanic origin)" as "a person having origins in any of the original peoples of Europe, North Africa, or the Middle East."

reported exclusively dating multiple partners, 13 (32.5%) reported cohabiting, five (12.5%) reported being married, and one (2.5%) reported being engaged. The length of these relationships was measured by the number of months that the partners were/are together. The length of relationships ranged from one month to 384 months (32 years), with an average of 72.5 months (approximately six years). Additionally, participants indicated who they obtained the virus from: five (12.5%) from a spouse, 12 (30%) from a boyfriend/girlfriend, four (10%) from someone they were causally dating, five (12.5%) from an acquaintance, two (5%) from a friend, two (5%) from a fiancé (fiancée), and two (5%) from an extra martial affair. Two (5%) participants did not know whom they obtained the virus from; and six (15%) participants did not provide this information. Finally, participants indicated use of the following birth control methods prior to obtaining the virus: eight (20%) used the pill, five (12.5%) did not know if their partner used birth control, six (15%) were sterilized, two (5%) used the sponge, one (2.5%) used a diaphragm, one (2.5%) used the rhythm method, one (2.5%) used foam, one (2.5%) was post menopausal (and therefore did not use birth control), and 15 (37.5%) reported that they did not use birth control (see Table 1 for a visual display of participants' demographics).

The following is a detailed description of the instruments used to obtain the information from the sample needed to answer the research questions. Together, these instruments contributed to the design of the on-line questionnaire. Further, studies using other methods of data collection are assessed to justify use of the proposed instruments.

Instruments

Condom use

Currently there is no standardized method/scale that operationalizes condom use. In addition, most studies only measure condom use for vaginal intercourse. However, both oral (fellatio and cunnilingus) and anal sex can transmit the virus (Oral Sex & HIV Transmission, 1998). Condoms (male or female) can be used in all three of these forms of sexual activity. Therefore, the researcher considers condom usage for all three types of sex. Further, condom use was measured as a continuous variable (Crowell & Emmers-Sommer 1998, 1999) because condom use occurs on multiple levels, not just use or nonuse (nominal). A second justification for a continuous measurement of condom use is the strength associated with this level of measurement. Continuous data has 20% more power when running statistical analyses than do nominal data (Allen, 1999, personal communication). Hence, an individual's condom use was determined by the following questions:

1. Did you engage in oral sexual activities with your partner? Yes or No.
2. Please indicate how often you used condoms in oral sexual activities with this partner: 1= never; 2= rarely; 3= sometimes; 4= half the time; 5= most times; 6=almost all times; and 7=always.
3. Did you engage in vaginal intercourse with your partner? Yes or No.
4. Please indicate how often you used condoms in vaginal intercourse with this partner: 1= never; 2= rarely; 3= sometimes; 4= half the time; 5= most times; 6=almost all times; and 7=always.
5. Did you engage in anal intercourse with your partner? Yes or No.
6. Please indicate how often you used condoms in anal intercourse with this partner: 1= never; 2= rarely; 3= sometimes; 4= half the time; 5= most times; 6=almost all times; and 7=always.

HIV Knowledge

An individual's awareness regarding HIV/AIDS, its means of transmission, and prevention methods have been measured in numerous studies (Baldwin & Baldwin, 1988; Bruce et al., 1990; Diclemente, Zorn, & Temoshok, 1986; Diclemente, Forrest, & Mickler, 1990; O'Leary et al., 1992; McDermott, Hawkins, Moore, & Cittadino, 1990). Questionnaires that attempt to assess an individual's level of knowledge concerning HIV pose statements regarding the biological configuration of the virus, the transmission of the virus, and preventive behaviors that reduce the spread of the virus. Knowledge statements are usually followed by a response of "true," "false," "I do not know," "agree," "disagree," or a five-point true-false Likert-scale (definitely false = 1, probably false = 2, don't know = 3, probability true = 4, and definitely true = 5). Many of these questionnaires do not appear to address all three of these issues at once. In addition, many researchers did not report levels of questionnaire reliability; and of those who did report it, indicated moderate to low reliabilities (.72 Diclemente et al. 1990; .67 O'Leary et al., 1992).

McDermott et al. (1987) conducted a study of AIDS awareness and information sources. In this study, researchers used a 15-item scale to assess an individual's level of HIV knowledge. Participants indicated true or false for each of the questions; each correct response resulted in one point, whereas each incorrect response resulted in the loss of one point. One hundred and sixty one participants completed the questionnaire, and the results reveal that overall knowledge of key AIDS-related facts is high—a mean of 12.2 and a mode of 13.0 out of 15. There was

no statistically significant difference in overall AIDS knowledge by gender or sexual orientation.

Many previous studies employed instruments measuring an individual's level of knowledge, using specific questions regarding the identification, history, transmission, rate of infection, treatments, and prevention of HIV. However, as scholars, scientists, and educators continue to study AIDS, and learn more about the factors associated with HIV, an individual's knowledge about this virus, how it is transmitted, and possible prevention methods continues to change. In addition, when an individual is asked what his/her level of knowledge was prior to being infected, he/she is more likely to be able to recall general knowledge rather than specific facts. These two conditions indicated a need for retrospective data collection. According to Metts, Sprecher, and Cupach, (1991)

Retrospective data includes reports of recollected behavior, experience, events and affect as well as global assessments of affective/psychological states and typical behavior based on accumulations of previous experiences and knowledge. (p. 162)

Thus, retrospective data are possible useful as an instrument to tap into an individual's global recollection of the past.

Based on these arguments, this study measured an individual's perceived level of knowledge prior to contracting HIV using a 5 item Likert scale. Two out of the five items (questions number 2 & 4) were reverse coded (meaning an answer of 1 equals 5, 2 equals 4, 3 equals 3, 4 equals 2, and 5 equals 1) to help insure reliability. This scale (see Appendix B) was developed by the researcher to operationalize an individual's perceived general level of knowledge regarding HIV. This scale consists

of items regarding an individual's knowledge about the virus itself, how the virus is transmitted, and how to prevent the spread of the virus.

This five item knowledge scale underwent a Principal Components Analysis with Varimax rotation to examine the dimensionality of the scale. Both the Kaiser criterion (i.e., Eigenvalues > 1) and scree plots were examined to determine how many components to retain. One component was extracted, explaining 83.2% of the variance (Eigenvalue = 4.163). Analysis of the scree plot indicated only one component existed prior to the breakpoint. Thus, one component was retained, indicating that the scale was unidimensional. The Kaiser-Meyer-Olkin (KMO) test indicates a highly acceptable measure of sampling adequacy at .88 (on a scale ranging from .9 to .5). Using the 60-40 purity criterion, any item that loaded at .60 did not load higher than .40 on any other factor. Reliability of the five item scale was .94 (Cronbach's alpha).

Perceived Risk

The present study operationalized the variable "perceived risk" by employing a combination of methods. Freimuth et al.(1992) measured perceived risk in a similar manner, but only used one question. They asked participants: "how would you rate your risk for being exposed to AIDS?" They were asked to respond to this question on a scale of 1-5, with 1 being no risk at all and 5 indicating very high risk. Baldwin and Baldwin (1988) assessed an individual's perceived risk of contracting HIV with the following question: "How much do you think you are at risk of being exposed to the AIDS virus? The response scale was: very unlikely = 1, unlikely = 2, unsure = 3,

likely = 4, very likely = 5.” Hansen et al. (1990) measured an individual’s perceived risk by asking three questions that assessed a respondent’s perceptions of his/her chances of acquiring HIV for (1) a person their age who has sex with many different partners and does not use condoms (Generalized Other); (2) themselves, if he/she was having sex with many different partners and not using a condoms (Hypothetical Self), and (3) themselves (Actual Self). Participants rated the likelihood of getting AIDS using a 9-point quasi-logarithmic scale. Possible responses were 1:1, 1:10; 1:100; 1:10,000; 1:100,000; 1:1,000,000; 1:1,000,000,000; and no chance at all. Several other researchers have used comparable questionnaires to determine an individuals’ perceived risk, but many of them failed to provide the specific questions they used (Timmins et al., 1996; Wulfert & Wan, 1995).

Considering this study is interested in individuals’ perceived risk of acquiring HIV prior to actually obtaining it, participants were asked to respond to the five statements (adapted from Pilkington et al., 1994): (1) I was afraid of getting HIV; 2). I was not worried about getting AIDS; 3) There was high risk of being exposed to the HIV; 4). I was not the kind of person who was likely to get HIV; and 5). I was less likely than most people to get HIV. Participants responded to each of the five statements using the following scale: strongly agree = 1, agree = 2, unsure = 3, disagree = 4, strongly disagree = 5. Questions one and three were reverse coded to ensure reliability. Finally, respondents were asked to provide a reason why they perceived this level of risk.

Reasons for perception of risk were coded and categorized with coding methods used in similar studies (e.g., Crowell & Emmers-Sommer, 1998; Emmers & Canary, 1996). Specifically, reasons for risk perception were coded and then collapsed with similar other reasons to create overall themes. When a response did not correspond with other responses, a new category was formed. These categories were used to identify similar themes in the reasons why participants perceived a certain level of risk. Due to the small number of participants and the exploratory nature of this study, quantitative statistical analyses were not conducted with this data. Furthermore, the last statement that the participants responded to did not address a specific research question, and therefore intercoder reliability was not conducted.

The five item perceived risk scale underwent a Principal Components Analysis with Varimax rotation to examine the dimensionality of the scale. Both the Kaiser criterion (i.e., Eigenvalues > 1) and scree plots were examined to determine how many components to retain. One component was extracted, explaining 78.4% of the variance (Eigenvalue = 3.92). Analysis of the scree plot indicated only one component existed prior to the breakpoint. Thus, one component was retained indicating that the scale was unidimensional. The Kaiser-Meyer-Olkin (KMO) test indicates a highly acceptable measure of sampling adequacy at .847. Using the 60-40 purity criterion, any item that loaded at .60 did not load higher than .40 on any other factor. Reliability of the five item scale was .92 (Cronbach's alpha).

Trust

Trust is generally defined as the belief of an individual about the integrity of another individual (Larzelere & Huston, 1980). Stinnett and Walters (1977) suggest that trust increases security in a relationship, reduces inhibitions and defensiveness, and frees people to share feelings and dreams. Based on this conceptualization of trust, Larzelere and Huston (1980) developed The Dyadic Trust Scale to study interpersonal trust in romantic relationships. These authors developed this scale using 195 individuals: 16 who were casually dating, 90 who were exclusively dating, 54 who were engaged and/or living together, and 35 who responded concerning a previous dating relationship. There were 120 females and 75 males, whose ages ranged from 18 to 30 years with a mean of 20.8 years. Items for the scale were drawn from a pool of 57 borrowed or adapted questions from previous scales which have measured some type of trust (e.g., Barak & LaCrosse, 1975; Dion & Dion, 1975; Driscoll, Davis, & Lipetz, 1972; Jensen, 1952; Lewis & Larzelere 1979; Rotter, 1967; Wrightsman, 1964). The researchers selected and modified the items to fit the conceptual definition of dyadic trust and to apply to both dating and marital relationships.

Results reveal that the scale was unidimensional (Larzelere & Huston, 1980). The item-total correlations were high, ranging from .72 to .89, and the mean item scores indicate moderate or strong agreement with high trust statements, ranging from 4.8 to 5.9 on a 7-point scale. Three of the eight items are reverse-scored to reduce acquiescence response bias. The scale was highly reliable with a .93 coefficient alpha; and it had low correlation with social desirability ($r = .00$, n.s.) and both generalized

trust scales (Wrights-man: $r = .17$, $p < .05$; Rotter: $r = .02$, n.s.) indicating construct validity. Hence, this scale is both highly reliable, unaffected by social desirability, and operationally distinct from generalized trust. The scale is also purposely designed to be consistent with conceptualizations of trust from a variety of perspectives.

Dyadic trust was moderately correlated with both love ($r = .47$, $p < .001$) and intimacy of self-disclosure ($r = .25$, $p < .01$). In addition, dyadic trust generally varied by relationship status as would be expected. The average dyadic trust scores for seven different relationship states differed significantly from each other ($F = 41.30$, $p < .01$).

The final Dyadic Trust Scale consists of 8 items (see Appendix C).

Participants completed the scale by clicking one of the following responses for each question: 1 = completely agree, 2 = strongly agree, 3 = agree, 4 = unsure, 5 = disagree, 6 = strongly disagree, and 7 = completely disagree. Questions one, two, and six were reverse coded, and scores were summed together and divided by eight for a total dyadic trust score.

The eight item dyadic trust scale underwent a Principal Components Analysis with Varimax rotation to examine the dimensionality of the scale. Both the Kaiser criterion (i.e., Eigenvalues > 1) and scree plots were examined to determine how many components to retain. One component was extracted, explaining 68% of the variance (Eigenvalue = 5.43). Analysis of the scree plot indicated only one component existed prior to the breakpoint. Thus, one component was retained, indicating that the scale was unidimensional. The Kaiser-Meyer-Olkin (KMO) test indicates a highly acceptable measure of sampling adequacy at .881. Using the 60-40

purity criterion, any item that loaded at .60 did not load higher than .40 on any other factor. Reliability of the eight item scale was .84 (Cronbach's alpha).

Perceived Safety of Partner

Although perceptions of a "safe" partner are often discussed in the literature, they are not often measured as a separate construct. Many times, the perception that a partner is "safe" falls under the larger umbrella of perceived invulnerability and is measured by level of risk of acquiring AIDS. However, this construct is an individual's perceived level of risk due to perceptions of partner safety. Therefore, an individual's perception of partner safety was assessed independently from perceived risk. Participants' perception of partner safety was measured by the following:

1). Prior to obtaining HIV, how safe did you perceive the partner you obtained HIV from, Very Safe = 1, Safe = 2, Neutral = 3, Unsafe = 4, Very Unsafe = 5; and 2)

Please provide a reason why you perceived this level of safety. The researcher was unable to conduct a principal component analysis or reliability check, considering this is only a one-item instrument. Reasons for perception of partner safety (question number two) was coded and categorized using the same process described above for participants' reason(s) for perceived risk of HIV.

Communication

To understand the frequency, amount, and content of communication that took place between partners regarding condom use prior to obtaining HIV, several instruments were employed. First, participants were instructed to answer using a seven-point scale (1= never, 2= rarely, 3= sometimes, 4= half the time, 5= most

times, 6=almost all times, and 7=always) to indicate how often they discussed condom use with their partner before having sex. Second, participants were asked to indicate how long the conversation about condom use with their partner lasted, and what was discussed. Next, participants responded to the following question to uncover who initiated this conversation: When condom use was discussed before engaging in sex, who usually initiated the conversation? They responded: 1 = we don't talk about it; 2 = we already established to not to use one, so we do not talk about it; 3 = I usually initiate the conversation; 4 = my partner initiates the conversation; 5 = it varies between myself and my partner; 6 = we just use one, but do not discuss it. Next, participants were asked how willing they were to engage in communication regarding condom use prior to acquiring HIV, using the following responses: 1= always willing; 2 = willing; 3 = somewhat willing; 4 = undecided /unsure; 5 = rarely willing; 6 = unwilling; and, 7 = never willing. The researcher was unable to conduct a principal component analysis or reliability check on frequency of communication, who initiated safer sex communication, and willingness to engage in safer sex communication considering each variable was measured using only a one-item instrument.

In order to understand the type of communication regarding condom use that occurred between individuals and their partners and when and where this communication took place, participants provided answers to the following open-ended questions:

1. Did you and your partner talk about protection prior to engaging in sexual activities?

2. If yes, please recall the last discussion you had with your partner regarding protection (e.g., condom use) prior to HIV infection. Please write down what was said during this conversation by both you and your partner? Was this conversation representative of a typical conversation regarding safer sex?
3. Where and when did this conversation take place? Before, after, or during sexual activities?
4. What was the result of this conversation? Please indicate: Condom use, No condom use

Type and topic of communication (question number two) were coded and categorized using the same methods described earlier.

Self-efficacy

Self-efficacy was measured using Brafford and Beck's (1991) Condom Self-efficacy Scale for College Students (see Appendix D). The items on the scale were derived from three sources: previous literature, an expert panel, and input from students themselves. From these three sources, 15 factors were identified as influencing college students' self-efficacy towards condom use. Then, 28 specific self-efficacy items were developed to cover the depth and breadth of the 15 factors. Each item has a 5-point strongly disagree to strongly agree response format, and the sum of all scores (after reverse coding negatively worded questions) represents an individual's condom self-efficacy level.

To examine the reliability of the Condom Use Self-efficacy Scale for College Students, a measure of internal consistency was calculated (Brafford & Beck's, 1991). Using a sample of 733 college students, Cronbach's alpha was .91. The two-week test-retest reliability was .81 (Brafford & Beck, 1991). Further, Crowell and Emmers-Sommer (1998) reported a .91 reliability for the scale. The results of the

current study yielded a .96 reliability for this scale. Since the construct of condom self-efficacy is a summation of participants' scores on 15 factors, and the reliability of these items was high, a principal component analyses was not conducted to confirm the multi-dimensionality of the scale.

Assertiveness

Implicit in the conceptualization of communication competence is the notion that an individual's level of competence is similar across contexts. An individual has trait-like qualities that, on the whole, influence whether or not the individual is perceived to be a competent communicator. The impact of personality on communication behavior has been clearly demonstrated for decades (e.g., McCroskey & Daly, 1987). Norton (1983) established that an individual exhibits trait-like differences in his/her basic communication styles. These styles have also been studied under similar terms such as "personal style" (Merrill & Reid, 1981), "social style" (Lashbrook, 1974), and "psychological androgyny" (Bem, 1974; Wheelless & Dierks-Stewart, 1981). All of these approaches are rooted in Jungian psychology and are represented in the Myers-Briggs personality inventory.

These style-based approaches characteristically suggest two or more dimensions to an individual's style that are assumed to result in differential communication behaviors (McCroskey & Richmond, 1996), the person's "Socio-Communication Style". The two most commonly referred to dimensions are assertiveness and responsiveness. An assertive individual is characterized by descriptors such as: independent, dominant, aggressive, competitive and forceful.

Responsiveness is characterized by descriptors such as helpful, sympathetic, compassionate, sincere, and friendly.

These style-based characteristics not only communicate distinctive impressions to others, but can also help researchers gain insight into the personality of individuals (Thomas, Richmond & McCroskey, 1994). However, since all communication is not the same, and communicating about sensitive topics, like sexual activities and condom use may alter an individual's communication style, assertiveness was measured using a specific rather than general assertiveness instrument. An individual's level of safer sex assertive, nonassertive, and aggressive communication was measured by participants' self-rating on three responses to each question (14 questions, 42 responses) on the Intimate Relationships Questionnaire (IRQ) (see Appendix E). Participants were given a situation and three responses to that situation. Participants were then asked to determine how similar these thoughts and behaviors were to their own thoughts and feelings. Participants used the following five item Likert scale to rate every response (42 total—14 assertive, 14 argumentative, and 14 nonassertive responses): 1 = not at all like me; 2 = slightly like me; 3 = somewhat like me; 4 = mostly like me; and, 5 = just like me. The situation and responses are gender nonspecific and place the reader in a protagonist role, which is consistent with most popular assertiveness inventories (Yesmont, 1992). The assertiveness, nonassertiveness, and aggressive response alternatives to each scenario are randomly sequenced throughout the measure.

In another study Yesmont (1992) reports that the precautionary sex situations were inspired by the works of Kelly, St. Lawrence, Hood and Brasfield (1989), Johnston (1986), and Rotheram-Borus and Koopman (1989). In short, the author claims an effort was made to depict realistic scenarios as a context for safer sex discussions, with a brief interaction as the setup for the response. Cognitions in four of the questions were adapted from the work of Greico (1987) and Alberti and Emmons (1986), who applied the theoretical conceptualizations of Ellis and Harper (1975) and Beck (1976) regarding thought distortions and resulting behaviors. Data analyses indicate that a panel made up of 14 individuals—some with professional experience in psychology and others who were licensed clinical psychologists—were able to correctly identify to a significant degree the three response categories on all items. Items 2, 4, 7, 9, 11, 12, and 14 on the IRQ describe situations involving communication styles of precautionary behaviors: condom use, asking a date about his/her history, asking a date about prior HIV testing, and wanting to know a date better before engaging in sexual intercourse.

Scores of responses for each of the three traits—assertiveness, nonassertiveness, and argumentative—were summed and divided by 14 to produce three total scores for each participant. Based on the formatting of this scale and the idea that it measures three separate but theoretically related variables, three factor analyses were run. Each of the three 14 item scales under went a Principal Components Analysis with Varimax rotation, to examine the dimensionality of the scale. Both the Kaiser criterion (i.e., Eigenvalues > 1) and scree plots were examined

to determine how many components to retain. For assertiveness, one component was extracted, explaining 48.8% of the variance (Eigenvalue = 6.83); for nonassertiveness one component was extracted, explaining 47% of the variance (Eigenvalue = 6.58); and, for argumentativeness one component was extracted, explaining 46% of the variance (Eigenvalue = 6.49). Analysis of the scree plots indicated only one component existed prior to the breakpoint for each of the three scales. Thus, one component was retained for each, indicating that each of these scales was unidimensional. The Kaiser-Meyer-Olkin (KMO) test indicates acceptable measures of sampling adequacy: .697 for assertiveness, .752 for nonassertiveness, and .773 for argumentativeness. Using the 60-40 purity criterion, any item that loaded at .60 did not load higher than .40 on any other factor. Reliability of the 14 items measuring assertiveness was .90 (Cronbach's alpha); reliability of the 14 items measuring nonassertiveness was .91 (Cronbach's alpha); and reliability of the 14 items measuring argumentativeness was .91 (Cronbach's alpha).

Personalization

Participants responded to the following three open-ended questions
(open-ended questions were coded as described earlier):

1. Did you know anyone who was HIV positive prior to acquiring the virus? If so, what was your relationship with this person?
2. Did you believe you were similar to an HIV positive individual? If so, in which way? If not, why not?
3. Based on your present understanding of the disease and the coping strategies you employ while living with HIV, what suggestions, information, or advice do you have for individuals who are engaging in unprotected sexual activities?

Demographic information

Participants provided information for the following demographic questions: gender; age; race; relational status with the partner whom they believed they obtained HIV from, length of this relationship, and the form of birth control. Relational status was defined as the following: single (not having sexual relations with anyone in particular); casually dating this partner; casually dating several partners; exclusively dating their partner; exclusively dating several partners and other partner(s); living with partner; married to partner; divorced or separated from this partner; and other. These categories progressively emerged from Emmers' (1995) and Crowell and Emmers-Sommer's (1998) research when attempting to assess an individual's relationship status.

Relationship length was operationalized in terms of months as opposed to years, so that a lesser amount of time was not discounted (Emmers, 1994; 1995). If a participant responded in terms of months and weeks (e.g. three and half months), length was rounded up to 4 months. Days or weeks were not used due to the complexity involved in determining the number of days or weeks in lengthy relationships.

Procedures

The following section provides a brief description of how data was collected and of the statistical analyses that were conducted.

Data Collection

Once potential participants for the study were contacted via the researcher's recruitment message, the actual process for data collection consisted of four linked web pages (See Appendix F). Once an individual typed in the web address for the survey—<http://www.ou.edu/deptcomm/research/tara>—he/she was linked to the first page of the survey. The first page served as an introduction to the study. This page provided an individual with the researcher's name, affiliation, e-mail address, a brief overview of the types of questions on the survey, and the prerequisites for participation. Once an individual read this page, if he/she met the requirements for participation and desired to do so, he/she clicked on the button that read "I agree to participate." The individual then was sent to the second page. If the individual did not meet the requirements or did not wish to participate in the study, he/she clicked on the button that read "I do not wish to participate," and was subsequently linked to Yahoo.com (the homepage for one of the most popular search engines, and a web site familiar to most internet users).

The second page consisted of the approved University of Oklahoma Internal Review Board Consent Form for this study (see Appendix G for approval letter). This page provided the individual with information on his/her rights as a participant, addressed participant confidentiality, and provided contact numbers in case he/she had further questions or concerns. Once an individual read this form, he/she could either click on the button "I agree to participate" or "I do not agree to participate." If an individual agreed to participate, he/she was sent to the third page, if he/she did not agree to participate, then, he/she was forwarded to Yahoo.

The third page was the survey page. The survey page consisted of 118 questions developed from the instruments described earlier in the Method section. Once an individual completed the survey page, he/she submitted the completed survey results by clicking on the "submit" button. If an individual answered all questions, he/she was sent to the "Thank You" page. If an individual missed any questions, he/she received a "message page" instructing them to revisit the question(s) they missed, and then to re-submit the survey. Once a survey was completed and submitted, the information was sent to a CGI bind (a CGI bind is a personal web site set up to receive the data; it is only accessible by the researcher and ensures the anonymity of the participant's survey information). Once data collection was completed, the researcher transferred the numeric data to a SPSS data file.

The "Thank You" page was the last of the four pages. On this page the individual was thanked for his/her participation and told the purpose of the study, how to contact the researcher with further questions and concerns, and how to get a copy of the final study. Upon completion of reading this page, there was an exit button the individual could click on that would send him/her back to Yahoo.

Data Analyses

Data analyses were conducted in three stages. First, preliminary analyses were conducted. Second, primary analyses were run in order to answer the posed research questions. Last, additional analyses were run for further exploration of the data. All numeric data from the survey was input into SPSS PC 8.0 for Windows, and all statistical analyses were performed using this statistical software package.

Preliminary analyses. The researcher conducted specific preliminary analyses on the data to address several important issues. The first step computed a summary of scores for each participant on each factor. A "sum variable" was created, to determine participants' scores on each variable, by totaling the participants' responses for each item on a multiple item scale measuring that variable and then dividing by the total number of items. These variables were: perceived knowledge, perceived partner trust, perceived risk of HIV, condom self-efficacy, and assertiveness, argumentativeness, and nonassertiveness in safer sex communication.

Next, a Principal Components Analysis (PCA) was run for each scale (with two or more items) in order to determine the dimensionality of the scale and whether it measured the component intended. Once factor analyses were completed, reliabilities for each scale were calculated. A Cronbach's alpha for each scale was obtained in order to establish an overall reliability for each scale. This process was conducted to assess whether or not the scales were providing reliable data for the participants in this study. Once acceptable reliabilities were obtained, primary analyses were run.

Primary analyses. Primary analyses were the quantitative and qualitative (grouping of open-ended data) procedures conducted to answer the posed research questions. To obtain information for RQ1a and RQ1b, descriptive statistics were run both for participants' mean score for their level of knowledge regarding HIV and for their use of condoms during all three levels of sexual activity—oral, vaginal, and

anal. If an individual did not engage in one or more of these types of sexual activities they were able to response with an "N/A" for condom use for that sexual activity.

In order to answer RQ2a, RQ2b, RQ2c, RQ2d, and RQ2e, the following tests were run. To answer RQ2 a, b, and c, descriptive statistics were run and mean scores were reported on participants' perceived risk, trust of partner, and perception of partners' safety. To answer RQ2d, a multiple regression (2κ) was run, using perceived trust of partner and perceived safety of partner as predictor variables, and an individual's level of perceived risk as the criterion variable. To answer RQ2e, the researcher coded, by emergent category coding, participants' responses to the open-ended question "Why did you perceive this level of risk?" Categories were then identified, frequencies reported, and actual examples of participants' responses offered.

In order to answer Research Question 3, several procedures were used. More specifically, both open and closed-ended questions were employed to answer RQ3a, RQ3b, RQ3c, RQ3d, RQ3e, RQ3f, and RQ3g. Descriptive statistics and frequencies were conducted on the closed-ended questions that addressed the presence or absence of safer sexual communication, the frequency of this communication, who initiated the conversation, and the result of the conversation. In addition, the researcher coded, by emergent category coding, participants' responses to the open-ended question regarding the specific content of safer sexual communication between partners. Then, these categories were identified frequencies were reported. In addition, examples of participants' responses were delineated.

To answer RQ3d, participants' mean scores on condom self-efficacy were reported. To answer RQ3e three Pearson's Correlation Coefficient analyses were conducted. Three r's were obtained to assess the relationship between participants' condom self-efficacy and condom use, participants' condom self-efficacy and willingness to engage in safer sex communication, and participants' condom self-efficacy and actual frequency of safer sex communication. The same procedures the researcher conducted to answer RQ3d and RQ3e were replicated to answer RQ3f and RQ3g, by replacing variable self-efficacy with the variable assertiveness.

To answer RQ4a and b, frequencies were computed and reported. In order to address RQ5, the researcher coded, by emergent category coding, participants' advice, suggestions, and comments, and then reported the content and frequency of this data. In addition, examples of participants' accounts were offered.

Additional analyses. Throughout the long history of psychological research, a wealth of evidence has accumulated suggesting that men and women differ on a wide variety of behavioral, cognitive, and affective dimensions" (Ptacek, Smith, & Dodge, 1994, p. 421). Gender differences have been a secondary analysis in many of the past studies concerning a variety of topics (see Folkman and Lazarus, 1980). Specifically, past studies investigating AIDS and safer sex behaviors have found that some differences in behaviors do exist, and that the risk of HIV differs between genders.

Crowell and Emmers-Sommer (1998) found that sex was not significantly related to reasons why individuals chose not to use condoms, but was significantly related to actual condom use. Results of this study indicate that women engaged in

unprotected sex significantly more often than men in sexual encounters; this supports prior research revealing the negative aspects of many women's sexual practices. Specifically, women often have little intention of using condoms, and their intentions wane over the course of a relationship (McQueen & Uitenbroek, 1992). In addition, women in a study conducted by Catania et al. (1989) report that women rarely used condoms during vaginal intercourse and never used them during anal intercourse. Moreover, this study found that the more partners women have, the less inclined they were to engage in safer sexual practices.

Possible gender differences give rise to serious concerns when one considers that women in heterosexual relationships are at higher risk for contracting HIV than males, and that the percentage of females acquiring HIV continues to increase every year at a greater rate (Decarlo, 1996). Although both males and females need to be concerned with the risk of acquiring and transmitting HIV, if gender differences may do exist, these differences may seriously influence future prevention methods strategies and educational programs.

A second factor that has been found to play a role in an individual's safer sex behavior is relationship status. Individuals in exclusive relationships use condoms significantly less than individuals in a non-exclusive relationships (e.g., Crowell & Emmers-Sommer, 1998). These findings continue to support the notion that individuals who believe they are involved in an exclusive relationship are less inclined to take precautionary measures to decrease their chances of acquiring STDs and HIV. Past studies (Crowell & Emmers-Sommer, 1998; Emmers-Sommer &

Crowell, 1999) found that individuals in exclusive relationships did not perceive themselves to be in danger or at risk because of relational factors. Thus, as a result of relational status, an individual may alter his/her safer sex behaviors and communication (Emmers-Sommer & Crowell, 1999).

Results that reveal safer sex differences depending on relational status support Lear's (1995) argument that states that how individuals regard and use condoms is embedded in a set of personal attitudes that differ by context of relationship. She argues that condoms were usually used until or unless the relationship became more committed. However, condoms were used less in casual relationships if the partners knew each other and the man knew the woman was on the pill. Individuals who indicated that they were friends with their partner believed that they were somehow at less risk because they knew and trusted their partner. Once individuals were in a romantic dating relationship and trust was established, oral contraceptives were used either instead of or after a short period of condom use.

Based on past research on gender differences and the influence of relational status on safer sex, and the exploratory nature of this study, once primary analyses were conducted, the researcher continued with additional analyses of the data. Basic demographic information was obtained by running frequencies and descriptive statistics on participants' gender (male, female) and relationship status (casual and serious). Participants were assigned a relationship status of "casual" if they reported either "single," "casual dating of one partner," or "casual multiple dating of partners." Participants were assigned a relationship status of "serious" if they reported either

"exclusive dating of one partner," "exclusive dating of more than one partner," "cohabiting," "married," or "engaged." Both gender and relational status were used as grouping variables. Once demographic information was obtained, the researcher conducted t-tests to determine if differences exist between these groups (gender and relational status) and knowledge, perceived trust of partner, perceived risk, condom self-efficacy, assertiveness, argumentativeness, and nonassertive safer sex communication.

Chapter IV

Results

This chapter reviews the results of the analyses. Due to the nature of primary analyses, results for tests dealing with instrumentation were reported in the method section (under the description of instruments) and will not be repeated here. Summary scores for each variable will be reported with the primary analyses due to their direct contribution to answering the research questions. Thus, this section provides results answering the research questions, followed by results for additional analyses.

Research Question One

Research Question 1a asked: “What was an individual’s level of HIV knowledge prior to acquiring HIV?” Results of descriptive analyses reveal that participants' knowledge ranged from 1 to 5 with a mean score of 3.475, and SD of 1.22, indicating a moderate level of knowledge prior to acquiring HIV (see Table 2 for distribution of scores).

Research Question 1b asked: “What was an individual’s use of condoms during sexual activity prior to acquiring HIV?” Results of the descriptive statistics reveal that participants engaged in low condom use for oral, vaginal, and anal sexual activity. Specifically, condom use for oral sex was practiced the least, followed by condom use for vaginal intercourse; condom use was highest for anal sex. Oral sex was practiced by 95% (N = 38) of the sample, of which condom use ranged from 1 (never) to 5 (most of the time) with a mean score of 1.33 and a SD of .868.

Frequencies indicate the following: 80% (N = 32) of participants reported that they never used condoms, 10% (N = 4) rarely used condoms, 2.5% (N = 1) used condoms sometimes, 2.5% (N = 1) used condoms half of the time, 2.5% (N = 1) used condoms most of the time, and no participants indicating condom use "almost all the time" or "always."

Vaginal intercourse was practiced by 97.5% (N = 39) of the sample, of which condom use ranged from 1 (never) to 7 (always) with a mean score of 2.22 and a SD of 1.98. Frequencies indicate the following: 57.5% (N = 23) of participants indicated that they never used condoms, 17.5% (N = 7) rarely used condoms, 7.5% (N = 3) used condoms sometimes, 2.5% (N = 1) used condoms half of the time, 2.5% (N = 1) used condoms most of the time, 2.5% (N = 1) used condoms almost all of the time, and 10% (N = 4) always used condoms.

Anal sex was practiced by 40% (N = 16) of the sample, of which condom use ranged from 1 (never) to 7 (always) with a mean score of 2.76 and a SD of 2.92. Frequencies were run and indicate the following: 22.5% (N = 9) of participants reported that they never used condoms, 5% (N = 2) rarely used condoms, 2.5% (N = 1) used condoms sometimes, 5% (N = 2) used condoms half of the time, zero participants indicated condom use "most of the time" or "almost all of the time," and 2.5% (N = 1) always used condoms (see Table 3 for distribution of scores for condom use in all three sexual activities).

Research Question Two

Research Question 2a asked: “What was an individual’s perceived risk of acquiring HIV prior to acquiring HIV?” Results of the descriptive analyses reveal that participants' perceived risk ranged from 1 to 5 with a mean score of 2.57 and SD of 1.34, indicating a low level of perceived risk of obtaining HIV (see table 4 for distribution of scores).

Research Question 2b asked: “What was an individual’s level of trust for their partner prior to acquiring HIV?” Results of the descriptive analyses reveal that participants' perceived trust for their partner ranged from 1.75 to 7 with a mean score of 4.36 and SD of 1.71, indicating a moderate level of perceived trust for partner (see Table 5 for distribution of scores).

Research Question 2c asked whether or not individuals perceived their partner as “safe” prior to acquiring HIV. Results of the descriptive analyses reveal that participants' perceived partner safety ranged from 2 to 5 with a mean score of 3.85 and a SD of 1.05, indicating a moderately high perceived partner safety level (see Table 6 for distribution of scores).

Research question 2d asked whether or not an individual's level of trust and perceived partner safety would predict his/her perceived level of invulnerability (perceived risk). Results of a multiple linear regression, with two predictors, reveal that both perceived trust of a partner and perceived partner safety were significant predictors of an individual's perceived risk ($F(2, 37) = 14.388, p = .000$), with slightly more than 40% of the variance in perceived risk explained by perceived

partner trust and partner safety ($R^2 = .437$, and an adjusted $R^2 = .407$). Standardized Coefficients reveal significant t values and negative betas for each predictor.

	Beta	t	Sig.
Trust	-.353	-2.720	.010
Partner Safety	-.461	-3.553	.001

The t values indicate that each variable significantly accounts for the reduction in error when predicting an individual's perceived risk of HIV. In addition, the beta statistic identifies a negative relationship between perceived partner trust and perceived risk, and perceived partner safety and perceived risk. Thus, the less an individual trusted and perceived their partner as safe, the more risk he/she perceived of acquiring HIV (see Table 7 for the multiple regression statistical model).

Research Question 2e asked: "What reason(s) did individuals state for perceiving their level of risk of HIV infection, prior to obtaining the virus?" Each participant's reason(s) were grouped with similar responses from other participants to form categories. When a participant's reason(s) did not correspond to an existing category, a new category was established. Participants' reason(s) were grouped with to form eight different reasons, which were then collapsed into 3 supraordinate categories: (1) Sexual Behavior; (2) Attitudes Towards HIV; and, (3) Relationship Status. The three reasons that referred to Sexual Behavior were reasons regarding to sexual orientation, promiscuity, and drugs/alcohol. The reasons that referred to Attitude Towards HIV were reasons regarding perceived vulnerability and perceived safety of partner. The three reasons that referred to Relationship Status were reasons regarding trust for partner, monogamous relationships, and love for partner.

Frequencies of the reported reasons indicate 31 sexual behavioral reasons for participants' perceived risk level, 21 reasons addressing participants' attitude toward HIV, and 19 reasons identifying participants' relational status (see Table 8 for the description and frequencies of the three supraordinate categories and the eight specific reasons).

Research Question Three

Research Questions 3a asked: “Did safer sexual communication occur between an individual and his/her partners prior to acquiring HIV?” Results from the descriptive statistics reveal that participants engaged in very low levels of communication regarding safer sexual practices. The frequency of safer sex communication ranged from 1 to 7 with a mean of 2.52 and a SD of 1.86. Specific frequencies of participants' communication are as follows: 35% (N = 14) never talked about safer sex, 35% (N = 14) rarely talked about it, 10% (N = 4) sometimes talked about it, 2.5% (N = 1) talked about it half the time, 5% (N = 2) talked about it most of the time, 5% (N = 2) talked about it almost all of the time, and 7.5% (N = 3) talked about it always (see Table 9 for distribution of scores). In addition to frequencies, a Pearson's correlation was conducted between communication and condom use in vaginal, oral and anal sexual activities. Results revealed a significant positive correlation between communication and condom use during vaginal intercourse ($r = .605$, $p = .000$), but no significant linear relationship for condom use in oral ($r = .174$, $p > .05$), or anal sex ($r = .065$, $p > .05$) (see Table 10 for correlation matrix).

Research Question 3b asked: "How willing were participants to engage in safer sexual communication with their partner prior to acquiring HIV?" Results of the descriptive analyses reveal that participants' willingness to engage in safer sexual communication ranged from 1 to 7 with a mean score of 5 and SD of 2.11, indicating a moderately high level of willingness to communicate (see Table 11 for distribution of scores). In addition, a Pearson's correlation was conducted to determine if a relationship exists between an individual's willingness to engage in safer sex communication and actual safer sex. Results reveal a moderate, significant, positive relationship between participants' willingness to engage in safer sex communication and their actual safer sex communication ($r = .546, p < .05$).

Research Question 3c asked: "If partners did engage in safer sexual communication, when did it occur, who initiated this type of communication, was condom use a result of this communication, and what was said?" Frequency counts were conducted to answer the first three parts of RQ3c. Results from RQ3b reveal that 35% ($n = 15$) of participants did not talk about safer sex. Therefore, the following results are based on the remaining 35 participants (65%) who indicated some level of communication with their partner. Frequency counts illustrate that when condom use was discussed, 17.5% ($N = 7$) reported that "they had both already established that they would not use one, so they did not talk about condom use anymore;" 10% ($N = 4$) reported that "they initiated the conversation about condom use;" 7.5% ($N = 3$) reported that "their partner initiated the conversation;" 20% ($N = 8$) reported that "who

initiated the conversation varied;" and, 7.5% (N=3) reported that "they just used a condom, but did not discuss it."

When communication does take place between partners, 20% (N = 8) of participants indicated that the conversation took place prior to having sex, 7.5% (N=3) indicated that conversation took place during sex, and 12.5% (N = 5) indicated having talked about safer sex after sex. This question was answered with "N/A" (not applicable) for 60% (N = 24) of participants. Out of the participants who reported talking about safer sex, those who talked about condom use (N=16), 56% (N =9) used a condom as a result of the conversation.

Out of the 16 participants who indicated they engaged in communication regarding safer sexual behavior, nine provided specific information regarding "what was said during the conversation(s)." Due to the small number of responses, data was not grouped into similar categories. Instead, the researcher collapsed the responses into general themes and provided examples for each of the seven general responses (see Table 12). General themes that appear in participants' safer sexual conversation are: (1) Condom Use, (2) HIV Status, (3) AIDS Test, (4) Affairs/Cheating, (5) Level of Risk, (6) Birth Control/Pregnancy Issues; and, (7) Past Sexual Behavior.

Research Question 3d asked: "What an individual's level of condom self-efficacy was prior to acquiring HIV?" Results of the descriptive analyses reveal that participants' condom self-efficacy ranged from 1.43 to 4.86 with a mean score of 3.49 and SD of .876, indicating a moderately high level of condom self-efficacy (see Table 13 for distribution of scores).

Research Question 3e asked: "What is the relationship between an individual's condom self-efficacy and condom usage, frequency of actual safer sex communication, and willingness to engage in safer sexual communication?" Results of the first two Pearson's correlations reveal a moderate, significant, positive relationship between condom self-efficacy and frequency of communication ($r = .431$, $p < .006$), and a moderate, significant, positive relationship between condom self-efficacy and willingness to communicate about safer sex ($r = .497$, $p < .001$). Results of the next three Pearson's correlations indicated no significant relationship between condom self-efficacy and condom use during oral sex ($r = -.281$, $p > .05$), between condom self-efficacy and condom use during vaginal intercourse ($r = .196$, $p > .05$), and between condom self-efficacy and condom use during anal intercourse ($r = -.325$, $p > .05$) (see Table 14 for correlation matrixes).

Research Question 3f asked: "What was an individual's level of assertive safer sex communication prior to acquiring HIV?" Results of the descriptive analyses reveal that participants' assertiveness in safer sexual communication ranged from 1.29 to 4.79 with a mean score of 2.9 and SD of 1.01, indicating a moderate level of assertiveness (see Table 15 for distribution of scores).

Research Question 3g asked: "What is the relationship between individuals' assertiveness and condom usage, frequency of safer sex communication, and willingness to engage in safer sexual communication?" Results of the first three Pearson's correlation indicate no significant relationship between assertiveness and condom use during oral sex ($r = -.194$, $p > .05$), between assertiveness and condom

use during vaginal intercourse ($r = .210, p > .05$), and between assertiveness and condom use during anal intercourse ($r = -.275, p > .05$) (see Table 16 for correlation matrixes). Results of the next two Pearson's correlations revealed a moderate, significant, positive relationship between condom assertiveness and frequency of communication ($r = .549, p = .000$), and a moderate, significant, positive relationship between assertiveness and willingness to communicate ($r = .447, p < .004$).

Research Question Four

Research Question 4a asked: "Whether or not individuals knew anyone who was HIV positive prior to acquiring HIV?" Results of a frequency distribution reveal that 37.5% (15) participants knew someone who was HIV positive and 62.5% (25 participants) did not know anyone who was HIV positive. Out of the 15 participants who knew someone who was HIV positive, six participants (40%) indicated that the person was homosexual, four participants (27%) indicated that the person was a drug user, three participants (20%) indicated that the person was a friend or acquaintance, one participant (6.5%) indicated that the person was his/her cousin, and one participant (6.5%) did not provide this information.

Research Question 4b asked: "Did individuals believe they were similar to someone who was HIV positive prior to obtaining HIV?" Results of a frequency distribution reveal that 87.5% (35) participants believed that they were not similar to someone who was HIV positive, and only 12.5% (5) participants believed that they were similar to someone who was HIV positive. Out of 35 participants who indicated no similarity, 31 provided reasons for this belief. Participants' reason(s) were grouped

with other similar responses to form categories. When a participant's reason(s) did not correspond to an existing category, a new category was established. Six main reasons for this lack of similarity emerged: (1) Heterosexual not Homosexual (N = 20), (2) Invincible (N = 16), (3) Monogamous Relationship (N = 7), (4) No IV Drug Use (N = 6), (5) Lack of Knowledge of HIV positive Individuals (N = 3), and, (6) Not Promiscuous (N = 2) (see Table 17 for the description and frequencies of the six reasons).

Research Question Five

Research question number five asked individuals living with HIV, based on their present understanding of the disease and the coping strategies they have employed while living with HIV, what HIV prevention suggestions or advice they would like to communicate to HIV-negative individuals. Participants' reason(s) were grouped with other similar responses to form categories. When a participant's suggestion/advice did not correspond to an existing category a new category was established. Eighteen different suggestions or pieces of advice emerged, which were then collapsed into five supraordinate categories: (1) Behavior; (2) Living with HIV (3) Communication; (4) Attitudes; and (5) Relationships. Frequencies indicate that participants stated 43 behavioral suggestions/advice, 19 comments about living with AIDS, 18 suggestions about communication, 15 comments about attitudes regarding HIV, and 15 suggestions or pieces of advice concerning relationships and HIV (see Table 18 for the description and frequencies of the five supraordinate categories and frequencies of the 18 specific suggestions/pieces of advice).

Additional Analyses

Although the research questions did not specifically ask for difference between males and females on the variables of knowledge of HIV, perceived trust in partner, perceived HIV risk, perceived safety of partner, condom self-efficacy, safer sex communication (willingness and frequency), and assertiveness (assertive, non-assertive, and argumentative) or relational status and these same ten dependent variables, t-tests were conducted to determine if any significant between-groups difference exist.

Results reveal that males ($\underline{M} = 3.80$) and females ($\underline{M} = 3.25$) significantly differed on self-efficacy ($t(38) = 2.480, p < .018$); males ($\underline{M} = 3.06$) and females ($\underline{M} = 4.37$) significantly differed on partner safety ($t(38) = -4.864, p = .000$); and males ($\underline{M} = 2.67$) and females ($\underline{M} = 2.00$) significantly differed on argumentativeness ($t(38) = 2.311, p < .026$). Males and females did not differ on their knowledge of HIV ($t(38) = 1.38, p > .05$), perceived risk of HIV ($t(38) = .955, p > .05$), trust in partner ($t(38) = -1.217, p > .05$), frequency of safer sex communication ($t(38) = .791, p > .05$), willingness to engage in safer sex communication ($t(38) = .760, p > .05$), assertiveness ($t(38) = -.342, p > .05$), or nonassertiveness ($t(38) = -1.437, p > .05$). Refer to Table 19 for individual means and t-test results.

T-tests were also conducted to assess difference between relationship status and the above ten variables. Relationship status was collapsed into two categories. Casual relational status (assigned a value of 1) was assigned to participants who indicated their status as either single (not seeing anyone in particular), casually dating

one partner, or casually dating multiple partners. Serious relationship status (assigned a value of 2) was assigned to participants who indicated their status as either exclusively dating one partner, exclusively dating multiple partners, cohabiting with a partner, engaged, or married. Participants in casual relationships ($M = 3.33$) significantly differed from those in serious relationships ($M = 4.16$) in their perceptions of partner safety ($t(38) = -2.576, p < .014$); but they did not differ on their knowledge of HIV ($t(38) = -.669, p > .05$), perceived risk of HIV ($t(38) = 1.677, p > .05$), perceived trust in partner ($t(38) = -1.410, p > .05$), condom self-efficacy ($t(38) = -.646, p > .05$), frequency of safer sex communication ($t(38) = -.850, p > .05$), willingness to engage in safer sex communication ($t(38) = -.769, p > .05$), assertiveness ($t(38) = -.117, p > .05$), nonassertiveness ($t(38) = 1.082, p > .05$), or argumentativeness ($t(38) = 1.017, p > .05$). Refer to Table 20 for individual means and t-test results.

Chapter V

Conclusions, Implications, and Recommendations

Conclusions and Implications

This chapter provides a: (a) review of the purpose and rationale for this study, (b) discusses results of the research questions and the implication of these results, (c) summarizes key findings (d) examines the limitations of the study; (c) suggests potential future studies, and (d) provides concluding remarks on HIV research.

Review of Purpose and Rationale

As the number of seropositive heterosexual individuals increased, AIDS prevention became a global concern. Research indicates that HIV negative individuals still engage in risky sexual behavior even though they are knowledgeable about HIV and skillful in prevention methods. Through extensive investigations, researchers identified barriers that block the bridge connecting an individual's knowledge and skill level and their actual sexual behavior. This research posits that an individual's attitudes and communication regarding HIV directly influence his/her sexual behavior. Overall, previous research indicates that an individual is unlikely to engage in safer sexual communication and/or behavior if he/she is unable to personalize the risk of HIV. Although limited research exists on the subject, direct contact with an individual who is HIV positive is one variable that holds promise for influencing an individual to personalize the risk of HIV. Specifically, if an individual knows someone who is HIV positive or has died from AIDS, and/or is exposed to an HIV positive individual with whom he/she can relate, he/she is more likely to

personalize the risk of AIDS. Unfortunately, it is not very common for most individuals to know someone who is HIV positive heterosexual or to be informed about heterosexuals living with HIV. Therefore, the purpose of this dissertation was to identify uncover the characteristics of individuals who acquired HIV through heterosexual activities. Studying this population will hopefully identify if similarities exist between heterosexuals who are infected and those who are not. Additionally, studying this population will expand the awareness of this virus. New information about HIV, from individuals actually living with it, may be a key contribution in future prevention and education programs that will motivate other to adopt safer sex behaviors.

This study investigated HIV positive heterosexuals and identified their level of HIV knowledge, attitudes, and behaviors prior to obtaining the virus through heterosexual sexual activity. The goal of the study was to identify individuals' attitudes, beliefs, and behaviors to decrease negative attitudes toward individuals living with HIV and AIDS by establishing a connection between HIV positive individuals and those who are not. Based on the premises of Social Comparison Theory, establishing commonality or similarity in knowledge, attitudes, and behaviors of HIV positive and HIV negative individuals may be one method for influencing heterosexual sexually active individuals to personalize the risk of HIV. However, researchers first need to determine the characteristics of heterosexuals living with HIV to establish a baseline for assessing whether or not similarities exist. Once this

information is obtained, then efforts can be made to employ Social Comparison Theory in the design of prevention methods against the spread of HIV.

A secondary purpose of this dissertation was to obtain information from HIV-positive individuals describing their experiences in living with the virus. Past research primarily focuses on prevention methods developed from knowledge gathered from HIV negative college students; obtaining information from individuals who acquired the disease and now live with it may illuminate new avenues for HIV prevention research and intervention programs. In addition, this information gathered from HIV positive individuals may expand others ones understanding of what it is “truly” like to live with this virus, and how it impacts every facet of an individual’s life. This knowledge, then, may motivate individuals to engage in safer sexual behaviors, and also may provide insight about the characteristics of HIV positive individuals and how their lives prior to infection were similar to HIV negative individuals.

This type of information might also be useful to health professionals. Understanding the people behind the virus and how HIV impacts their lives may increase physician awareness and contribute to more effective physician-patient communication. During a focus group with HIV positive individuals, several participants reported encountering physicians with misperceptions about HIV (Crowell, 1999). For example, one woman was in the emergency room (for a medical problem unrelated to her seropositive status), and she told the attending physician the name of the medicine she was currently taking. The physician asked why she was

taking that medicine, and she told him: "because I am HIV positive." The physician responded by saying: "you don't look like someone who would be HIV positive."

When physicians do not fully comprehend the nature of the virus, there is an obvious need for investigation of the personal and social factors associated with the transmission of HIV.

HIV is multi-dimensional; and in order to fully comprehend and build efforts to control this virus, researchers must expand their samples. Current research lacks diversity in studying HIV; a large majority of research focuses on college students, and other demographics categories (e.g., race, religion, and social economic status) are underrepresented. By studying individuals who live with HIV, this dissertation expands on this body of research to include many individuals that have yet to be studied.

Based on the goals of this study, numerous research questions were asked to elicit information from individuals living with HIV. Considering that this population (HIV Positive heterosexuals that obtained the virus through sexual contact) is underrepresented in AIDS research, a review of literature on condom use, safer sex, and HIV prevention for HIV negative individuals was used to construct the research questions for this study. This literature describes the general characteristics—knowledge, skill level, attitude, communication, and sexual behavior—of HIV negative individuals. Results of this research provide an overall profile of heterosexual individuals' safer sex thoughts, beliefs, and behaviors. These findings, illustrate the majority of sexually active heterosexuals are knowledgeable about HIV,

believe they have the skills to engage in safer sex behaviors, and are willing to engage in safer sex communication. However, research also indicates that individuals rarely engage in either safer sex communication or behaviors because they perceive little or no risk of HIV.

One way to increase an individual's level of perceived risk is personalization. To determine if similarities exist between an HIV-negative and an HIV-positive individual, knowledge, skill level, communication, behaviors, and attitude of an HIV-positive individual prior to acquiring the virus, needed to be established. Thus, the following research questions addressing these five factors were asked:

1. What was an individual's level of HIV knowledge prior to acquiring the virus through heterosexual activity?
2. What was an individual's use of condoms during sexual activity prior to acquiring the virus through heterosexual activity?
3. What was an individual's perceived risk of acquiring HIV prior to acquiring the virus?
4. What was an individual's level of trust for their partner prior to acquiring the virus?
5. Did an individual perceive their partner as "safe" prior to acquiring the virus?
6. Does an individual's level of trust and perceived partner safety predict his/her perceived level of invulnerability?
7. What reason(s) did an individual have for perceiving his/her level of risk of HIV infection prior to obtaining the virus?
8. Did safer sexual communication occur between an individual and his/her partner prior to acquiring the virus?
9. How willing was an individual to communicate about safer sexual practices with a partner prior to acquiring HIV?

10. If safer sexual communication did occur, when did it occur, who initiated communication, what was said, and was condom use a result of this conversation?
11. What was an individual's level of condom self-efficacy prior to acquiring the virus?
12. What are the relationships between condom self-efficacy and condom use, communication frequency, and willingness to communicate?
13. What was an individual's level of assertiveness regarding safer sexual behavior and communication prior to acquiring the virus?
14. What are the relationships between an individual's safer sex communication assertiveness and condom use, communication frequency, and willingness to communicate?
15. Did an individual know anyone who was HIV positive prior to acquiring the virus?
16. Did an individual believe he/she was similar to an HIV-positive individual?

The above questions focused on information prior to an individual's infection.

However, one additional question was asked to establish the degree of similarity between these two groups with respect to living with the virus. The question was as follows:

Based on your present understanding of the disease and the coping strategies you employ living with HIV, what HIV prevention suggestions or advice would an HIV-positive individual like to communicate to an HIV-negative individuals?

The results and implications of each of these research questions are addressed in the following section.

Research Questions

Knowledge and condom use. Results from research question one (a and b), regarding knowledge level and condom use during oral, vaginal, and anal sex suggest that participants believed that they were knowledgeable about HIV and that their condom usage was low. These findings coincide with past literature that posits most individuals believe themselves to be knowledgeable about HIV, how it is transmitted and prevention methods (Bruce et al., 1990; Mann et al., 1992). In addition, these results support past literature noting that individuals still engage risky sexual practices even though they know that careful and consistent condom use reduced an individual's risk of acquiring HIV, (Catania et al., 1992; Gray & Saccubini, 1989; Reiss & Leik, 1989; Treffke et al., 1992).

The sheer nature of these two findings is not shocking, but expected given past research. However, the real value that responses to these two questions provide is that knowledge and condom use appears to be consistent between heterosexual sexually active individuals who obtained HIV and those who have not. Therefore, lack of knowledge or difference in condom use is a less plausible argument when trying to make a delineation between the two groups. It appears individuals' beliefs about their knowledge of HIV and their level of condom use are consistent and do establish similarities between these individuals.

Attitudes towards HIV. Results from research question two (a, b, c, d, and e) indicate that attitudes played a large role in individuals' safer sex behaviors prior to infection. Individuals living with HIV report that they perceived a low risk of being

infected with HIV. Perceived invulnerability is consistent with past findings revealing that invincibility is a major reason why HIV negative individuals engage in unprotected sexual activity (Ehde et al., 1995; Ishii-Kuntz et al., 1990; Pilkington et al., 1994; Raghubir & Menon, 1998; Timmins et al., 1993). The relationship between level of perceived risk and condom use is not a new revelation in the safer sex literature. However, determining that a low level of perceived risk was present for those who were infected has significant implications for future prevention messages and methods.

Future programs and prevention methods should take this information and use it advantageously. HIV negative individuals argue “it can not happen to someone like me,” “I am different from those who get infected,” and “I am safe.” These results indicate that those who are infected thought they were “safe, different, and that it could not happen to them.” Future prevention messages and programs need to use these results to “drive home” the idea that no one can avoid the risk of HIV.

Additionally, results of this study illustrate that those who are infected still believe that they are different from other HIV positive individuals. These findings suggest that even those who are infected may still hold beliefs and attitudes that separate them from other victims of this virus. Thus, perhaps rationalization of risk factors and reasons for acquiring the virus may happen even after the fact. In short, these results again reiterate similar beliefs between those who are HIV positive and those who are HIV negative.

Many HIV negative, heterosexual, sexually active individuals use perceived

invincibility as a crutch to support their beliefs that there is no need for them to talk about or engage in safer sex. One of the foundations for this belief appears to be individuals' ideas that they are some how different from those who acquire HIV. Individuals create ingroup/outgroup distinctions between themselves and those who are infected. Many individuals not only believe that HIV positive individuals are different from them, but also their sexual behaviors and relationships differ. Individuals believe that variables such as trust, partner safety, and relationship status are strong predictors of their level of risk HIV infection. One participant even indicated that she contracted HIV from her spouse, but she believed that her situation is different because "most individuals are infected from 'unsafe' short-term partners."

In the past, research explored the relationship among trust, partner safety, and relationship status on HIV negative individuals' safer sex behaviors. In short, these studies indicate that each of these variables influences an individuals' safer sexual attitudes and behaviors (Ehde et al., 1995; Ishii-Kuntz, Whitbeck, & Simons, 1990; Raghurir & Menon, 1998; Timmins et al., 1993). Specifically, the more individuals trust their partners, the more likely they were to report a low perceived level of risk (Crowell & Emmers-Sommer, 1998; Lear, 1995; Maticka-Tyndale, 1991; Metts & Fitzpatrick, 1992; Sonnex et al., 1989). The same held true for partner safety (Ishii-Kuntz et al., 1990; Metts & Fitzpatrick, 1992). Individuals report a negative relationship between perceived partner safety and perceived level of risk. In addition to trust and partner safety, relational status also impacted individuals' perceived level of risk. Many individuals in long-term committed relationships or marital

relationships perceive little or no risk of contracting HIV due to their relational status (Crowell & Emmers-Sommer, 1998; Emmers-Sommer & Crowell, 1999; Willing, 1994). In summary, the more an individual trusted his/her partner, and perceived him/her as “safe,” and the longer and more committed the relationship, the less the individual believed he/she was susceptible to HIV. This relationship appeared with both HIV positive and HIV negative heterosexuals.

There are many dangerous consequences associated with these attitudes. Individuals who believe that there is little or no risk of infection maintain a false sense of security. This inaccurate belief may actually put them at even a greater risk of exposure. Results of this study indicate that individuals who are currently living with HIV also believed that they were invulnerable to the virus. These individuals report moderate to high level of trust for their partners, serious and lengthy relationships with their partner, and a strong belief that their partner was “safe.” Not only are these attitudes similar to those reported by HIV negative individuals, but results of a multiple regression analyses reveals that these variables were also strong predictors of perceived risk in individuals living with HIV. Participants’ partner trust and perceived partner safety account for over 40% of the variance in individuals’ perceived level of risk.

Another significant result was that partner trust significantly varied by relationship status. Individuals living with HIV who were in serious relationships perceived their partner as significantly safer than those in casual relationships. This relationship between perceived partner safety and relational status has also been

identified in the heterosexual HIV negative population. Research on HIV negative heterosexuals indicates that individuals who believe they are in an exclusive relationship or have known their partner for a long time report little or no condom use. The findings of the current study correspond to the findings of past literature, in which individuals report that the safest sex is with a “safe” partner (Ishii-Kuntz et al., 1990; Metts & Fitzpatrick, 1992) and that unprotected sex relates to perceived monogamy and partner trust (Ishii-Kuntz et al., 1990).

Another similarity in perceived risk between HIV positive and HIV negative individuals is the reasons individuals provide to explain perceived level of risk. Participants provided eight specific reasons for perceiving a specific level of HIV risk. Individuals living with HIV reported their perception of risk prior to being infected was based on their sexual behavior, attitude toward HIV, and relational status.

Participants indicated that their sexual orientation, use of drugs, and promiscuity directly influenced their perceived level of risk. If individuals were heterosexual, did not use drugs, and were not promiscuous, they believed that they were at a low level of risk of infection. Specific reasons participants reported to explain their perceived level of risk prior to infection included:

- “I was not gay”
- “I am a straight guy”
- “The focus of this disease was on gay men that would get thin and frail and die”
- “I was not engaging in homosexual activities
- “I did not sleep around”
- “Did not shoot up drugs”

Results suggest that above behavioral reasons contributed to the participants' level of perceived invulnerability. Participants reported statements such as: "I was like everyone else; I thought it could never happen to me." In addition numerous participants indicated reasons that were specific to the perceived safety level of their partner. One participant indicated that "the women I was involved with were not sleazy." Another participant explained that he only dated nice women; he stated that the "women I have been with were up-scale." Finally, participants provided reasons associated with the status of their relationship. Examples include responses such as: (a) "I trusted my partner, he told me he was HIV negative and I believed him," (b) "We were monogamous," (c) "I was married and thought the relationship was exclusive," and (d) "Because he seemed to be in love with me. "

Individuals who possess these beliefs of invincibility may find themselves vulnerable to the one factor they believe themselves to be exempted from. Thus, these attitudes may actually influence individuals to engage in behaviors that increase, instead of decrease, their risk of HIV. Lear (1995) states that "how individuals regarded and used condoms proved to be embedded in a set of personal attitudes that differed by context of relationship" (p.1320). The influence of relationship status on condom use becomes an even more crucial concern when the issue of infidelity arises.

The influence of attitudes of invulnerability on safer sex behavior has serious consequences when coupled with the potential unfaithfulness of partners. Individuals need to be aware that their partner may be putting them at risk even when they believe that they are in a "monogamous" relationship. Twenty five participants (65%)

in this study reported being in serious relationships prior to be infected. Further, 19 out of the 32 participants who indicated that they knew from whom they contracted the virus reported that were in a serious relationships with that person (e.g., husband/wife, boyfriend/girlfriend, or fiancé/fiancée).

Individuals in more committed relationships (i.e., serious dating, cohabiting, engaged, or married) perceive themselves as having a more stable and honest relationship than those who are in casual relationships (i.e., casual dating, romantic friends, or acquaintances) or relationships (Knapp, 1984). Yet, despite these perceptions of stability and honesty, reports estimate that approximately 60% of men and 40% of women have extramarital affairs (USA Today, 1998). In addition, one study of infidelity in dating couples at a larger Mid-western university indicates that 36% of men and 21% of women reported being sexually unfaithful to their partner. Moreover, 3/4 of men and 1/3 of women “never did ask” their partners about past sexual history; and men admitted that they had lied to sexual partner(s) more often than women (Stebbleton, 1993). In addition to lying to your partner, a recent study (Emmers-Sommers & Crowell, 1999) found that only 65% of spouses that reported cheating told their partners about the affair. Of these individuals, only 35% indicated condom use during their extramarital affairs. Thus, a false sense of security may exist for individuals in serious relationship due to the contradiction between their perception of the relationship and the actual status of the relationship.

These findings hold dangerous implications for individuals, especially for women, who determine their level of risk based on trust, relational status, and partner

safety. Results of this study revealed that women significantly differed from men on their perception of partner safety. Women revealed that they perceived their male partner to be safer than males perceived their female partners. Given the means by how HIV is transmitted³, coupled with the statistics that males are more prone to infidelity, females' inaccurate perception of their partner level of safety could be very costly.

Delineating HIV positive heterosexuals' safer sex attitudes prior to infection helps researchers to better comprehend the personal and social factors involved in transmission and possible ways to curb this transmission. Results of this study suggest that HIV positive heterosexuals, prior to infection, held many of the same attitudes about their level of risk as non-infected heterosexuals currently hold. Scientific facts indicate that AIDS does not discriminate; everyone potentially has some level of risk. However, many individuals seemed to use cognitive strategies, based on their beliefs, to create an inaccurate determination of their perceived risk.

Safer sex communication. In this study, HIV positive heterosexuals, prior to infection, indicated that they engaged in low levels of communication regarding safer sexual practices, although they reported high levels of willingness to communicate. Specifically, only 16 participants reported engaging in any type of communication with their partners regarding safer sex issues. Past literature indicates similar levels of willingness to communicate and actual communication for non-infected individuals.

³ Due to the exchange in bodily fluids between a man and a woman, a woman is 19 times more likely to be infected from an HIV positive male, than a male is from an HIV positive female (CDC, 1998).

In addition, results reveal a positive relationship between an individual's willingness to engage in safer sex communication and actual safer sex communication. Thus, although most individuals reported high levels of willingness to communicate, participants who actually engage in safer sex communication report an even higher level of willingness to communicate.

Despite individuals' willingness to engage in safer sex communication, results of numerous studies indicate that relatively low levels of communication take place between sexual partners (Cantania et al., 1992; Cline et al. 1993; Edgar et al., 1992). Some studies indicate that individuals perceive no need to talk with their partners about such issues (Crowell & Emmers-Sommer, 1998; Lear, 1995; Maticka-Tyndale, 1991; Metts & Fitzpatrick, 1992; Sonnex et al., 1989; Timmins et al., 1993). These results may explain why individuals report that they are willing to communicate, but do not. Moreover, past research suggests that individuals who do communicate about safer sexual issues are more likely engage in protected sexual activity (Adelman, 1991; Cantania et al., 1992; Oakley & Bogue, 1995). Results of this study support past literature by indicating a positive relationship between safer sex communication and behavior. The participants in this study who reported higher levels of safer sex communication also reported more condom use during vaginal sex. In addition, "condoms use" was reported to occur more often as a result of safer sex conversation than "no condom use."

Further analyses revealed that no relationship exists between communication and condom use for oral and anal sex. One possible explanation for this finding is that

the range in participants' condom use during oral and anal intercourse was very small. Another explanation might be that the majority of past safer sexual prevention methods restrict the focus to condom use during vaginal sex. Only in past few years have safer sexual messages targeted condom use in alternate forms of sex. Additionally, a negative correlation between safer sex practices and condom use during anal intercourse was found. This result holds alarming implications for individuals, especially women. More specifically, individuals who engage in anal sex (a less traditional form of sexual activity) might be more likely to engage in other dangerous behaviors—unprotected sexual activity, and/or multiple partners. In heterosexual anal sex the woman is the receiver; so she needs to be even more aware of the implications for the lack of safer sex measures.

When communication did take place between partners, results reveal that the person who initiated the conversation equally varied. Timing of the conversation varied in taking place prior to sex, during sex, or after sex, with a slight majority talking about it more often prior to sex. Only nine out of the sixteen participants who indicated that they engaged in communication regarding safer sexual behavior provided specific information regarding what was said during the conversation(s). However, several general themes appear in these participants' conversations:

- (a) condom use; (b) HIV status; (c) AIDS tests; (d) past sexual behavior;
- (e) affairs/cheating; (f) level of risk; and (g) birth control/pregnancy issues.

Unfortunately, participants provide limited details about their conversations.

Participants only offered one or two details regarding the content of these conversations. Interpersonal strategies/tactics individuals may have used to initiate or manage conversations were not discussed nor were feelings about this type of communication. One reason for this omission may be that participants responded to open-ended questions and provided retrospective data. Metts et al. (1991) argue that retrospective data is good means to elicit general information, but may not be sufficient to produce specific information. Therefore, the actual content of conversations may be better obtained through focus groups or interviews. Another possible explanation is that individuals may not be using many communicative coping and management strategies. One recent study (Crowell & Emmers-Sommer, 1998) that examined individuals' safer sex coping styles indicates that students are opting for non-communicative ways to cope in sexual situations. That is, students reported engaging in more avoidance or cognitive strategies as opposed to discussing condom use with their partners. Therefore, the lack of reported interpersonal strategies to cope with/or manage safer sex communication could results from the lack of any actual communication occurring.

Although this study was unable to uncover more information about participants' actual safer sex conversations, results did provide information about two other variables involved in the communication process—self-efficacy and assertiveness.

Early studies on communication and condom use suggest that individuals may lack the necessary communication skills needed to discuss condom use, and therefore

believe that they are unable to engage in this type of interpersonal conversation. Bradford and Beck (1991) argued that lack of ability to perform the behaviors required for safer sex may be one reason that individuals are not “translating their knowledge into behavior change.” Researchers advocated that the weaker an individual’s perceived self-efficacy, the more such social affective factors could increase their likelihood of risk sexual behaviors (Bandura, 1992). Studies preceding the introduction of this concept indicated that individuals believed they possessed a high level of self-efficacy regarding the communicative and behavioral aspects of safer sex. However, for many individuals, these beliefs did not necessarily correlate with actual condom use. Crowell and Emmers-Sommer (1998) found that participants, on average, reported having high levels of condom use self-efficacy but low levels of actual condom use.

The findings of this study indicate the same relationship between level of self-efficacy and condom use. Participants reported a moderately high level of condom self-efficacy. Hence, HIV positive heterosexuals, prior to infection, believed that they possessed the skills need to engage in the type of communication and behavior need to reduce their risk of infection. In addition, results revealed there was no correlation between HIV positive heterosexuals’ level of self-efficacy and actual condom use during oral and vaginal sex, despite the fact that a positive significant relationship between self-efficacy, willingness to communicate, and actual frequency of safer sex communication exists. Past research on HIV negative individuals indicates that participants believed they possessed the safer sexual communication skills (high

condom self-efficacy and high willingness to communicate) needed to engage in this type of communication, but that they were still unmotivated to engage in safer sex behaviors.

Additional analyses revealed that males and females significantly differed with respect to level of condom self-efficacy. Results reveal that males report higher levels of condom self-efficacy than do females. These results raise the same serious concerns as those that indicate differences found between men and women's perception of partner safety. Considering that individuals' risk of HIV differs depending on their gender, variables that influence safer sex communication may need to be addressed accordingly. Since, women are at a greater risk than men, they may need to possess an even greater level of self-efficacy when discussing and engaging in safer sexual behavior. Women need to believe that they are able to exercise control over their sexual situations. Women should possess the skills that enable them to communicate frankly with their partners about sexual matters and protective sexual methods and to ensure their use.

The necessity for women to possess communication skills is even more critical when coupled with the fact that male participants indicated significantly higher levels of argumentativeness than women. Women need to be equipped to effectively communicate their feelings about and desire for safer sex, even when their partners may not be receptive. Gender differences in argumentation and condom self-efficacy may provide one explanation for past findings indicating HIV negative heterosexual women discuss and request condom more than men, yet they use them less often

(Bowen & Michal-Johnson, 1989; Crowell & Emmers-Sommer 1998; Ishii-Kuntz, 1988; Sunenblick, 1988). Women may want to talk about condom use and safer sex practice; but because they may only possess a moderate-to-low level of condom self-efficacy and their partner may be likely to respond defensively, these women opt not to broach or pursue the subject. In addition, perceived partner safety may play a role in this relationship between woman's safer sex communication. Women participants report significantly higher levels of partners' safety; these beliefs may directly influence their safer sex communication. Future researcher needs to explore the impact of these differences and address it in future prevention messages.

A second communication variable explored within the study was individuals' levels of safer sex assertiveness. Results of this study reveal that HIV positive heterosexuals, prior to infection, had a moderate level of assertiveness regarding safer sex communication and behavior. Further, results indicated that assertiveness is significantly, positively correlated with frequency of communication and willingness to communicate. However, assertiveness is not correlated with condom use for oral, vaginal, or anal sex. No significant differences were found between gender and assertiveness or relational status and assertiveness. Moreover, men reported higher levels of argumentativeness than women. These findings add support to the argument that women need to possess high levels of assertiveness. As the results of this study showed no direct relationship between assertiveness and condom use, there might be a moderating variable—frequency of communication. Finally, results indicate a positive correlation between assertiveness and actual communication, and actual

communication and condom use. These results coincide with past literature on safer sexual attitudes and the behaviors of non-infected heterosexuals. The combination of these results strengthens the argument for assertiveness training.

Safer sex communication training, especially assertiveness training, could prove highly beneficial for a variety of reasons. First, Edgar and Fitzpatrick (1988) argue that the lack of safer sexual communication may be due to the fact that sexual encounters with new partners present individuals with an extraordinary situation that is arguably more vulnerable than almost any other interpersonal interaction. In this situation, ambiguity is high; mutual expectations and patterns of behavior have not been learned. Individuals may be less willing to engage in safer sex communication in this type of situation, especially if they believe there is no need—no risk involved. This conclusion corresponds to the above results that reveal that attitudes restrict many individuals from engaging in safer sex practices. Thus, communication and assertiveness training needs to be linked with individual's attitudes about safer sex behaviors and the strategies for specific relational contexts. McCormick and Jesser (1983) state that an individual's ability to influence another person's attitudes or behaviors is an essential component of sexual encounters. Therefore, safer sexual communication and assertiveness training must address not only an individual's skills, but his/her attitudes as well.

In addition to attitudes, another important variable is gender differences. Although the results of this revealed no significant differences between gender and willingness to communicate or gender and the frequency of safer sex communication,

there may be differences in males and females feelings about and the content of the communication (areas not revealed in this study). Due to gender differences in the risk of infection, condom self-efficacy and argumentativeness, and traditional roles within a romantic relationship, safer sex communication skills for men and women may need to be different. Past studies indicate that not only are women at greater risk of HIV infection, but also that they may actually be engaging in unprotected sex significantly more than men in sexual encounters (Bowen et al., 1989; Crowell & Emmers-Sommer, 1998; Ishii-Kuntz, 1988; Sunenblick, 1988). One explanation for this finding may be that there are still more negative aspects and stereotypes surrounding women's sexual practices. Past research indicates that women often have little intention of using condoms and that their intentions wane over the course of a relationship (McQueen & Uitenbroek, 1992). Similarly, Carroll (1991) found that condom use is negatively related to number of partners. If women have fewer partners, on average, than men, then they may use this as an excuse for not engaging in safer sex communication and behavior. Finally, Catania et al. (1989) reported that women rarely use condoms during vaginal intercourse and never using them during anal intercourse. If women are less inclined, especially when in serious relationships, to discuss and use condoms, future prevention methods must address these issues.

Again, serious concerns exist for heterosexual women engaging in sexual activity because they are at higher risk for contracting HIV than males. Decarlo (1996) reported that the percentage of females acquiring HIV continues to increase per year at a greater rate. In support, 65% of the participants in this study were HIV

positive heterosexual women. Although men also need to be concerned about HIV, women must begin engaging in proactive behaviors. To help reduce women's risk and increase their safer sex practices, women need to be aware of the risks and adopt communication strategies to successfully manage sexual encounters.

Training is one way to increase individuals' communication skills and encourage the use of strategies/tactics in safer sex communication. Communication training, particularly assertiveness skills, needs to be implemented and promoted in high school and university educational systems. In addition, this type of training needs to be available to and designed for individuals who are married and/or middle aged as recent statistics indicated that 10% of the new HIV cases are individuals over the age of 50 (The National HIV/AIDS Conference Update, March 24, 1999). In summary, middle-aged adults and marriage partners may be at higher risk of HIV and should be targeted by prevention messages to stop the spread of the virus in these populations.

Overall, these types of training and prevention programs need to address extraneous factors such as relationship status, gender differences, and commonly held beliefs about sexual practices among men and women. For example, one participant in this study indicated that she and her husband did not discuss condom use due to the potential damaging effects to their relationship. Specifically, she stated:

I trusted him (and still do; I'm SURE it hasn't happened since), and therefore the emotional repercussions of asking a spouse to use a condom for HIV protection is tantamount to suggesting that they are cheating. This can have terrible negative impact on the marriage relationship.

Relational status and goals often times interfere with partners' willingness, desire, or even ability to engage in safer sexual communication. Within the context of marriage, Willing (1994) found that the request to use a condom could undermine trust, insult the partner, arouse suspicion, thus damaging the relationship. In addition, Willing (1994) argues that "not talking about things and not asking certain questions is much more fundamental to the development and maintenance of a trusting relationship than talking honestly and openly" (p.117). This observation illustrates the dangerous ramifications for individuals in relationships with partners who are not honest. In discussing safer sex practices in marriage, one participant in this study advocated being open and talking to your partner "if there is even the slightest possible doubt." Another participant stated: "It is no longer about the relationship – I mean the relationship is important, but your life has to come first. I learned this the hard way." Thus, trust issues may impede honest communication about safer sex in marriage.

In addition to relational status, general differences in the traditional roles men and women may play in relationships need to be addressed in safer sex communication training. Specifically, past research on relationships indicates that women are more selective in mate selection than men, while men typically control the sexual intimacy in a relationship (Perper, 1985). Similarly, if a woman accepts male supremacy ideologies, the norm of male initiative, the norm of female inexperience, and the "stroking" norm, women may be at more risk for contracting HIV (Lewin, 1985). If women do adhere to these gender stereotypes, they may refrain from requesting a condom or demonstrating assertiveness in sexual situations. One

participant stated: "I knew my partner had used drugs in the past, but I trusted him when he told me he never shared needles, and I did not insist that he get an AIDS test. I know now that I should have." Furthermore, past research indicates that many women submit to unwanted sexual intercourse due to a men's consistent pressure and arguing (Koss, 1988). One participant in this study reported that she had come home from an AIDS test with condoms, but her partner said "Why do you have those, we don't need them." This participant reported that she said "oh, okay," and then proceeded not to use the condoms. This scenario coincides with literature that suggests that many women who have partners who are unwilling to engage in safer sex may acquiesce. Giving into a partner's desire to engage in unprotected sexual activity may stem from a woman's lack of communication skills. In addition, the problems associated with the lack of safer sex communication are highlighted when women lack condom self-efficacy and have highly argumentative partners.

A key to managing these issues is to encourage and increase women's assertiveness in talking about the issues involved in safer sex and to increase their knowledge of how to effectively accomplish condom use without putting the relationship in jeopardy. Assertiveness and self-esteem training should be provided for women. Women have to believe that they have the right and are valuable enough to make request for safer sex. Moreover, they should feel good and confident about these requests. All too often women, as opposed to men, worry about what their partners will think and how the relationship will suffer (Valdiserri et al., 1989). Women need the skills to become empowered and the esteem to say "no condom, no

sex," and not feel like they own their partner anything or that they should apologize for this request.

Research indicates that assertive communication strategies are successful in safer sex negotiation and compliance (e.g., Edgar, Freimuth, Hammond, McDonald, & Fink, 1992; Freimuth, Hammond, Edgar, McDonald, & Fink, 1992; Yesmont, 1992). Results of this study indicate the need for future training in sexual scripts, including romantic and erotic ways to talk about and use a condom. The strong positive correlations between assertiveness and communication and communication and condom use found in this study support past conclusions regarding the potential for interventions that target communication skills and the eroticization of condom use in promoting condoms use (Cantania et al., (1992). Lear (1995) summarizes the essence of this research when she states: "communication is the medium of exploration of the complicated relations between behavior and culture, in this case, sexual culture" (p. 1312).

Future prevention programs and messages need to take gender and relational differences into account, target communication training toward specific situations, and provide a wide range of communication strategies/tactics for negotiation of condom use. The importance and magnitude of such training has major implications for scholars in the communication field. There is a strong urgency for communication scholars' expertise in message construction, listening, assertiveness training, conflict management, and relationship building. In addition, there is an enormous dearth of

qualified researchers to evaluate the effectiveness and direct results of safer sexual prevention campaigns and communication training programs.

Personalization and social comparison theory. Results of past studies indicate that individuals are unable to personalize the risk of AIDS. Studies indicate that few respondents assess the risk of contracting AIDS or other sexually transmitted diseases from a partner (Catania et al., 1992; Wulfert & Wan, 1995). Instead, many individuals are more likely to use cognitive heuristics to establish what may be unrealistic risk levels for themselves and their partners (e.g., Ehde et al, 1995; Ishii-Kuntz et al., 1990; Pilkington et al., 1994; Raghubir & Menon, 1998; Timmins et al., 1993). Previous research establishes that perceived invulnerability is a key variable in several models of health behavior (see Tigges et al, 1998). In support, researchers determined that individuals' perceived level of HIV risk influences their safer sex behaviors—the more perceived risk the more likely individuals will engage in risk reduction behaviors. However, the reverse is also true—the less perceived risk, the less likely individuals will engage in risk reduction behavior. Unfortunately, a major problem occurs when individuals inaccurately perceive their level of risk. Many times this occurs because individuals are unable to personalize the risk of HIV.

One focus of current HIV prevention research is the use social comparison theory to motivate individuals to personalize the risk of HIV. The purpose of Social comparison theory research is to understand the functions of self-evaluation, self-improvement, and self-protection in high-risk situations (Sun & Croyle, 1995; Tigges et al, 1998), and the possible ways in which these variables may be used to reduce the

spread of HIV through increasing individuals' personalization (Rye, 1998). The premise behind personalization is that individuals evaluate their personal attributions and situations by comparing themselves to others. If individuals view themselves as similar to others, they are more likely to engage in self-reflecting, self-evaluating, and self-protecting behaviors. Researchers' use of social comparison to increase personalization of HIV utilizes individuals' motivation to engage in self-protection behaviors. The establishment of similarities between HIV positive and HIV negative heterosexuals could result in HIV negative individuals' personalizing the risk of HIV. In turn, this personalization may motivate HIV negative individuals to engage in safer sex communication and behavior.

Overall, results of this study indicate that HIV positive individuals, prior to infection, shared the same HIV and safer sex beliefs, attitudes, and practices of HIV negative heterosexuals. Specifically, these results reveal that the majority of participants, prior to infection did not know an HIV positive individual. Moreover, those who did know an HIV positive individual indicated that these individuals were different from them in some way. For example, participants who knew an HIV positive individual reported that many of these individuals were of a different sexual orientation (homosexual), engaged in behaviors that they did not (drug use or promiscuity), or were just mere acquaintances. Participants reported these factors as contributing to their beliefs of invulnerability.

In addition to not knowing any HIV positive individuals (or individuals perceived to be similar to themselves), participants reported the reasons why they did

not believe they were similar to individuals with HIV. The following six main reasons for their perceived lack of similarity include: (a) they were heterosexual; (b) they were invulnerable to the virus; (c) they were in a monogamous relationship with a trusting and loving partner; (d) they did not use drugs; (e) they were not promiscuous; and (g) a few reported that they were uninformed about HIV positive individuals, and therefore were unable to determine their level of similarity. These results support the notion that individuals' inability to personalize the risk of HIV may be a direct result of their beliefs about the attitudes and behaviors of HIV positive individuals.

Inaccurate assumptions and stereotypes associated with HIV may contribute to individuals' false perceptions of their risk, and that of their partners; regarding risk of infection. Past research indicates that individuals are uninformed about the actual infection rate of HIV (Ehde et al, 1995; Ishii-Kuntz et al., 1990; Timmins et al., 1993). In addition, those more informed about HIV positive individuals, through direct contact, perceive higher levels of risk for themselves and their partners (Raghubir & Menon, 1998; Rye, 1998; Swann et al., 1995; Timmins et al., 1996; Tigges, Willis, & Link, 1998). A combination of results from this study and past research on non-infected heterosexuals illustrate the need to obtain accurate information on "who is HIV positive," and "what they were like prior to infection." In addition, there is a need to increase the amount of exposure that non-infected individuals have with heterosexual HIV positive individuals. If individuals have direct contact with or receive information from heterosexual HIV positive

individuals, their level of personalization may increase and they may be motivated to change their behavior.

In exploring the potential impact of social comparison theory on individuals' personalization of HIV, the first step is to investigate heterosexual individuals living with HIV. This study asked participants, based on their present understanding of the disease and the coping strategies they employed in living with HIV, what HIV prevention suggestions or advice they would communicate to HIV negative individuals. Results indicate 18 different suggestions or pieces of advice for HIV negative individuals. This information was collapsed into the following five supraordinate categories: (a) suggestion for behavior, (b) information about what it is like to live with HIV, (c) advice and suggestions regarding engaging in safer sex communication, (d) suggestions to change attitudes—everyone is at risk, and (e) advice on relational factors and HIV. This information may help other perceive similarities between themselves and HIV positive heterosexuals. Thus, if HIV negative individuals can evaluate HIV positive individuals' attitudes and behavior as similar to their own, they may be more likely to personalize the risk of infection and be motivated to engage in self-protection behaviors.

A substantial amount of information provided by participants illustrates that heterosexual HIV positive individuals, prior to infection, held similar attitudes and engaged in similar types of safer sex communication and behaviors as currently non-infected individuals. These results provide support for the argument that many individuals maintain a false sense of security with respect to their perceived risk of

HIV. In turn, scholars need to determine what factors motivate individuals to engage in identity-protecting behaviors and what factors influence them to evaluate themselves differently from others even in the face of similarities. Since the results from this study illustrate that similarities exist between those who are infected and those who are not, researchers need to design and implement prevention methods that utilize the premises of social comparison theory. Researchers can then evaluate these messages to determine the effectiveness of social comparisons in motivating individuals to personalize the risk of HIV. Additionally, the identification of similarities between these two groups will provide counterarguments when individuals try to distinguish themselves from those who are HIV positive.

Results from this study merely begin to identify the abundance of benefits associated with research on individuals living with HIV. Researchers need to obtain more information from heterosexuals living with HIV to build valid and reliable profiles of these individuals. Further, these types of investigations will provide a more in-depth understanding of the many factors involved in acquiring and living with this virus. Subsequently, future research can use this information to increase individuals' personalization of HIV. Ultimately, through the personalization of HIV, individuals may be motivated to change their safer sexual communication and behaviors and thus decrease their risk of infection.

Summary of Key Findings

The purpose of this dissertation was to identify the characteristics of individuals who acquired HIV through heterosexual activities. In delineating the

safer sex beliefs, attitudes, communication, and behavior of HIV positive heterosexuals prior to infection, the goal was to determine if similarities exist between individuals who are HIV positive and those who are not. Based on the premise of social comparison theory, the establishment of commonality or similarity in knowledge, attitudes, and behaviors between HIV positive and HIV negative individuals may be one way to persuade heterosexual individuals who are sexually active and HIV negative to personalize the risk of HIV.

Results of this study indicate that prior to infection, HIV positive heterosexuals reported having similar safer sexual beliefs, attitudes, communication, and behaviors. Specifically, participants reported moderate levels of knowledge regarding HIV. Participants also reported low levels of condom use when engaging in oral, vaginal, and anal sex. These results are consistent with past research on HIV negative individuals' safer sex knowledge and behavior. Thus, this study reveals no real differences between HIV positive and HIV negative individuals' awareness of the virus or condom usage.

Another similarity revealed between HIV positive and HIV negative individuals was their attitudes toward HIV and safer sex behaviors. Results indicate that prior to infection, HIV positive individuals had moderate to high levels of trust for their partners, low levels of perceived risk of infection, and high levels of perceived partner safety. Additionally, this study found a negative relationship among participants' level of vulnerability, perceived partner safety, and partner trust. Moreover, participants' perception of partner safety combined with partner trust

explained 40% of their perceived level of risk. Past research on HIV negative individuals yields similar findings about the relationship between individuals' perceived invulnerability, trust, and perceived safety of partner.

Participants in this study reported high levels of willingness to engage in safer sex communication, but low levels of actual communication. Further, results revealed that participants who engaged more often in safer sex communication were more likely to use condoms. The positive relationship between communication and condom use in this study is similar to results of past research findings. Additionally, participants reported high levels of condom self-efficacy and moderate levels of assertiveness; both variables positively correlated with condom use. Again, these results parallel past findings and illustrate similarities between the two groups. Finally, participants reported that they believed they did not need to discuss using condoms because they were not at risk. Previous research reveals that HIV negative individuals reported holding the same beliefs.

Findings of gender differences and differences in relational status are also important. Specifically, men reported higher levels of condom-self-efficacy, and argumentativeness; whereas women perceived their partners as "safer" than did men. Additionally, those in serious relationships perceived their partners as safer than those in casual relationships. These results have implications for the design of future prevention messages and programs.

High levels of personalization of HIV were found neither in this sample nor in other research focusing on HIV negative individuals. The absence of personalization

provides one possible explanation for many of the above findings—high knowledge and skill levels, but low levels of safer sex communication and behavior due to the low level of perceived risk of infection. Without personalization of HIV risk, individuals are not motivated to convert their beliefs and skills into corresponding behaviors (safer sex communication and condom use). In attempting to increase individuals' personalization of HIV, this study investigates the personal and social characteristics of heterosexuals living with HIV to determine if similarities exist as well as how these similarities may motivate individuals to engage in safer sex communication and behavior.

Results from this study are only one step in understanding the personal and social characteristics of heterosexuals living with HIV. While this study uncovers many similarities between HIV positive and HIV negative individuals, future researchers need to collect more information from heterosexuals living with HIV in order to fully comprehend the magnitude of its effects. Once more in-depth knowledge is obtained, scholars can identify more effective ways to use these common safer sex beliefs, attitudes, and behaviors to increase personalization of HIV. Personalization of HIV, as a basis for prevention messages and programs, can ultimately change individuals' safer sex behaviors and decrease the spread of HIV.

Limitations

One significant limitation of this study results from data collection procedures. Just as collecting data on-line has its advantages, it also has its drawbacks. One disadvantage is that participants were limited to those who had

access to a computer with internet capabilities. Thus, many HIV positive heterosexuals who did not have the resources or skills to access the survey web site were unable to participate in the study.

The data collection procedures limited not only the number of individuals who could participate, but also the type of individuals. The majority of the participants were white adults, with only one minority group (African American) represented (although underrepresented). Statistics from the CDC (1998) illustrate that minorities are one of the fastest growing HIV positive populations, and therefore should be represented in HIV/AIDS research. The underrepresentation of minorities in past and present research around the world is an important issue that needs to be addressed in future research. In addition, the possibility of obtaining an adequate representation of the HIV positive heterosexual population was hindered due to the traditional exclusion of minorities' from higher economic and educational opportunities.

Underrepresentation of a population leads to limited generalizability of results. The researcher used a convenience sample, with no randomization of participants. Thus, the results need to be interpreted with caution. In addition, the use of an N size of 40 was powerful enough to detect larger effect size in the statistical analyses; however, it was not large enough to reveal existing medium or small effects. A larger sample size would provide more depth and breadth in response to the open-ended questions.

Many factors contributed to the small sample size. First, the number of web sites that address HIV and AIDS is so enormous that it is almost impossible to contact

all of them. Therefore, HIV positive individuals who were not connected to a site that the researcher contacted were excluded from participating. To elaborate, once an HIV positive individual finds the information/support he/she is looking for one or more sites, he/she is most likely going to stop his/her search. Thus, for these individuals, accessing the survey web site by mere chance was highly unlikely. Ultimately, for individuals to have the opportunity to participate, they would most likely be members of an organization and/or on an e-mail list of one of the places the researcher contacted.

The number of places available to recruit participants is another limitation imbedded in the study's on-line data collection with HIV positive individuals. When compared to organizations dealing directly with HIV positive homosexuals, there are limited organizations, support groups, and chat-lines on the web focusing on the HIV positive heterosexual population. Although this unequal distribution has a great deal to do with demand (there are more HIV positive homosexuals than there are heterosexuals), another factor that may play a role in the small number of HIV positive heterosexuals seeking support on-line is the amount of personal face-to-face support they receive.

In today's society, many individuals still believe the notion that homosexuality is unacceptable and do not support that type of lifestyle. Hence, when a homosexual receives a positive HIV diagnosis he/she may not have a strong personal support network (e.g., family, friends, and co-workers), and seek support on-line. Whereas individuals who are heterosexual do not experience the same cultural

biases toward their sexual orientation, they may have a stronger personal support system. When diagnosed as HIV positive, they may still have the negative stigma associated with the virus, but they do not necessarily have the added negative ramifications of acquiring the virus in a socially unacceptable manner. Thus, heterosexuals may be more likely to receive support face-to-face instead of on-line.

On-line support for heterosexuals should not be dismissed, however. There is still a need for heterosexual on-line support; but the type of support may differ from homosexual HIV positive on-line support. For instance, many HIV positive homosexuals do not have children and may not have as strong a biological family-network as heterosexuals. For heterosexuals, on-line support could provide a place to give them a "voice" and assist them with the family-related implications, especially child-related issues, associated with their seropositive status. Thus, researchers need to explore the functions and benefits of these types of support groups.

As indicated above, this sample may not be an accurate representation of the HIV positive heterosexual populations. Therefore, future research should build upon this study through the implications of new methods of data collection to obtain a more representative sample. Despite the drawbacks associated with sample representation of this study, the results offer significant, valuable information that contributes to our understanding of heterosexuals living with HIV.

A second type of limitation of this study is the absence of some important information. The researcher overlooked some essential factors because of the exploratory nature of this study and the lack of existing research about this

population. Specifically, the research did not ask participants to provide certain information beneficial to determining their profile and establishing commonalties between them and HIV negative individuals. For example, future studies should ask individuals to indicate their level of education, their occupation and social economic status, their geographical location, and when they acquired the virus. The first three areas will provide more depth for describing individuals living with HIV. While the fourth area will help delineate whether differences exist between HIV positive and HIV negative individuals' beliefs, attitudes, communication, and behavior. This type of information can prove highly valuable especially when trying to determine the impact of past and current HIV prevention methods and programs. Specifically, the use of commonalties between these individuals could increase an individual's personalization of HIV.

Another limitation of this study is that although it is comparative in nature, it is not a true comparison study (two groups). This study obtained results for one group to make comparisons, based on past research, to another group. One could argue that to determine true similarities between these two populations, both samples should have been represented in this study. However, the design of this study acted as a first step in the comparison process because it provided the descriptive data needed about heterosexuals living with HIV in order to design a future study to determine the effectiveness of social comparison theory as means to personalization. Nevertheless, the researcher identified valuable similarities between the results of this study and

those of past studies that collected data on HIV negative heterosexuals (primarily college students).

A final limitation of this study is the instrumentation used to obtain the information. More specifically, survey research is only one possible way to obtain the desired information; and this method of instrumentation certainly has its drawbacks. The length, wording, design, and biases of scales and questions contribute to limitations in the knowledge obtained. One suggestion to address this limitation is to replicate this study using triangulation. Validation or contradiction of these results is needed. Future research employing other methods such as focus groups, interviews, conversational analysis, and ethnographies can provide this information. For instance, researchers could conduct a focus group during an HIV support group meeting and ask participants about their lives prior to and since infection. In addition, researchers could conduct conversational analyses and/or discourse analyses between HIV positive individuals and their physicians. The information individuals provide to their physicians could identify sexual behaviors prior to infection, as well as the social and medical issues they have experienced since infection. Thus, by using multiple methods, researchers may obtain a more accurate and reliable understanding of HIV and the consequences of living with the virus; and they may also produce more effective HIV prevention messages.

Despite limitations in the data collection process, the design of the study and the instruments employed produced results that provide valuable insight into the HIV positive heterosexual population. Furthermore, these results will help guide future

safer sex research, prevention methods, and educational programs. Based on the findings and limitation of this study, directions for of future research will be discussed below.

Future Studies

Future studies need to continue exploring safer sex beliefs, attitudes, communication, and behavior of heterosexuals living with HIV using alternate methods and perspectives. Once scholars conduct numerous studies to exploring these variables and acquire valid and reliable results, they can investigate the use of social comparison theory as a way to increase personalization. Researchers then should identify the relationship between personalization and perceived risk of HIV. Specifically, literature needs to present the real-life problems and solutions shared by people living with HIV to increase awareness regarding HIV transmission and the challenges of living with the virus. Scholars need to design effective ways to inform individuals about heterosexuals living with HIV, the means by which they were infected, what it is like for them to live with HIV, and about information that can help others decrease their risk of acquiring HIV.

Many heterosexuals perceive little risk of acquiring HIV; however, this lack of perceived risk may be a direct reflection of their lack of insight into issues such as identifying the people who live with HIV and what is it really like to live with this virus. A link between individuals living with HIV and the personalization of the risk of acquiring the virus by others should be established. Scholarly literature lacks research on the lived experiences of those facing problems associated with HIV.

Future research needs to address the real world problems and solutions identified by the people living with HIV.

Heterosexual HIV positive individuals should be provided the opportunity to communicate to the public the difficulties revolving around self, family, friends, romantic relationships, work, illness, discrimination, and death, and their resolutions to these issues. Stories told by HIV positive individuals could serve not only to produce more understanding and sympathetic attitudes toward seropositive individuals, but also provide viable prevention methods targeted at HIV negative audiences. In addition, incorporating HIV positive individuals into educational programs could be an effective prevention strategy for decreasing the spread of HIV. The use and effectiveness of heterosexual HIV positive spokespeople presenting safer sex messages to schools, communities, and organizations should be explored.

Another area for future researchers to investigate is the attitudes and behaviors of individuals in high-risk situations. Research needs to explore individuals' cognitions and behaviors in high-risk situations. Social comparison theory serves as a solid framework for exploring how individuals handle high and low level risk situations. Researchers should determine the effectiveness of the social comparison process in safer sex behaviors. Specifically, scholars should identify factors that motivate individuals to engage in identity-protecting processes such as seeing oneself as different from others given obvious similarities. For example, researchers need to determine the effectiveness of the social comparison process in influencing individuals' perceptions of the risk of HIV. Personalizing the risk of HIV becomes

difficult when individuals possess unrealistic optimism for themselves and/or hold unrealistic beliefs about differences between themselves and others. This personalization is especially difficult when individuals relate these beliefs to their perceived control over specific health related risks. Thus, these individuals perceive that they are in control of their health, whereas circumstances affect “others”. Therefore, the multiple facets of social comparison theory should be explored further, and future research should test and develop other theories that may contribute to existing knowledge about the attitudes, behavior, and behavior changes associated with HIV.

Communication is another critical element of the behavioral change model in HIV research that needs further analysis. Results of this study and past studies indicate that safer sexual communication is a significant predictor of condom use. Again, presently and in the past, certain attitudes hinder individuals’ safer sex communication. If future research and prevention methods begin to alter these attitudes through personalization or some other means of increasing individuals perceived risk, communication becomes an even more important element in HIV prevention. Once individuals personalize the risk of HIV, they may be more likely to engage in self-protective behaviors, such as safer sex communication.

Engagement in safer sex communication is one type of self-protecting behavior. Individuals need to possess the interpersonal skills necessary for discussing and negotiating safer sexual practices with their partners. Thus, sexually active heterosexuals should be assertive and present their thoughts and ideas in a manner

that produces safer sex results without damaging the relationships or offending the partners. Research indicates that individuals' possess these skills, even though one's beliefs about his/her capabilities may differ from his/her actions. Hence, there are vast differences in participants' self-reports of their willingness to engage in safer sex communication and their actual safer sex communication.

Currently, research indicates that individuals engage in little safer sex communication. However, researchers argue that once individuals personalize the risk of HIV, their safer sex communication will increase. Therefore, individuals may begin to use their communication skills to increase safer sex behaviors. In order to communicate effectively, individuals will need to possess the appropriate communication skills for engaging in discussions regarding the risk of AIDS, past sexual experiences, safer sexual practices, condom use, HIV testing, trust, and fidelity. Discussion of these types of issues by partners may have potential negative ramifications for the relationship, especially a serious relationship. Issues such as trust and fidelity may make communication regarding condom use quite difficult for partners. Due to the nature of topics such as sex and sexual practices, discussions concerning these issues can be arduous. Consequently, future research and prevention methods need to address specific communication strategies and skills that can aid individuals in their efforts to engage in effective safer sex communication. Future HIV research should consider the development of interpersonal skill based educational prevention programs.

The communication that takes place among HIV positive individuals and between them and HIV negative individuals are two other important communication issues that future research should investigate. Studies need to uncover what difficulties HIV positive individuals face and how communication can improve the quality of life for these people. For example, researchers need to identify the following: (a) the type of communication occurring among these individuals and their families, close friends, and children; (b) the types of coping strategies individuals (HIV positive and negative) employ; (c) ways to handle sensitive topics; (d) HIV positive individuals' level of satisfaction with the amount and type of communication they engage in; (e) the influence their seropositive status has or has had on their relationships; and (f) what new insight they can contribute to others regarding life before and since infection.

Concluding Remarks

As this study and previous research illustrate, individuals should not hold attitudes of invulnerability toward HIV infection. Individuals need to become aware of the similarities that exist between themselves and those infected with HIV. Once individuals personalize the risk of HIV, they will be more likely to change their communication and behavior and to engage in safer sex practices. Thus, personalization may motivate to engage in effective interpersonal communication in order to take control of their health. To help reduce the transmission of HIV, in the future, researchers, scholars, and educators need to address these issues and provide

resources to facilitate the changes in individuals' safer sex communication and behaviors

In closing, a Colorado College newspaper printed the following story. This excerpt captures many of the dimensions and challenges related to safer sex communication and behavior that this study and past research have revealed:

We grew up associating sex with big beds and candle-lit rooms, not condoms, foams, Nonoxynol-9 and disease. But nowadays we can't avoid it. We're not those people who never thought about AIDS. We thought about AIDS a lot, but until a couple years ago, we didn't think very seriously about us and AIDS. AIDS marks the '90s. Like the information superhighway, you're connected not only to your partner, but your partner's partner, and so on. They're people whose names you don't know, but whose sexual history you're directly linked to. The problem with AIDS is that it takes away from passion and love. No longer is sex simply an act to enjoy, but an act to fear. An act to talk about. Imagine Rhett Butler staring passionately into Scarlet O'Hara's eyes and asking about her sexual history. Spontaneity doesn't exist. So we thought about AIDS. We looked around our classes, knowing that some of the people there were probably infected and wondering who they were and how they felt. We wondered if it was one of us. We got tired of wondering, and, although somewhere in the back of our minds we knew we were HIV negative, we decided to get tested. We went together -- the only way we could bear to go. We went, knowing that we were responsible, informed adults, but understanding that we could be HIV positive. Reality struck when we walked into the Boulder County Health Department. We wanted to explain who we were. We wanted to explain that we weren't the type of people to get AIDS. But who is? We were there because there is no characteristic AIDS patient. We were there because AIDS is real for everyone. We got the blood test done first. We thought we'd be getting the worst part out of the way. But then we had to answer some questions:

"Have you ever shared needles?"

"No."

"Have you ever had sex for money?"

"No."

And sure enough, we began to relax, feeling out of reach of the disease. But then:

"How many partners have you had?"

"How many partners have you had in the past year?"

"Do you use condoms?"

"How many partners have you had who you didn't use a condom with?"

And suddenly, two heterosexual, 21-year-old college students didn't seem so untouchable. We left feeling angry because we got tested to be responsible, not because we really felt that we were at risk. We felt violated because the counselor condensed 21 years of experience into a page-long questionnaire. We waited two weeks for the results. We tried to imagine what we would do if they were positive. We thought about the future and how it would change. What about our plans? We're not scared of dying. How can we be scared of something we know nothing about? We're scared of not living. We were busy, and in the midst of school, work, and our social lives, worrying about AIDS got lost. But the night before was miserable. That's when we began to think that tomorrow could change everything. And we wondered why we did this to ourselves. We did this because ignorance is not protection. Because books, articles, and pamphlets could tell us everything except what we needed to know the most--whether or not one of us was HIV positive. We feared this disease. We feared this test. But we also feared not knowing. We now know, and we've come to realize that it is okay to be scared of AIDS. It is okay because it is real. By talking about AIDS with each other and getting tested, we took control of a disease. (Combs & Montanaro, 1995, p.1)

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Table 1. Demographic variables for participants.

SEX

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	16	40.0	40.0	40.0
female	24	60.0	60.0	100.0
Total	40	100.0	100.0	

RACE

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid white	33	82.5	82.5	82.5
black	7	17.5	17.5	100.0
Total	40	100.0	100.0	

Birth Control

	Frequency	Percent	Valid Percent	Cumulative Percent
Pill	8	20.0	20.0	20.00
Sterilized	1	2.5	5.0	22.5
Sponge	2	5.0	2.5	27.5
Diaphragm	1	2.5	2.5	30.0
Rhythm	1	2.5	2.5	32.5
Foam	1	2.5	2.5	35.00
Tubes Tied	5	12.5	12.5	47.5
None	15	37.5	37.5	85.0
Post Menopausal	1	2.5	2.5	87.5
Don't Know	5	12.5	12.5	100.00
Total	40	100.0	100.0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	40	21.00	55.00	39.2000	7.8158
LENGHT	31	1.00	384.00	72.5484	91.7402
Valid N (listwise)	31				

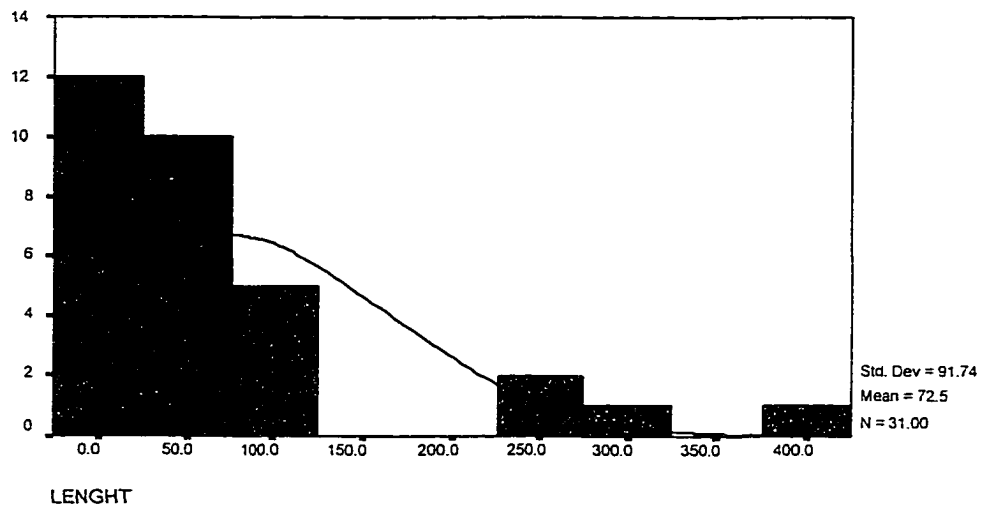
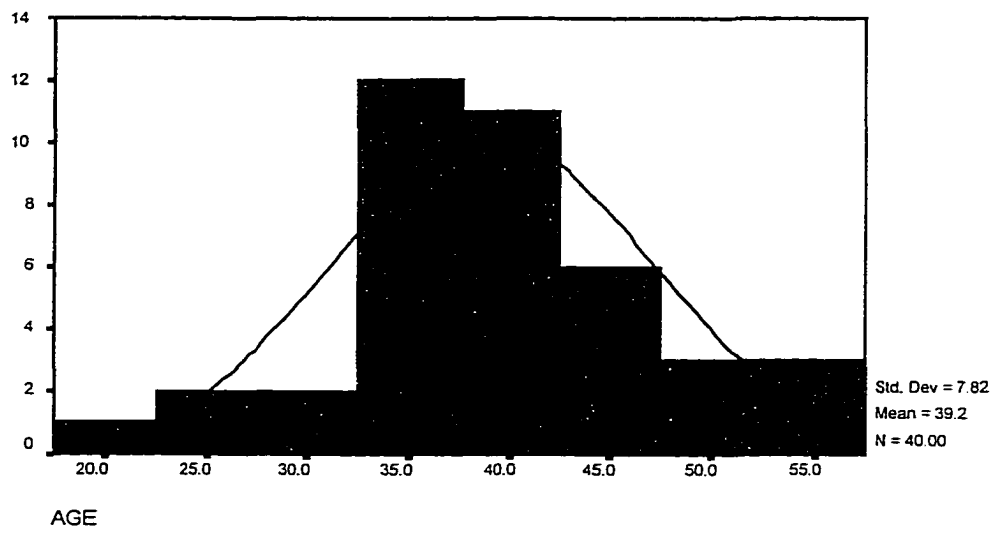


Table 2. Condom use – oral sex, vaginal intercourse, and anal sex.

ORAL

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid no	2	5.0	5.0	5.0
yes	38	95.0	95.0	100.0
Total	40	100.0	100.0	

ORALCOND

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid never	32	80.0	82.1	82.1
rarely	4	10.0	10.3	92.3
sometimes	1	2.5	2.6	94.9
half the time	1	2.5	2.6	97.4
most time	1	2.5	2.6	100.0
Total	39	97.5	100.0	
Missing 9.00	1	2.5		
Total	40	100.0		

VAGINAL

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid no	1	2.5	2.5	2.5
yes	39	97.5	97.5	100.0
Total	40	100.0	100.0	

VAGCOND

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid never	23	57.5	57.5	57.5
rarely	7	17.5	17.5	75.0
sometimes	3	7.5	7.5	82.5
half the time	1	2.5	2.5	85.0
most time	1	2.5	2.5	87.5
almost all times	1	2.5	2.5	90.0
always	4	10.0	10.0	100.0
Total	40	100.0	100.0	

ANAL

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid no	24	60.0	60.0	60.0
yes	16	40.0	40.0	100.0
Total	40	100.0	100.0	

ANALCOND

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid never	9	22.5	52.9	52.9
rarely	2	5.0	11.8	64.7
sometimes	1	2.5	5.9	70.6
half the time	2	5.0	11.8	82.4
always	1	2.5	5.9	88.2
n/a	2	5.0	11.8	100.0
Total	17	42.5	100.0	
Missing 9.00	23	57.5		
Total	40	100.0		

Table 3. Distribution of knowledge scores

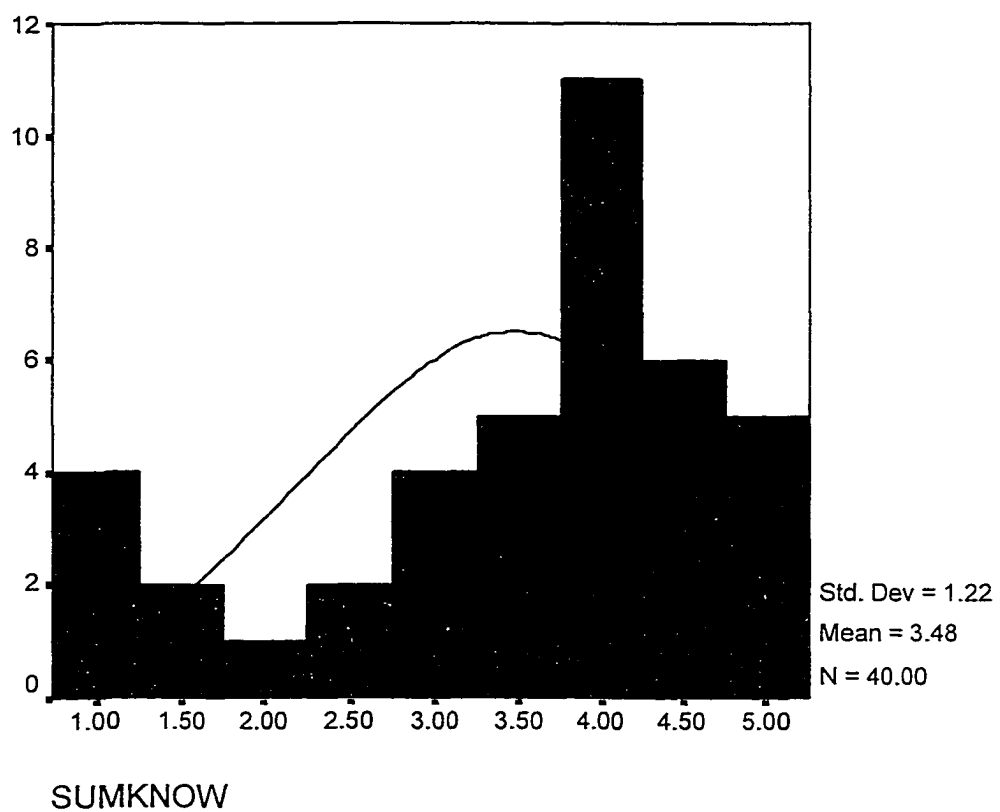


Table 4. Distribution of perceived risk scores

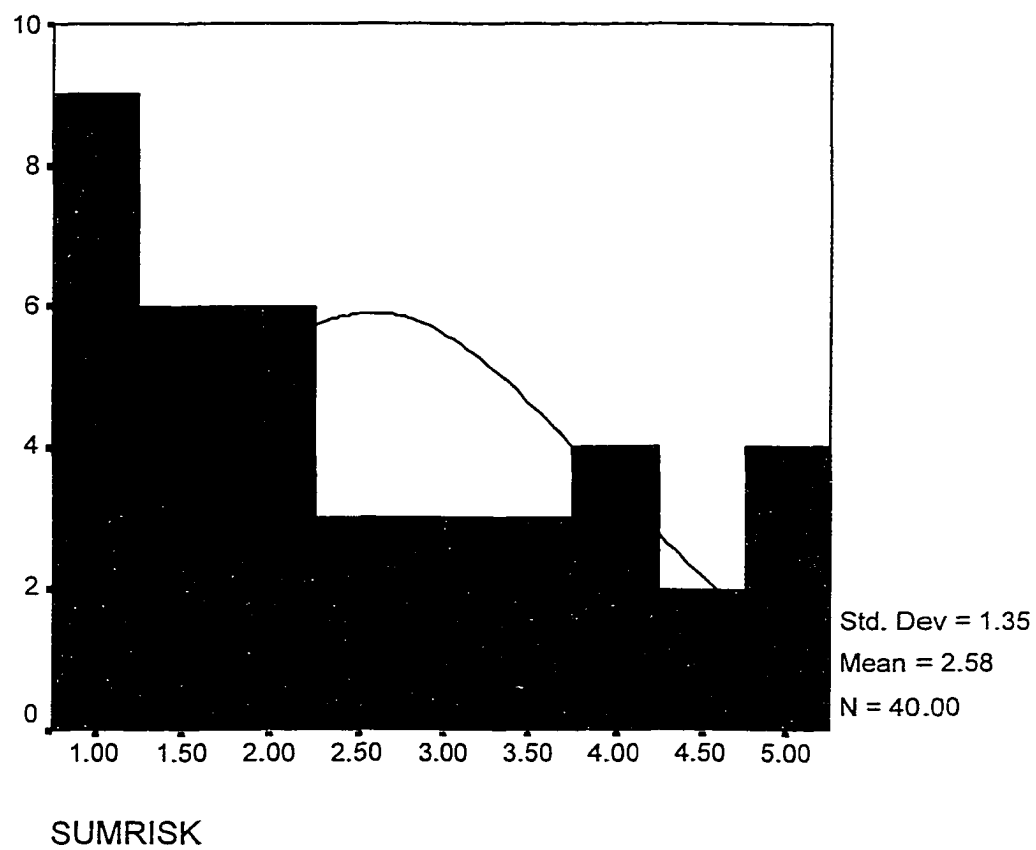


Table 5. Distribution of trust scores

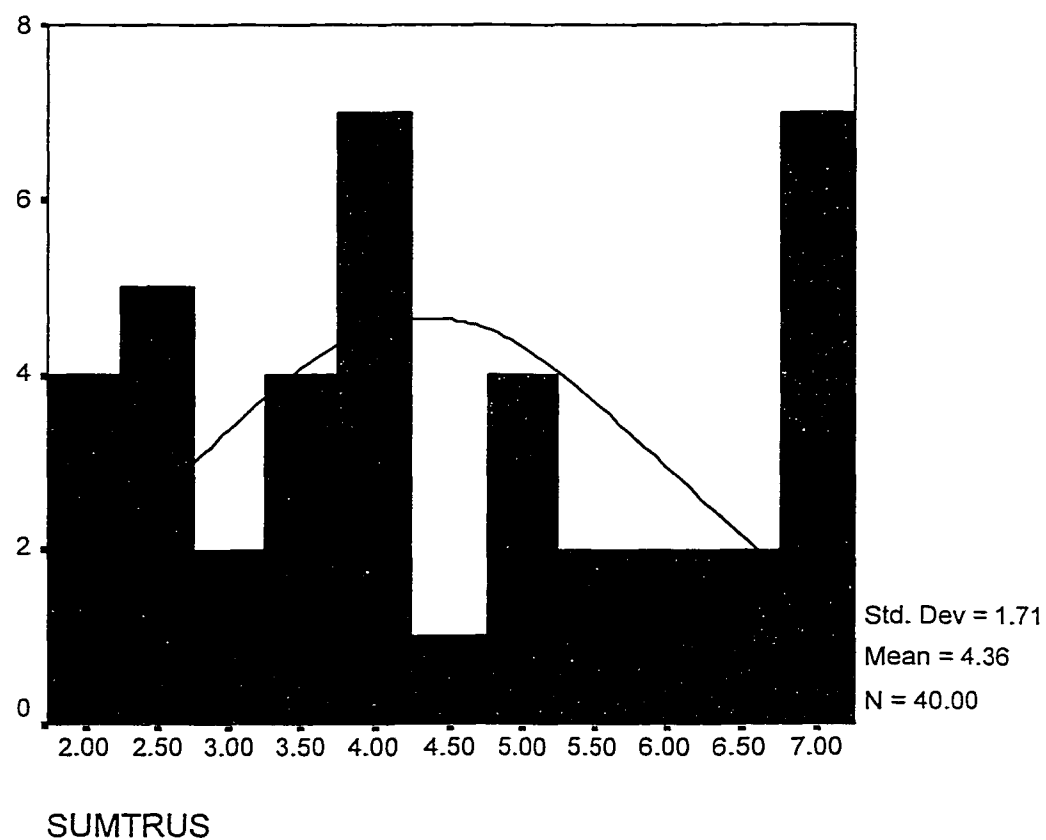


Table 6. Distribution of safe partner scores

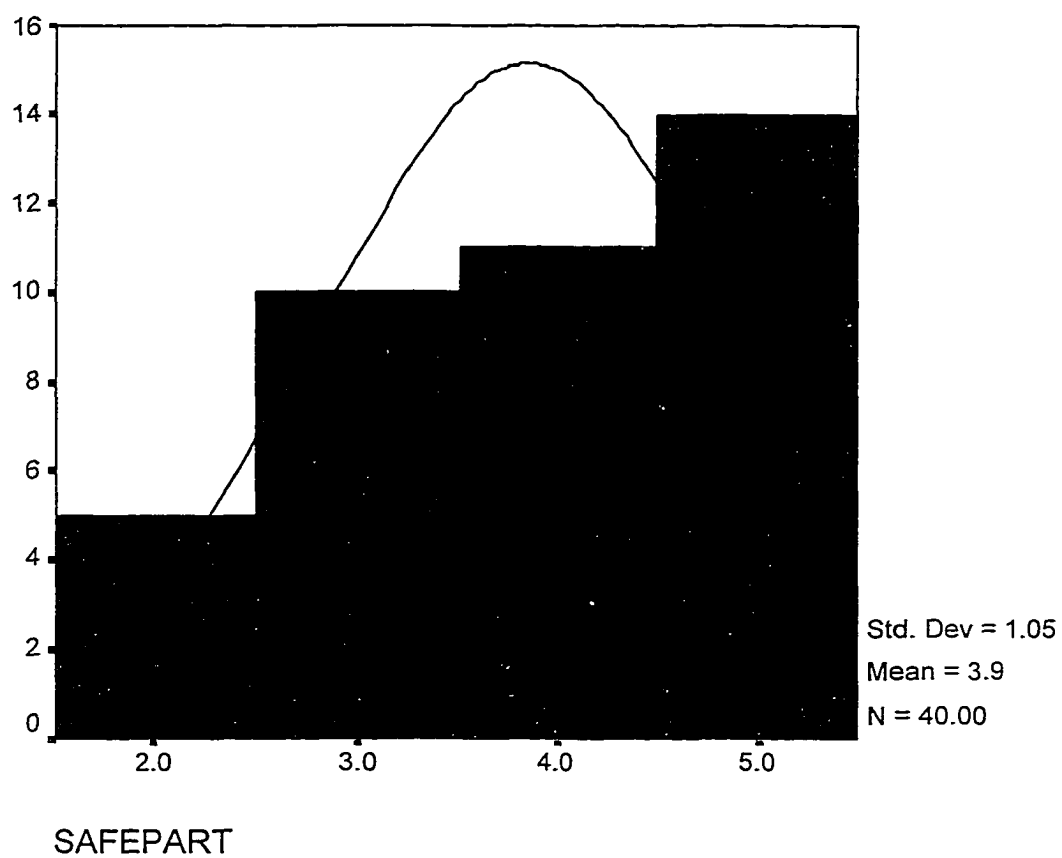


Table 7. Model for multiple regression for perceived risk.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.661 ^a	.437	.407	1.0394

a. Predictors: (Constant), SAFEPART, SUMTRUS

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.086	2	15.543	14.388	.000 ^a
	Residual	39.969	37	1.080		
	Total	71.055	39			

a. Predictors: (Constant), SAFEPART, SUMTRUS

b. Dependent Variable: SUMRISK

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	6.064	.678		8.947	.000			
	SUMTRUS	-.278	.102	-.353	-2.720	.010	-.496	-.408	-.335
	SAFEPART	-.592	.167	-.461	-3.553	.001	-.570	-.504	-.438

a. Dependent Variable: SUMRISK

Table 8. Reasons for perceived risk.

Reason	Examples	N
I. <u>Sexual Behavior</u>		31
1. Sexual Orientation	“I was not gay” “I am a straight guy” “The focus of this disease was on gay men that would get thin and frail and die” “I was not engaging in homosexual activities.”	15
2. Promiscuity	“I did not sleep around” (not promiscuous) “I fucked any women I meet” (promiscuous)	6
3. Drugs / alcohol	“Did not shoot up drugs” (low risk) “I was on drugs” (high risk)	10
II. <u>Attitude Towards HIV</u>		21
1. Vulnerability	“I was like everyone else, I thought it could never happen to me” (low risk) “Anyone is at risk” (high risk)	15
2. Safe Partner	“The women I was involved with were not sleazy” “I date nice women. The women I have been with were up-scale.”	6
III. <u>Relationship Status</u>		19
1. Trust	“My partner told me he was HIV negative and I believed him.” “I trusted my partner.” “I knew my partner used had done HIV drug use in the past, but I trusted him when he told me he did not share needles.”	10
2. Monogamy	“We were monogamous” “I was married and thought the relationship was exclusive.”	6
3. Love	“Because he seemed to be in love with me” “I was in love”	3

Table 9. Distribution of frequency of safer sex communication

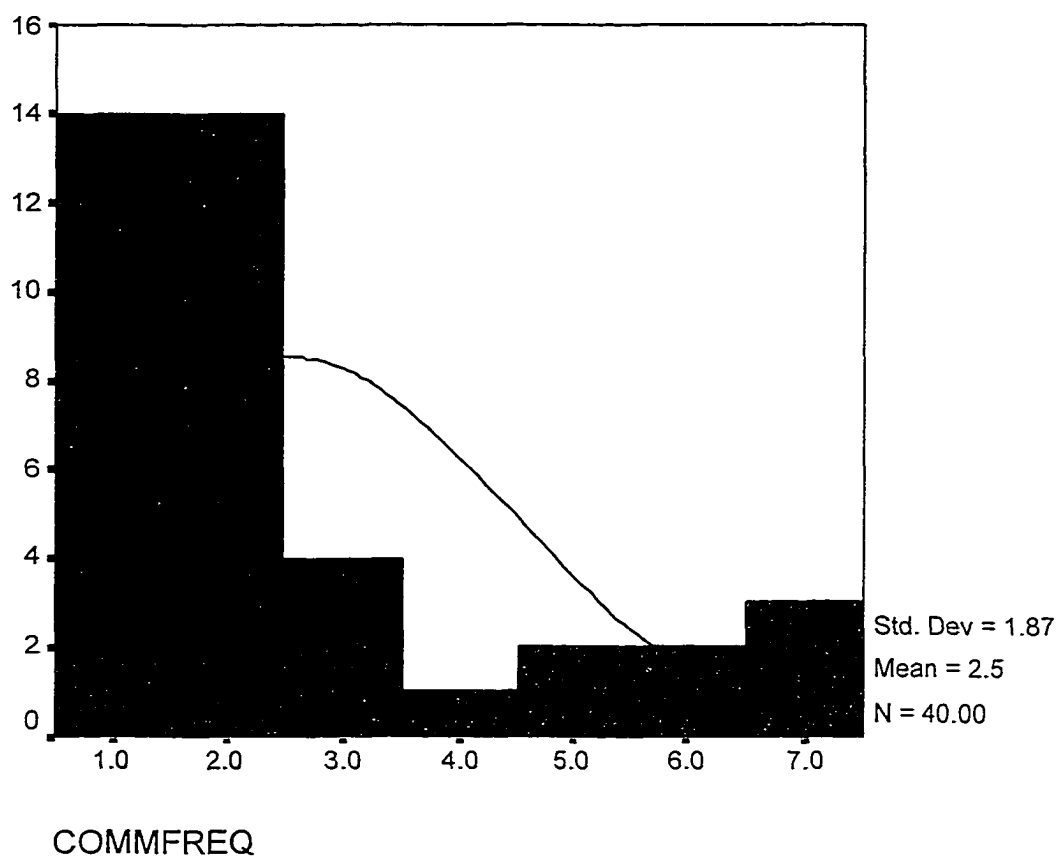


Table 10. Communication and condom use

Descriptive Statistics

	Mean	Std. Deviation	N
COMMFREQ	2.5250	1.8672	40
ANALCOND	2.7647	2.5625	17
ORALCOND	1.3333	.8686	39
VAGCOND	2.2250	1.9805	40

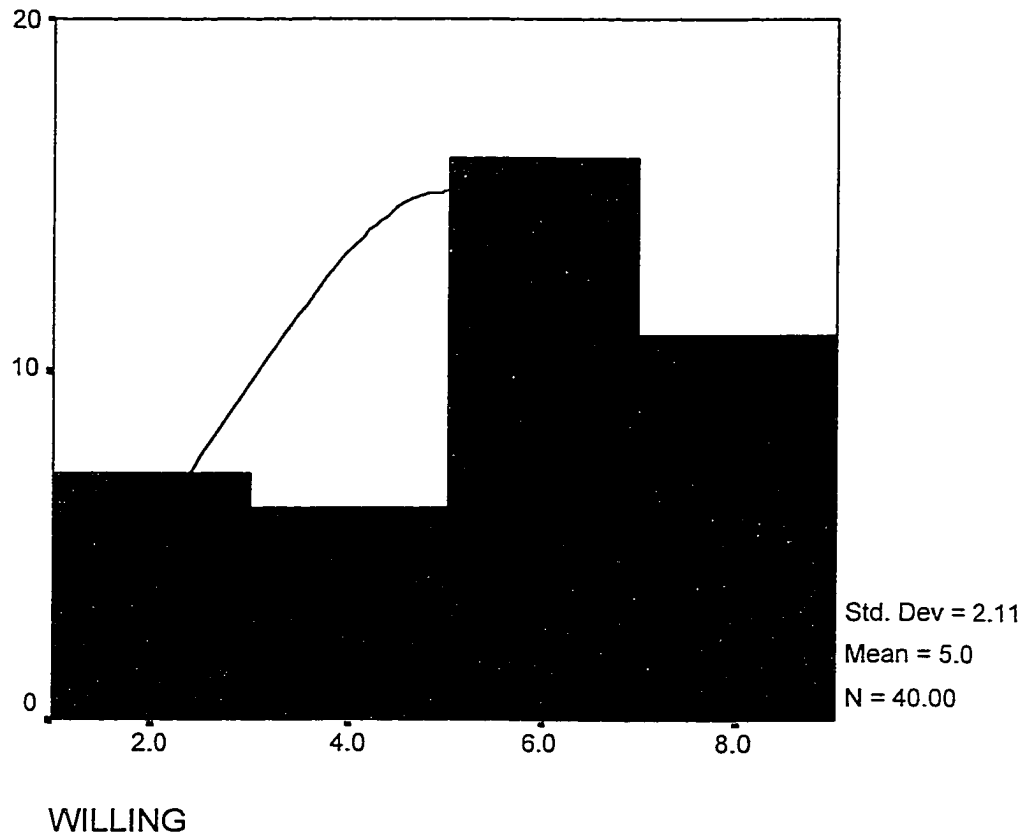
Correlations

		COMMFREQ	ANALCOND	ORALCOND	VAGCOND
COMMFREQ	Pearson Correlation	1.000	.065	.174	.605**
	Sig. (2-tailed)	.	.805	.291	.000
	N	40	17	39	40
ANALCOND	Pearson Correlation	.065	1.000	-.267	.356
	Sig. (2-tailed)	.805	.	.301	.161
	N	17	17	17	17
ORALCOND	Pearson Correlation	.174	-.267	1.000	.259
	Sig. (2-tailed)	.291	.301	.	.111
	N	39	17	39	39
VAGCOND	Pearson Correlation	.605**	.356	.259	1.000
	Sig. (2-tailed)	.000	.161	.111	.
	N	40	17	39	40

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

Table 11. Willingness to communicate

Distribution of willingness to engage in safer sex communication



Frequency of safer sex communication and willingness to engage in safer sex communication

Descriptive Statistics

	Mean	Std. Deviation	N
WILLING	5.0000	2.1122	40
COMMFREQ	2.5250	1.8672	40

Correlations

		WILLING	COMMFREQ
WILLING	Pearson Correlation	1.000	.546**
	Sig. (2-tailed)	.	.000
	N	40	40
COMMFREQ	Pearson Correlation	.546**	1.000
	Sig. (2-tailed)	.000	.
	N	40	40

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

Table 12. Content of safer sex conversations

Reason	Example
I. <u>Condom Use</u>	“I said baby don’t forget the condoms.” “Usually all that was discussed was who brought the condoms.” “We discussed and agreed to condom use during the first month or two of the relationship.”
II. <u>HIV Status</u>	“Once I returned from the AIDS clinic with condoms after my AIDS test. He said we had no need to use them since he was not infected.”
III. <u>AIDS Test</u>	“I told him that I had been tested for AIDS, and he said he had been tested and was negative.” “He told me he had been tested and that is was negative.”
IV. <u>Affairs/Cheating</u>	“He assured me he had never cheated on ex-wife (through 5 years of marriage).” “He told me he was faithful throughout our marriage. I was suspicious at times, but choose to believe him. It wasn’t until after I left him that I learned the truth.”
V. <u>Level of Risk</u>	“I told my partner that I was not at risk, that’s what 3 different doctors told me when I asked to be tested.” “We had the conversation once, and I naively believed al the things he said. I believed I was not at risk for HIV.”
VI. <u>Birth Control / Pregnancy Issue</u>	“The conversation took place over stages, over several dates not involving sexual contact beyond open mouth kissing and the occasional grope. The agreement to use condoms was mutually, as we had goals to achieve before wanting the responsibility of becoming parents.”

- VII. Past Sexual Behavior “He assured me that he had never used drugs.”
“I told my partner that I had just come out of a long-term (6 years) and was reasonable certain of my sero-status.”
“The general theme of the conversation was about STDs. We gave each other an idea of previous risk behavior and current health. He said he always used condoms with the people he dated.”

Table 13. Distribution of condom self-efficacy scores

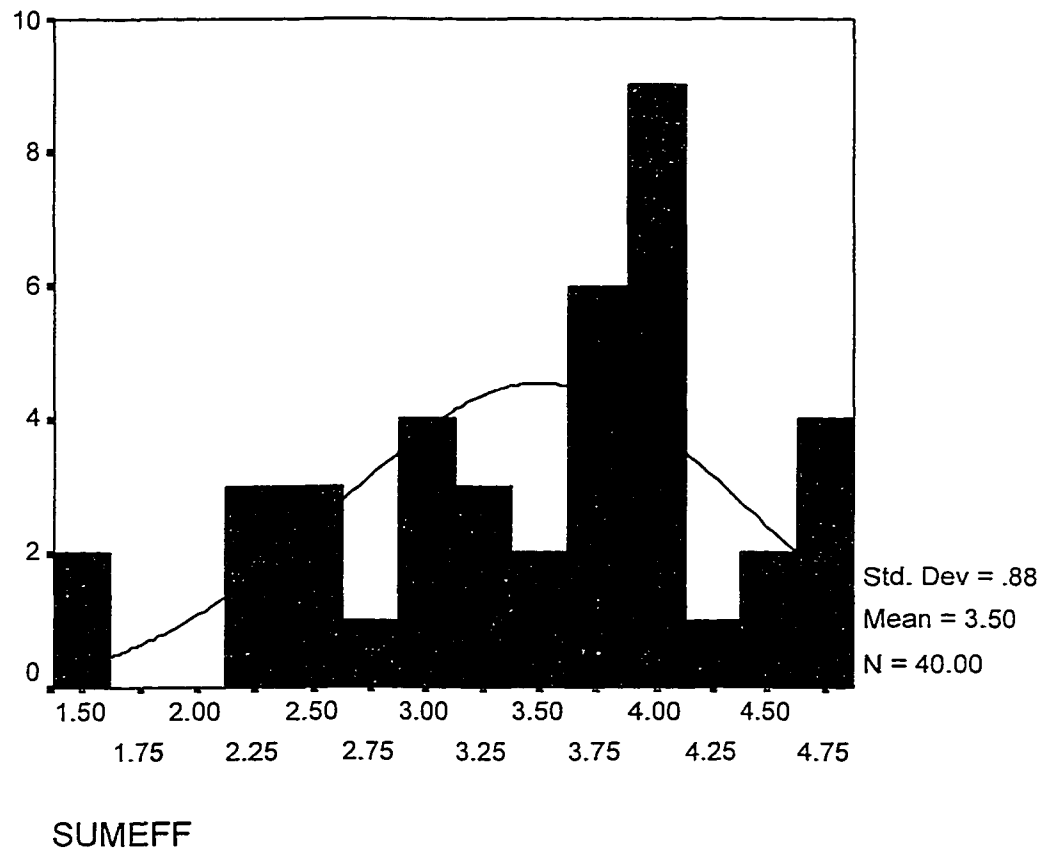


Table 14. Correlation matrixes for condom self-efficacy and condom use, willingness to engage in safer sex communication, and frequency of actual safer sex communication.

Condom use in oral sex

Descriptive Statistics

	Mean	Std. Deviation	N
SUMEFF	3.4973	.8764	40
ORALCOND	1.3333	.8686	39

Correlations

		SUMEFF	ORALCOND
SUMEFF	Pearson Correlation	1.000	-.284
	Sig. (2-tailed)	.	.080
	N	40	39
ORALCOND	Pearson Correlation	-.284	1.000
	Sig. (2-tailed)	.080	.
	N	39	39

Condom use in vaginal intercourse

Descriptive Statistics

	Mean	Std. Deviation	N
SUMEFF	3.4973	.8764	40
VAGCOND	2.2250	1.9805	40

Correlations

		SUMEFF	VAGCOND
SUMEFF	Pearson Correlation	1.000	.196
	Sig. (2-tailed)	.	.225
	N	40	40
VAGCOND	Pearson Correlation	.196	1.000
	Sig. (2-tailed)	.225	.
	N	40	40

Condom use in anal sex

Descriptive Statistics

	Mean	Std. Deviation	N
SUMEFF	3.4973	.8764	40
ANALCOND	2.7647	2.5625	17

Correlations

		SUMEFF	ANALCOND
SUMEFF	Pearson Correlation	1.000	-.325
	Sig. (2-tailed)	.	.203
	N	40	17
ANALCOND	Pearson Correlation	-.325	1.000
	Sig. (2-tailed)	.203	.
	N	17	17

Frequency of safer sex communication

Descriptive Statistics

	Mean	Std. Deviation	N
SUMEFF	3.4973	.8764	40
COMMFREQ	2.5250	1.8672	40

Correlations

		SUMEFF	COMMFREQ
SUMEFF	Pearson Correlation	1.000	.431**
	Sig. (2-tailed)	.	.006
	N	40	40
COMMFREQ	Pearson Correlation	.431**	1.000
	Sig. (2-tailed)	.006	.
	N	40	40

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

Willingness to engage in safer sex communication

Descriptive Statistics

	Mean	Std. Deviation	N
SUMEFF	3.4973	.8764	40
WILLING	5.0000	2.1122	40

Correlations

		SUMEFF	WILLING
SUMEFF	Pearson Correlation	1.000	.497**
	Sig. (2-tailed)	.	.001
	N	40	40
WILLING	Pearson Correlation	.497**	1.000
	Sig. (2-tailed)	.001	.
	N	40	40

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

Table 15. Distribution of assertiveness scores

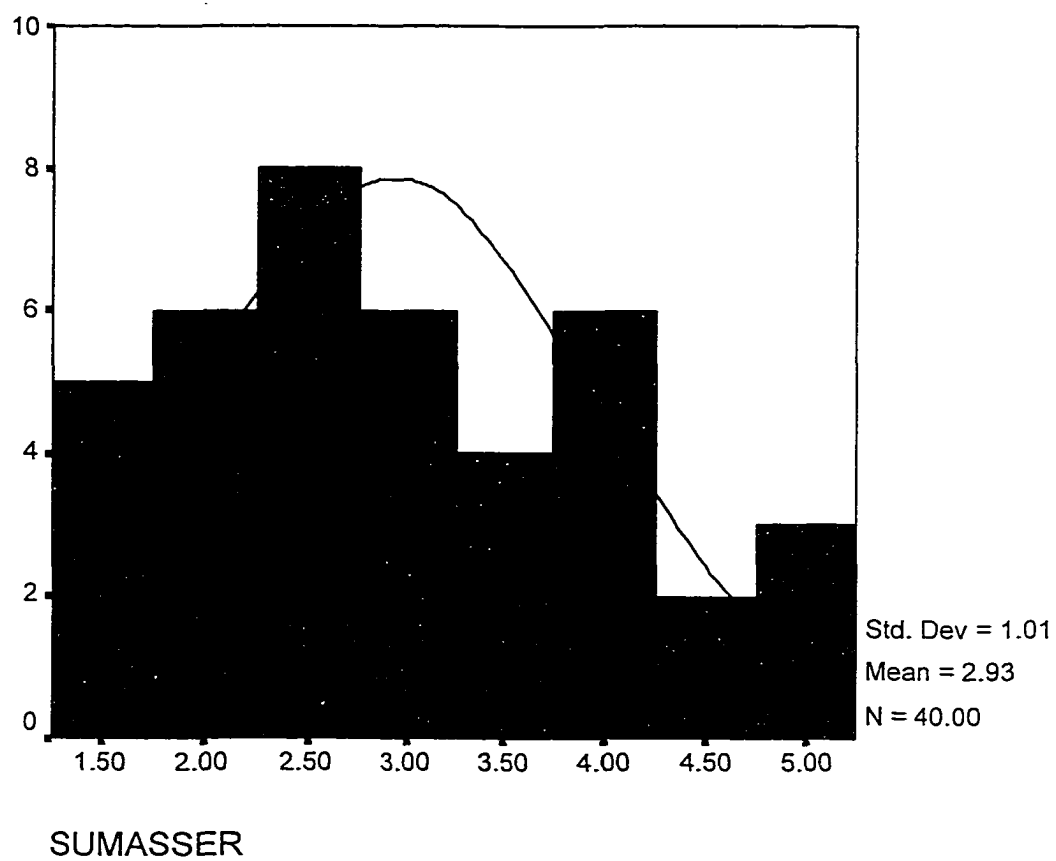


Table 16. Correlation matrixes for assertiveness and condom use, willingness to engage in safer sex communication, and frequency of actual safer sex communication.

Condom use in oral sex

Descriptive Statistics

	Mean	Std. Deviation	N
SUMASSER	2.9339	1.0125	40
ORALCOND	1.3333	.8686	39

Correlations

		SUMASSER	ORALCOND
SUMASSER	Pearson Correlation	1.000	.194
	Sig. (2-tailed)	.	.237
	N	40	39
ORALCOND	Pearson Correlation	.194	1.000
	Sig. (2-tailed)	.237	.
	N	39	39

Condom use in vaginal intercourse

Descriptive Statistics

	Mean	Std. Deviation	N
SUMASSER	2.9339	1.0125	40
VAGINAL	1.9750	.1581	40

Correlations

		SUMASSER	VAGINAL
SUMASSER	Pearson Correlation	1.000	-.102
	Sig. (2-tailed)	.	.531
	N	40	40
VAGINAL	Pearson Correlation	-.102	1.000
	Sig. (2-tailed)	.531	.
	N	40	40

Condom use in anal sex

Descriptive Statistics

	Mean	Std. Deviation	N
SUMASSER	2.9339	1.0125	40
ANALCOND	2.7647	2.5625	17

Correlations

		SUMASSER	ANALCOND
SUMASSER	Pearson Correlation	1.000	-.275
	Sig. (2-tailed)	.	.285
	N	40	17
ANALCOND	Pearson Correlation	-.275	1.000
	Sig. (2-tailed)	.285	.
	N	17	17

Frequency of safer sex communication

Descriptive Statistics

	Mean	Std. Deviation	N
SUMASSER	2.9339	1.0125	40
COMMFREQ	2.5250	1.8672	40

Correlations

		SUMASSER	COMMFREQ
SUMASSER	Pearson Correlation	1.000	.549**
	Sig. (2-tailed)	.	.000
	N	40	40
COMMFREQ	Pearson Correlation	.549**	1.000
	Sig. (2-tailed)	.000	.
	N	40	40

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

Willingness to engage in safer sex communication

Descriptive Statistics

	Mean	Std. Deviation	N
SUMASSER	2.9339	1.0125	40
WILLING	5.0000	2.1122	40

Correlations

		SUMASSER	WILLING
SUMASSER	Pearson Correlation	1.000	.447**
	Sig. (2-tailed)	.	.004
	N	40	40
WILLING	Pearson Correlation	.447**	1.000
	Sig. (2-tailed)	.004	.
	N	40	40

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

Table 17. Reasons for non-personalization of HIV

Reason	Example	N
I. <u>Heterosexual not Homosexual</u>	"I was straight." "Hello, single women having sex with a heterosexual man." "I believed the majority of HIV positive individuals were homosexual."	20
II. <u>Invincible</u>	"I never thought I would get it" "I did not believe I was at risk, I was a young, professional, heterosexual female."	16
III. <u>Monogamous Relationship</u>	"I was married and faithful to my husband." "I was in a long-term relationship, and we trusted each other."	7
IV. <u>No IV Drug Use</u>	"I was not a drug user." "I did not use drugs, nor did my partner."	6
V. <u>Lack of Knowledge of HIV+ individuals</u>	"I had no knowledge of of the disease to make that decision."	3
VI. <u>Not Promiscuous</u>	"I was not a promiscuous person and I went months without having sex, so I thought I could not get it."	2

Table 18. Suggestions and advice from individuals living with HIV

<u>Suggestions/Advice</u>		<u>Example</u>	<u>N</u>
I.	<u>Behavior</u>		47
	1. Condom use	"Always use condoms"	24
	2. Do no use drugs	"Don't ever abuse drugs or alcohol"	10
	3. Get tested	"Use condoms until you get tested, and make sure you see the test results."	6
	4. Drugs impair judgement	"Stay away from drugs they impair your judgement and you do irresponsible things."	4
	5. Practice safe sex	"Learn to care more about yourself, try something new; 'Safe Sex'."	3
II.	<u>Living with AIDS</u>		19
	1. Medicine	"Don't do it, its not worth it. I live with this, I am not sick, but was very ill and now I must take the pills everyday. I look at myself and and others look at me, I think, do they know? I don't look like it and I'm healthy, you still wonder."	9
	2. Influence on family and friends	"HIV is devastating to everyone you love and it changes everything you have ever known."	3
	3. Difficulty of living with AIDS	"Living with AIDS is difficult, sometimes it even isolates you from others, and not be choice."	3
	4. AIDS is fatal	"There is no cure, its fatal, and the drugs are toxic themselves."	2
	5. Never have children	"Something most people don't think about is never being able to have children."	1

6. Never grow old	“I’ll never grow old, dying of AIDS is a fate I wish on no one.”	1
III.	<u>Communication</u>	18
1. Talk about AIDS/safer sex	“Talk to your partner and learn how to communicate about safer sex.”	7
2. Educate	“Educate, Educate, Educate.”	7
3. Get to know your partner	“Know who you are sleeping with, really get to know them. It’s your life.”	4
IV.	<u>Attitudes Regarding HIV</u>	15
1. No one is invincible	“Assume that anyone can be HIV Positive”	15
V.	<u>Relationships and HIV</u>	16
1. Trust	“Be careful who you trust, I contracted HIV from my husband...in a relationship I thought was monogamous.”	11
2. Partners lie	“No matter how well you know the person, People lie rather easily about their sexual history.”	3
3. Life vs. relationship	“Losing a boyfriend/girlfriend is way better than losing a life.” “Trust in a relationship takes on a whole new meaning and serves a new role. It is no longer about the relationship – I mean the relationship is important, but your life has to come first.”	2

Table 19. Comparison between men and women.

Group Statistics

	SEX	N	Mean	Std. Deviation	Std. Error Mean
SUMKNOW	male	16	3.8000	.9151	.2288
	female	24	3.2583	1.3686	.2794
SUMRISK	male	16	2.8250	1.5036	.3759
	female	24	2.4083	1.2420	.2535
SUMTRUS	male	16	3.9609	1.4301	.3575
	female	24	4.6302	1.8615	.3800
SUMEFF	male	16	3.8929	.4974	.1244
	female	24	3.2336	.9797	.2000
SAFEPART	male	16	3.0625	.7719	.1930
	female	24	4.3750	.8754	.1787
COMMFREQ	male	16	2.8125	2.2867	.5717
	female	24	2.3333	1.5511	.3166
WILLING	male	16	5.3125	1.9568	.4892
	female	24	4.7917	2.2259	.4544
SUMASSER	male	16	2.8661	.9772	.2443
	female	24	2.9792	1.0537	.2151
SUMNON	male	16	1.9375	1.0135	.2534
	female	24	2.4048	1.0037	.2049
SUMAGRU	male	16	2.6786	1.2111	.3028
	female	24	2.0030	.6317	.1289

Independent Samples Test

		Levene's Test for quality of Variance		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean ifference	Std. Error ifference	95% Confidence Interval of the Difference	
									Lower	Upper
SUMKNO	Equal variances assumed	4.995	.031	1.387	38	.174	.5417	.3905	-.2489	1.3323
	Equal variances no assumed			1.500	37.993	.142	.5417	.3611	-.1893	1.2726
SUMRISK	Equal variances assumed	1.124	.296	.955	38	.345	.4167	.4361	-.4662	1.2996
	Equal variances no assumed			.919	27.975	.366	.4167	.4534	-.5121	1.3454
SUMTRU	Equal variances assumed	3.412	.073	-1.217	38	.231	-.6693	.5501	-1.7828	.4443
	Equal variances no assumed			-1.283	37.129	.208	-.6693	.5217	-1.7263	.3878
SUMEFF	Equal variances assumed	12.051	.001	2.480	38	.018	.6592	.2659	.1210	1.1974
	Equal variances no assumed			2.799	35.979	.008	.6592	.2355	.1816	1.1368
SAFEPA	Equal variances assumed	1.230	.274	-4.864	38	.000	-1.3125	.2698	-1.8588	-.7632
	Equal variances no assumed			-4.990	34.979	.000	-1.3125	.2630	-1.8464	-.7786
COMMFR	Equal variances assumed	3.407	.073	.791	38	.434	.4792	.6056	-.7467	1.7050
	Equal variances no assumed			.733	24.132	.470	.4792	.6535	-.8692	1.8275
WILLING	Equal variances assumed	.864	.359	.760	38	.452	.5208	.6854	-.8668	1.9034
	Equal variances no assumed			.780	35.037	.441	.5208	.6677	-.8345	1.8732
SUMASS	Equal variances assumed	.132	.718	-.342	38	.734	-.1131	.3306	-.7823	.5561
	Equal variances no assumed			-.347	33.958	.730	-.1131	.3255	-.7746	.5484
SUMNON	Equal variances assumed	.003	.956	-1.437	38	.159	-.4673	.3252	-1.1256	.1910
	Equal variances no assumed			-1.434	32.083	.161	-.4673	.3258	-1.1309	.1964
SUMAGR	Equal variances assumed	7.232	.011	2.311	38	.026	.6756	.2923	.77E-02	1.2674
	Equal variances no assumed			2.053	20.495	.053	.6756	.3291	.79E-03	1.3610

Table 20. Comparison between participants in casual vs. serious relationships.

Group Statistics

	status2	N	Mean	Std. Deviation	Std. Error Mean
SUMKNOW	casual	15	3.3067	1.3046	.3369
	serious	25	3.5760	1.1893	.2379
SUMRISK	casual	15	3.0267	1.4038	.3625
	serious	25	2.3040	1.2677	.2535
SUMTRUS	casual	15	3.8750	1.4103	.3641
	serious	25	4.6550	1.8386	.3677
SUMEFF	casual	15	3.3810	.8703	.2247
	serious	25	3.5671	.8904	.1781
SAFEPART	casual	15	3.3333	1.0465	.2702
	serious	25	4.1600	.9434	.1887
COMMFREQ	casual	15	2.2000	1.3732	.3546
	serious	25	2.7200	2.1119	.4224
WILLING	casual	15	4.6667	2.0237	.5225
	serious	25	5.2000	2.1794	.4359
SUMASSER	casual	15	2.9095	1.0391	.2683
	serious	25	2.9486	1.0176	.2035
SUMNON	casual	15	2.4429	.9894	.2555
	serious	25	2.0829	1.0359	.2072
SUMAGRU	casual	15	2.4714	.9900	.2556
	serious	25	2.1543	.9331	.1866

Independent Samples Test

		Levene's Test for Equality of Variance		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SUMKN	Equal variances assumed	.202	.656	-.669	38	.508	-.2693	.4027	1.0846	.5459
	Equal variances not assumed			-.653	27.459	.519	-.2693	.4124	1.1148	.5761
SUMRIS	Equal variances assumed	.468	.498	1.677	38	.102	.7227	.4309	-1.497	1.5951
	Equal variances not assumed			1.634	27.247	.114	.7227	.4423	-1.845	1.6299
SUMTR	Equal variances assumed	3.350	.075	-1.410	38	.167	-.7800	.5531	1.8997	.3397
	Equal variances not assumed			-1.507	35.549	.141	-.7800	.5175	1.8300	.2700
SUMEFF	Equal variances assumed	.003	.954	-.646	38	.522	-.1862	.2884	-.7700	.3977
	Equal variances not assumed			-.649	30.167	.521	-.1862	.2867	-.7716	.3992
SAFEPA	Equal variances assumed	.282	.598	-2.576	38	.014	-.8267	.3209	1.4764	-.1770
	Equal variances not assumed			-2.508	27.207	.018	-.8267	.3296	1.5026	-.1507
COMMF	Equal variances assumed	4.104	.050	-.850	38	.401	-.5200	.6120	1.7590	.7190
	Equal variances not assumed			-.943	37.673	.352	-.5200	.5515	1.6367	.5967
WILLING	Equal variances assumed	.495	.486	-.769	38	.447	-.5333	.6935	1.9372	.8706
	Equal variances not assumed			-.784	31.396	.439	-.5333	.6805	1.9204	.8537
SUMAS	Equal variances assumed	.088	.768	-.117	38	.908	.05E-02	.3350	-.7171	.6390
	Equal variances not assumed			-.116	29.122	.908	.05E-02	.3368	-.7277	.6496
SUMNO	Equal variances assumed	.012	.913	1.082	38	.286	.3600	.3328	-.3137	1.0337
	Equal variances not assumed			1.094	30.718	.282	.3600	.3289	-.3111	1.0311
SUMAG	Equal variances assumed	.200	.658	1.017	38	.315	.3171	.3117	-.3139	.9482
	Equal variances not assumed			1.002	28.223	.325	.3171	.3165	-.3309	.9652

Appendix A
Flyer for On-line Survey

Please check out this **On-Line Survey**
For HIV POSITIVE Heterosexuals

www.ou.edu/deptcomm/research/tara

Thank You
for Your Time and Effort

Appendix B

Knowledge of AIDS Questionnaire

Directions: Please carefully read and respond to the following question and indicate whether you: 1= Strongly Disagree; 2= Disagree; 3 = Unsure /Neutral; 4 = Agree; 5 = Strongly Agree; with each statement. There are not right or wrong answers

1. _____ Prior to acquiring HIV I was knowledgeable about the virus
2. _____ Prior to acquiring HIV I did not know how the disease was transmitted
3. _____ Prior to acquiring HIV I knew how to reduce my risk of acquiring the virus.
4. _____ Prior to acquiring HIV I was uninformed about the virus
5. _____ Prior to acquiring the HIV I knew how the virus was transmitted

Appendix C

The Dyadic Trust Scale

Directions: Please indicate the degree to which you believe each of these characteristics applies to your intimate partner prior to acquiring HIV:
1 = Completely Disagree 2 = Strongly Disagree; 3 = Disagree; 4 = unsure; 5 = Agree; 6 = Strongly Agree; and 7 = Completely Agree. There are no right or wrong answers.

- _____ 1. My partner is primarily interested in his/her own welfare.
- _____ 2. There are times when my partner cannot be trusted.
- _____ 3. My partner is perfectly honest and truthful with me.
- _____ 4. I feel that I can trust my partner completely.
- _____ 5. My partner is truly sincere in his/her promises.
- _____ 6. I feel that my partner does not show me enough consideration.
- _____ 7. My partner treats me fairly and justly.
- _____ 8. I feel that my partner can be counted on to help me.

Appendix D

The Condom Self-efficacy Scale

Directions: Please carefully read and respond to the following question and indicate whether you: 1= Strongly Disagree; 2= Disagree; 3 = Unsure /Neutral; 4 = Agree; 5 = Agree; with each statement. There are no right or wrong answers.

- _____ 1. I was confident in my ability to put a condom on myself or my partner.
- _____ 2. I felt confident I could purchased condoms without feeling embarrassed.
- _____ 3. I felt confident I could remember to carry a condom with me should I need one.
- _____ 4. I felt confident in my ability to discuss condom usage with a new partner.
- _____ 5. I felt confident in my ability to suggest using condoms with a new partner.
- _____ 6. I felt confident I could suggest using a condom without my partner feeling "diseased."
- _____ 7. I felt confident in my own or my partner's ability to maintain an erection while using a condom.
- _____ 8. I would have felt embarrassed to put a condom on myself or my partner.
- _____ 9. If I were to suggest using a condom to a partner, I would of felt afraid that he or she would reject me.
- _____ 10. If I were unsure of my partner's feeling about using a condom, I would of not suggest one.
- _____ 11. I felt confident in my ability to use a condom correctly.
- _____ 12. I felt comfortable discussing condom use with a potential sexual partner before we ever had any sexual contact (e.g. hugging, kissing, caressing, etc...).
- _____ 13. I felt confident in my ability to persuade a partner to accept using a condom when we have intercourse.
- _____ 14. I felt confident I could gracefully remove and dispose of a condom after sexual intercourse
- _____ 15. If my partner and I were to try to use a condom and did not succeed. I would of felt embarrassed to try to use on again (e.g. not being able to

unroll condom, putting it on backwards, or awkwardness).

- _____ 16. I would have not felt confident suggesting using condoms with a new partner because I would have been afraid he or she would think I've had a past homosexual experience.
- _____ 17. I would have not felt confident suggesting using condoms with a new partner because I would of been afraid he or she would think I had a sexually transmitted disease.
- _____ 18. I would have not felt confident suggesting using condoms with a new partner because I would of been afraid he or she would of thought I thought they had a sexually transmitted disease.
- _____ 19. I would have not felt comfortable discussing condom use with a potential sexual partner before we ever engaged in intercourse.
- _____ 20. I felt confident in my ability to incorporate putting a condom on myself or my partner into foreplay.
- _____ 21. I felt confident that I could use a condom with a partner without "breaking the mood."
- _____ 22. I felt confident in my ability to put a condom on myself or my partner quickly.
- _____ 23. I felt confident I could use a condom during intercourse without reducing any sexual sensations.
- _____ 24. I felt confident that I would remember to use a condom even after I have been drinking.
- _____ 25. I felt confident that I would remember to use a condom even if I were high.
- _____ 26. If my partner did not want to use a condom during intercourse, I could have easily convince him or her that it was necessary to do so.
- _____ 27. I felt confident that I could use a condom successfully.
- _____ 28. I felt confident I could stop to put a condom on myself or my partner even in the heat of passion.

Appendix E

Intimate Relationships Questionnaire

Direction: Each item below describes a situation and three responses that are thoughts or behaviors. These intimate situations involve a dating couple. Try to imagine a situation in your life prior to acquiring HIV that is as close as possible to the one described.

After reading each item, indicate how similar it might be to the thought you might have had or the behavior you might have shown in the actual situation. Please rate every response to each situation, using the following scale: 1 = not at all like me; 2 = slightly like me; 3 = some what like me; 4 = mostly like me; and 5 = just like me. (Note. Response classification: AG = Aggressive; AS = Assertive; and NS = Nonassertive).

1. During the past few weeks, your boyfriend (girlfriend) seems less enthusiastic and caring about your relationship.
 - a. You decide to confront him (her) on your next date and let out your angry feelings (AG)
 - b. You wait for him (her) to call you and you complain to your friends (NON)
 - c. You decide to speak to him (her) frankly and suggest you try to work things out. (AS)
2. When your date says he (she) will not have sex with you if you insist on using a condom, you say
 - a. O.K. Then how about trying some other things besides intercourse? (AS)
 - b. Your attitude does not make any sense! That's it for use, let's go home. (AG)
 - c. O.K. You are more important to me; we do not need to use it. (NON)
3. You are at a party with your boyfriend (girlfriend) and notice that he (she) is very attentive to someone of the opposite sex that you have never seen before. You think...
 - a. I will make the best of it-after all, he (she) is going home with me tonight. (NON)
 - b. I really would like more of his (her) attention tonight and I am going to tell him (her). (AS)
 - c. How could he (she) ignore me like this? I will find someone on my own I can talk to and make him (her) jealous. (AG)
4. You want to tell you date that you would like to use a condom when having sex tonight and you think ...
 - a. If I cannot convince him (her) to use a condom tonight, we can find other safe ways of enjoying ourselves for now (AS)
 - b. Using a condom is a good idea but I do not think I have the nerve to ask him (her) to use one. (NON)
 - c. He (she) should do what I ask without any hesitation if he (she) loves me. (AG)
5. Your boyfriend (girlfriend) become silent instead of saying what is on his (her) mind. You think....

- a. Here it comes. The big silent treatment. I am going to get mad and force him (her) to talk to me. (AG)
 - b. If I make a joke and distract him (her), maybe he (she) will forget what is bothering him (her) to use one. (NON)
 - c. I will tell him (her) it bothers me when he (she) becomes silent because it leaves me confused about what he (she) is thinking (AS).
6. When you are asked by your date if you have any disease that you could give him (her) if you make love that night, you think...
- a. Who does he (she) think I am - some degenerate who runs around infecting people? (AG)
 - b. I am glad he (she) asked because it gives me a chance to ask the same question. (AS)
 - c. I had better answer or he (she) may get annoyed with me. (NON)
7. When your date asks you if you agree to using a condom when you make love tonight, you think...
- a. This is a turn-off. I do not want anybody telling me what we should do when we make love (AG).
 - b. I had better do what he (she) says or he (she) will be frustrated tonight. (NON)
 - c. I am glad he (she) brought this up; now we are both protected. (AS)
8. Your boyfriend (girlfriend) has criticized your appearance in front of your friends. You say...
- a. It hurt my feelings when you criticized me. If you have something to say, please bring it up before we go out. (AS)
 - b. How could you do such a rotten thing to me? If you do that again, we are through! (AG)
 - c. I guess I don't look so great tonight since you criticized me in front of my friends. (NON)
9. When you suggest to your date that a condom be used for mutual protection when you have sex tonight, your date teases you about being such a worrier.
- a. You then become silent for a while, until he (she) comes around to agreeing with you. (NON)
 - b. You then tell your date you would love to have sex with him (her), but you always use a condom. (AS)
 - c. You then tell your date he (she) is being really immature. (AG)
10. You want to ask if your date has been tested for AIDS and you say...
- a. I was wondering about...well, this is embarrassing to talk about, but...have you been tested for AIDS? You do not have to answer that if you do not want to. (NON)
 - b. I want you to tell me right now if you have ever been tested for AIDS. (AG)

- c. I really like you a lot, but with all this talk about AIDS, I would like to be a little careful. I have been tested for AIDS have you? (AS)
11. If your date refuses to use a condom, you think...
- a. I can find out what he (she) has against them and we can talk about it. (AS)
 - b. I am afraid he (she) will not want to see me again if I insist. (NON)
 - c. If he (she) will not do what I say, that is it for us. (AG)
12. When neither you nor your date has any condoms one evening , you say...
- a. Oh, that's O.K. I suppose we can do it just once without one. (NS)
 - b. That is irresponsible. If you like me, you would always have them when we are together. (AG)
 - c. I do not have any either, but we can satisfy each other without intercourse tonight. (AS)
13. You tell your date that you would like to wait until you know each other a little better before having sex. When he (she) gets annoyed, you would...
- a. Tell your date that you could not go out with someone who argues with you about this. (AG)
 - b. Restate you feelings that you would like to wait. (AS)
 - c. Change your mind and have sex with him (her) sooner than you had planned. (NON)
14. When you suggest to your date that a condom be used when you make love tonight, he (she) says, "You do not trust me. I told you I have never been exposed to AIDS or herpes, or any other disease."
- a. You say, "I am sorry, but we have no way of knowing that. I would feel so much better if we used a condom."
 - b. You say, "It is not a question of trust. You do not understand what I'm saying." (AG)
 - c. You say; "I am sorry. I do trust you. Let's drop the whole subject. I do not want to argue." (NON)

Appendix F
On-Line Questionnaire

Personalizing the Risk of HIV
Official Research Project Web Page

Hello. My name is Tara Crowell. I am a researcher at the University of Oklahoma conducting academic research on individuals living with HIV who acquired the virus through heterosexual sexual contact. The following research project is designed to identify your level of knowledge and your attitudes, behaviors, and communication about safer sex and AIDS prior to obtaining the virus.

For example, the survey questions contained in this web survey ask about your awareness of AIDS, your attitudes towards obtaining HIV, and your safer sexual behaviors and communication. Specifically, questions will get at the following: Did you engage in safer sex? Did you talk about safer sex with your partner? If so, what was said, how often, and when? What was your perceived level of risk of acquiring HIV? How much did you trust your partner? How assertive were you in requesting condom use? Did you think your partner was safe? If you did not use condoms, why? Did you know anyone who was HIV positive? **All questions will refer to attitudes and behaviors prior to obtaining the virus.**

To participate in the study, you must meet the following criteria:

- 1. You must be HIV-positive and have acquired HIV through heterosexual sexual contact.**
- 2. You must be willing to spend about 20-30 minutes to complete the survey questions (There are both open and close-end questions).**
- 3. You must be aware that the survey asks questions about your sexual practices.**
- 4. You must be at least 18 years of age.**
- 5. You must NOT be a student at the University of Oklahoma.**

Yes, I can participate

I meet all criteria.

No, I can't participate

I do NOT meet all criteria.

Individual Informed Consent Form for Research
University of Oklahoma, Norman

This survey is part of research being conducted under the auspices of the University of Oklahoma-Norman Campus. This document is intended to provide information so survey respondents can acknowledge informed consent for participation in a research project.

Principal Investigator: Tara L. Crowell

Faculty Sponsor: Tara M. Emmers-Sommer

Title of Project: "Personalizing the Risk of HIV: An Investigation of the Attitudes, Communication, and Behavior of Individuals Living with HIV."

Description:

The purpose of this dissertation is to uncover the prototype of individuals who acquired HIV through heterosexual sexual activities. This study will investigate HIV-positive individuals and identify their level of HIV knowledge, attitudes, and behaviors prior to obtaining the disease. The goal of this study is to identify the attitudes, communication, and behaviors of individuals living with HIV/AIDS, in order to decrease negative attitudes toward these individuals and establish a connection between HIV positive individuals and those who are not. Based on the premise of social comparison theory, the establishment of commonality or similarity of knowledge, attitudes, and behaviors of HIV-positive and HIV-negative individuals may be one way to get heterosexually active individuals to personalize the risk of HIV. In addition, obtaining information from HIV-positive individuals will expand the current prevention knowledge base. Past research studies primarily focus on prevention methods from information gathered from people who are HIV-negative. Obtaining information from individuals who acquired the disease, and are now living with it, will certainly illuminate new avenues for HIV prevention research and intervention programs.

Approximate Duration of Study: 30 minutes

I hereby give my consent to participate in this study. I understand that:

1. I must be 18 or older to participant in this study.
2. This survey contains sexually explicit questions.
3. My participation in this study is entirely voluntary, and I may terminate my participation at any time prior to the completion of this study without penalty.
4. All information I may give during my participation will be used for research purposes only. Responses will not be shared with persons who are not directly involved with this study.
5. As with any study conducted via the Internet, confidentiality

cannot be guaranteed."

6. I realize that I may contact the researcher at any time with any questions. I realize that the informed consent form will be kept completely separate from the raw data and that I will not put my name anywhere on the questionnaire and that my name will not be associated with the data. I realize that any publication of this data will not enable any identification of me in any way. I realize that data will not be available to non-project personnel and that it will be put into locked cabinets. I understand that the Informed Consent forms will be destroyed once the identifiable data is no longer needed.
7. I understand that there are no foreseeable risks for participating in this study. I can contact the Office of Research Administration at 405 325-4757 regarding the rights of the research participants.
8. I understand that there will be instructions from the researchers (an instruction page on the internet) prior to filling out the survey. I realize that there are potential benefits for my participation in this study. Specifically, I understand that the researcher will have a page on the internet that debriefs participants and when the study is completed will put up a page on the internet that reports the results. I understand that the debriefing will consist of the purpose of the study, where to obtain information about HIV and condom use, and the researcher's name and phone numbers in case I have additional questions or would request a copy of the study. I understand that I can feel good about my participation and realize that my efforts contributed to greater knowledge on safer-sex behaviors and that I can use the knowledge to my benefit or pass it on to friends.
9. The investigator is available to answer any questions I may have regarding this research study and that she will have additional information for me about safer-sex should I be interested. In case I have any question in the future, I can reach the investigators at tcrowell@ou.edu, by phone at (405) 325-3942, or by contacting the Department of Communication, 101 Burton Hall, University of Norman Oklahoma, Norman, OK. 73019.

***This study has been reviewed and approved by the Institutional Review Board for the Use of Human Subjects in Research Activities at the University of Oklahoma.**

I agree

I do not agree

Personalizing the Risk of AIDS: Survey

Please complete the following questions:

1. Sex:
Male
Female

2. Age:

3. Race:

4. Relational status prior to obtaining the virus:

Single - not dating anyone in particular
Casual dating of one partner
Casual dating of multiple partners
Exclusively dating one partner
Exclusively dating more than one partner
Living together
Married
Other (please explain):

5. Length of the relationship (in years and months)

6. Do you know who you obtained HIV from? If so, what was your relationship status with this person?

Directions: Please carefully read and respond to the following question and indicate whether you: Strongly Agree; Agree; Unsure /Neutral; Disagree; or Strongly Disagree; with each statement, PRIOR TO OBTAINING HIV. There are not right or wrong answers

7. Prior to acquiring HIV I was knowledgeable about the virus

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

8. Prior to acquiring HIV I did not know how the disease was transmitted

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

9. Prior to acquiring HIV I knew how to reduce my risk of acquiring the virus.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

10. Prior to acquiring HIV I was uninformed about the virus

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

11. Prior to acquiring HIV I knew how the virus was transmitted

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

Directions: Please carefully read and indicate the degree to which you believe each of these characteristics applies to your intimate partner PRIOR TO ACQUIRING HIV: Completely Agree; Strongly Agree; Agree; Neutral/ Unsure; Disagree; Strongly Disagree; or Completely Disagree. There are not right or wrong answers

12. My partner was primarily interested in his/her own welfare.

Completely Agree
Strongly Agree
Agree
Unsure
Disagree
Strongly Disagree
Completely Disagree

13. There were times when my partner could not be trusted.

Completely Agree
Strongly Agree
Agree
Unsure
Disagree
Strongly Disagree
Completely Disagree

14. My partner was perfectly honest and truthful with me.

Completely Agree
Strongly Agree
Agree
Unsure
Disagree
Strongly Disagree
Completely Disagree

15. I trusted my partner completely.

Completely Agree
Strongly Agree
Agree
Unsure
Disagree
Strongly Disagree
Completely Disagree

16. My partner was truly sincere in his/her promises.

Completely Agree
Strongly Agree
Agree
Unsure
Disagree
Strongly Disagree
Completely Disagree

17. I felt that my partner did not show me enough consideration.

Completely Agree

Strongly Agree
Agree
Unsure
Disagree
Strongly Disagree
Completely Disagree

18. My partner treated me fairly and justly.

Completely Agree
Strongly Agree
Agree
Unsure
Disagree
Strongly Disagree
Completely Disagree

19. I felt that my partner could be counted on to help me.

Completely Agree
Strongly Agree
Agree
Unsure
Disagree
Strongly Disagree
Completely Disagree

Directions: Please carefully read and respond to the following question and indicate whether you: Strongly Agree; Agree; Unsure /Neutral; Disagree; or Strongly Disagree with each statement, PRIOR TO OBTAINING HIV. There are not right or wrong answers.

20. I was confident in my ability to put a condom on myself or my partner.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

21. I felt confident I could purchase condoms without feeling embarrassed.

Strongly Agree
Agree

Unsure /Neutral
Disagree
Strongly Disagree

22. I felt confident I could remember to carry a condom with me should I have needed one.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

23. I felt confident in my ability to discuss condom usage with a new partner.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

24. I felt confident in my ability to suggest using condoms with a new partner.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

25. I felt confident I could suggest using a condom without my partner feeling "diseased."

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

26. I felt confident in my own or my partner's ability to maintain an erection while using a condom.

Strongly Agree
Agree
Unsure /Neutral

Disagree
Strongly Disagree

27. I would have felt embarrassed to put a condom on myself or my partner.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

28. If I were to suggest using a condom to a partner, I would of felt afraid that he or she would reject me.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

29. If I were unsure of my partner's feelings about using a condom, I would not have suggest one.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

30. I felt confident in my ability to use a condom correctly.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

31. I felt comfortable discussing condom use with a potential sexual partner before we ever had any sexual contact (e.g. hugging, kissing, caressing, etc...).

Strongly Agree
Agree
Unsure /Neutral
Disagree

Strongly Disagree

32. I felt confident in my ability to persuade a partner to accept using a condom when we had intercourse.

Strongly Agree

Agree

Unsure /Neutral

Disagree

Strongly Disagree

33. I felt confident I could gracefully remove and dispose of a condom after sexual intercourse.

Strongly Agree

Agree

Unsure /Neutral

Disagree

Strongly Disagree

34. If my partner and I were to try to use a condom and did not succeed, I would have felt embarrassed to try to use one again (e.g. not being able to unroll condom, putting it on backwards, or awkwardness).

Strongly Agree

Agree

Unsure /Neutral

Disagree

Strongly Disagree

35. I did not feel confident suggesting using condoms with a new partner because I would have been afraid he or she would think I'd had a past homosexual experience.

Strongly Agree

Agree

Unsure /Neutral

Disagree

Strongly Disagree

36. I did not feel confident suggesting using condoms with a new partner because I would have been afraid he or she would think I had a sexually transmitted disease.

Strongly Agree

Agree

Unsure /Neutral
Disagree
Strongly Disagree

37. I did not feel confident suggesting using condoms with a new partner because I would of been afraid he or she would of thought I thought they had a sexually transmitted disease.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

38. I did not feel comfortable discussing condom use with a potential sexual partner before we ever engaged in intercourse.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

39. I felt confident in my ability to incorporate putting a condom on myself or my partner into foreplay.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

40. I felt confident that I could use a condom with a partner without "breaking the mood."

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

41. I felt confident in my ability to put a condom on myself or my partner quickly.

Strongly Agree

Agree
Unsure /Neutral
Disagree
Strongly Disagree

42. I felt confident I could use a condom during intercourse without reducing any sexual sensations.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

43. I felt confident that I would remember to use a condom even after I had been drinking.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

44. I felt confident that I would remember to use a condom even if I were high.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

45. If my partner did not want to use a condom during intercourse, I could have easily convinced him or her that it was necessary to do so.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

46. I felt confident that I could use a condom successfully.

Strongly Agree
Agree

Unsure /Neutral
Disagree
Strongly Disagree

47. I felt confident I could stop to put a condom on myself or my partner even in the heat of passion.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

Directions: Each item below describes a situation and three responses that are thoughts and behaviors. These intimate situations involve dating couples. Try to imagine a situation in your life PRIOR TO OBTAINING HIV that is as close as possible to the ones described. Please rate every response to each situation using the following scale: Not at all like me; slightly like me; somewhat like me; mostly like me; or just like me. There are not right or wrong answers

During the past few weeks, your boyfriend (girlfriend) seems less enthusiastic and caring about your relationship.

48. You decide to confront him (her) on your next date and let out your angry feelings.

Not at all like
Slightly like me
Somewhat like me
mostly like me
just like me

49. You wait for him (her) to call you and you complain to your friends.

Not at all like
Slightly like me
Somewhat like me
mostly like me
just like me

50. You decide to speak to him (her) frankly and suggest you try to work things out.

Not at all like
Slightly like me

Some what like me
moslty like me
just like me

When your date says he (she) will not have sex with you if you insist on using a condom, you say:

51. O.K. Then how about trying some other things besides intercourse?

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

52. Your attitude does not make any sense! That's it for us, let's go home.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

53. O.K. You are more important to me; we do not need to use it.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

You are at a party with your boyfriend (girlfriend) and notice that he (she) is very attentive to someone of the opposite sex that you have never seen before. You think...

54. I will make the best of it-after all, he (she) is going home with me tonight.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

55. I really would like more of his (her) attention tonight and I am going to tell him (her).

Not at all like
Slightly like me
Some what like me
moslty like me
just like me.

56. How could he (she) ignore me like this? I will find someone on my own I can talk to and make him (her) jealous.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me.

You want to tell your date that you would like to use a condom when having sex tonight and you think . . .

57. If I cannot convince him (her) to use a condom tonight, we can find other safe ways of enjoying ourselves for now

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

58. Using a condom is a good idea but I do not think I have the nerve to ask him (her) to use one.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

59. He (she) should do what I ask without any hesitation if he (she) loves me.

Not at all like
Slightly like me
Some what like me

mostly like me
just like me

Your boyfriend (girlfriend) becomes silent instead of saying what is on his (her) mind. You think....

60. Here it comes. The big silent treatment. I am going to get mad and force him (her) to talk to me.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

61. If I make a joke and distract him (her), maybe he (she) will forget what is bothering him (her) to use one.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

62. I will tell him (her) it bothers me when he (she) becomes silent because it leaves me confused about what he (she) is thinking.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

When you are asked by your date if you have any disease that you could give him (her) if you make love that night, you think...

63. Who does he (she) think I am - some degenerate who runs around infecting people?

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

64. I am glad he (she) asked because it gives me a chance to ask the same question.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

65. I had better answer or he (she) may get annoyed with me.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me.

When your date asks you if you agree to using a condom when you make love tonight, you think...

66. This is a turn-off. I do not want anybody telling me what we should do when we make love.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

67. I had better do what he (she) says or he (she) will be frustrated tonight.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

68. I am glad he (she) brought this up; now we are both protected.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me.

***Your boyfriend (girlfriend) has criticized your appearance in front of your friends.
You say...***

69. It hurt my feelings when you criticized me. If you have something to say, please bring it up before we go out.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

70. How could you do such a rotten thing to me? If you do that again, we are through!

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

71. I guess I don't look so great tonight since you criticized me in front of my friends.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me.

When you suggest to your date that a condom be used for mutual protection when you have sex tonight, your date teases you about being such a worrier.

72. You then become silent for a while, until he (she) comes around to agreeing with you.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

73. You then tell your date you would love to have sex with him (her), but you always use a condom.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

74. You then tell your date he (she) is being really immature.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

You want to ask if your date has been tested for AIDS and you say...

75. I was wondering about...well, this is embarrassing to talk about, but...have you been tested for AIDS? You do not have to answer that if you do not want to.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

76. I want you to tell me right now if you have ever been tested for AIDS.

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

77. I really like you a lot, but with all this talk about AIDS, I would like to be a little careful. I have been tested for AIDS have you?

Not at all like
Slightly like me
Some what like me
moslty like me

just like me.

If your date refuses to use a condom, you think...

78. I can find out what he (she) has against them and we can talk about it.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

79. I am afraid he (she) will not want to see me again if I insist.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

80. If he (she) will not do what I say, that is it for us.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

When neither you nor your date has any condoms one evening , you say...

81. Oh, that's O.K. I suppose we can do it just once without one.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me.

82. That is irresponsible. If you like me, you would always have them when we are together.

Not at all like
Slightly like me
Some what like me

mostly like me
just like me.

83. I do not have any either, but we can satisfy each other without intercourse tonight.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

You tell your date that you would like to wait until you know each other a little better before having sex. When he (she) gets annoyed, you would...

84. Tell your date that you could not go out with someone who argues with you about this.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

85. Restate your feelings that you would like to wait.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me

86. Change your mind and have sex with him (her) sooner than you had planned.

Not at all like
Slightly like me
Some what like me
mostly like me
just like me.

When you suggest to your date that a condom be used when you make love tonight, he (she) says, "You do not trust me. I told you I have never been exposed to HIV or herpes, or any other disease."

87. You say, " I am sorry, but we have no way of knowing that. I would feel so much better if we used a condom."

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

88. You say, "It is not a question of trust. You do not understand what I'm saying."

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

89. You say; "I am sorry. I do trust you. Let's drop the whole subject. I do not want to argue."

Not at all like
Slightly like me
Some what like me
moslty like me
just like me

Directions: Please carefully read and respond to the following question by choosing one of the provided answers. There are not right or wrong answers

90. Did you engage in oral sexual activities with your partner?

No
Yes

91. Please indicate how often you used condoms during oral sexual activities with this partner:

never
rarely
sometimes
half the time
most times
almost all times

always
N/A (Didn't engage in oral sex)

92. Did you engage in vaginal intercourse with your partner?

No
Yes

93. Please indicate how often you used condoms during vaginal intercourse with this partner

never
rarely
sometimes
half the time
most times
almost all times
always
N/A (Didn't engage in vaginal intercourse)

94. Did you engage in anal intercourse with your partner?

No
Yes

95. Please indicate how often you used condoms during anal intercourse with this partner:

never
rarely
sometimes
half the time
most times
almost all times
always
N/A (Didn't engage in anal intercourse)

96. Did you or your partner use an alternative form of birth control? If yes, which one(s)?

Directions: Please carefully read and respond to the following question and indicate whether you: Strongly Agree; Agree; Unsure /Neutral; Disagree; or Strongly Disagree; with each statement, PRIOR TO OBTAINING HIV. There are not right or wrong answers

97. I was afraid of getting HIV.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

98. I was not worried about getting HIV.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

99. There was a high risk of being exposed to HIV.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

100. I was not the kind of person who was likely to get HIV.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

101. I was less likely than most people to get HIV.

Strongly Agree
Agree
Unsure /Neutral
Disagree
Strongly Disagree

102. Please provide a reason why you perceived this level of risk:

103. Prior to obtaining HIV, how safe did you perceive your partner?

very safe
safe
Unsure /Neutral
unsafe
very unsafe

104. Please provide a reason why you perceived this level of safety:

105. How often did you discuss condom use with your partner before having sex:

never
rarely
sometimes
half the time
most times
almost all times
always

106. If you did talk about condom use with your partner, how long did the conversations normally last, and what was discussed?

107. When condom use was discussed before engaging in sex who usually initiated the conversation:

we don't talk about it
we already established not to use one, so we do not talk about it
I usually initiate the conversation
my partner initiates the conversation
it varies between myself and my partner
we just use one, but do not discuss it.

108. How willing were you to engage in communication regarding condom use:

always willing
willing
somewhat willing
undecided/unsure
rarely willing
unwilling

never willing

109. Did you and your partner talk about protection prior to engaging in sexual activities?

No

Yes

110. If yes, please recall the last discussion you had with your partner regarding protection (e.g., condom use) prior to HIV infection. Please write down what was said during this conversation by both you and your partner?

111. Was this conversation representative of a typical conversation regarding safer sex?

No

Yes

112. Where and when did this conversation take place? Before, after, or during sexual activity?

113. What was the result of this conversation?

No condom use

Condom use

114. Prior to acquiring the virus, did you know anyone who was HIV positive, ? If so, what was your relationship with this person?

115. Prior to acquiring the virus, did you believe you were similar to an HIV-positive individual, ? If so, in which way(s)? If not, why?

116. Based on your knowledge and experience living with HIV, what suggestions, information, or advice, do you have for HIV-negative individuals who are engaging in unprotected sexual activities?

You must have answered all the questions for the survey to "submit." If you don't, you will get an error message on the next page.*

*If the error message says you need to go back and answer questions 800, 290, 801, or 810, please note:

800 = question # 8 on this survey

290 = question # 29 on this survey

801 = question # 80 on this survey

810 = question # 81 on this survey

~~Thank you very much for participating in this study.~~

I am unable to send each one of you a personal e-mail thanking you, but I know it took a lot of time to finish this survey, and I **really appreciate your efforts**.

The purpose of this study was to investigate individuals who currently live with HIV/AIDS, and who acquired the virus through heterosexual activities, to uncover their attitudes and behaviors prior to acquiring the disease. This study explored the following items: 1) an individual's awareness and knowledge of HIV and safer sexual behaviors prior to acquiring HIV; 2) an individual's safer sexual attitudes, specifically his/her level of perceived invulnerability to acquiring HIV, level of partner trust, and perception of partner(s) safety prior to acquiring HIV; 3) other reasons an individual did not engage in safer sexual behaviors prior to acquiring HIV; and 4) the relationship between safer sexual behavior and an individual's quantity and quality of safer sexual communication with their partner prior to acquiring HIV. Answers to these questions will hopefully build a common link between individuals living with HIV and those who are not. By illustrating the similarities between these two groups, heterosexually HIV-negative individuals may be more likely to personalize the risk of HIV. Once an individual is able to personalize the risk of HIV he/she will hopefully change their future safer sexual communication and behavior.

The following are a list of sites where information on HIV/AIDS can be obtained:

www.cdc.gov/

[http://hivinsite.ucsf.edu/prevention/safer sex info/2098.209f.html](http://hivinsite.ucsf.edu/prevention/safer%20sex%20info/2098.209f.html)

<http://www.goaskalice.columbia.edu/index.html>

<http://www.safersex.org/>

<http://www.thebody.com/cgi/treatans.html>

<http://hivinsite.ucsf.edu/resources/>

www.prn.org

<http://hivinsite.ucsf.edu>

<http://hivcvbermall.org>

<http://www.iapac.org>

<http://www.critpath.org/aric>

<http://www.paan.org>

When I am finished with the research I will place the results and a short discussion about my findings on my homepage. Please check back after June 1999 for final analysis of the results.

Also, if you have on-line friends who are HIV positive and acquired the virus through heterosexual sexual contact, please send them this survey's link so they may participate in this study. It would really help me get more data if you could forward this link to others.

<http://www.ou.edu/deptcomm/research/tara/>

If you would like to contact me for any reason, please feel free. I would really like to hear from you if you think you have some comments or ideas that would help my study.

Thanks,

Tara Crowell

Department of Communication

University of Oklahoma

[exit](#)

Appendix G
IRB Approval Letter



The University of Oklahoma

OFFICE OF RESEARCH ADMINISTRATION

February 15, 1999

Ms. Tara L. Crowell
Communication
University of Oklahoma
CAMPUS MAIL

Dear Ms. Crowell:

The Institutional Review Board-Norman Campus, has reviewed your proposal, "Personalizing the Risk of HIV: An Investigation of the Attitudes, Communication, and Behavior of Individuals Living with HIV." The Board found that this research would not constitute a risk to participants beyond those of normal, everyday life except in the area of privacy which is adequately protected by the confidentiality procedures. Therefore, the Board has approved the use of human subjects in this research.

This approval is for a period of 12 months from this date, provided that the research procedures are not changed significantly from those described in your "Summary of Research Involving Human Subjects" and attachments. Should you wish to deviate significantly from the described subject procedures, you must notify me and obtain prior approval from the Board for the changes.

At the end of the research, you must submit a short report describing your use of human subjects in the research and the results obtained. Should the research extend beyond 12 months, a progress report must be submitted with the request for re-approval, and a final report must be submitted at the end of the research.

If you have any questions, please contact me.

Sincerely yours,

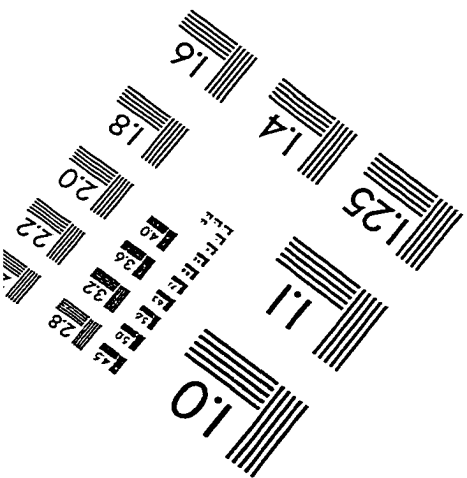
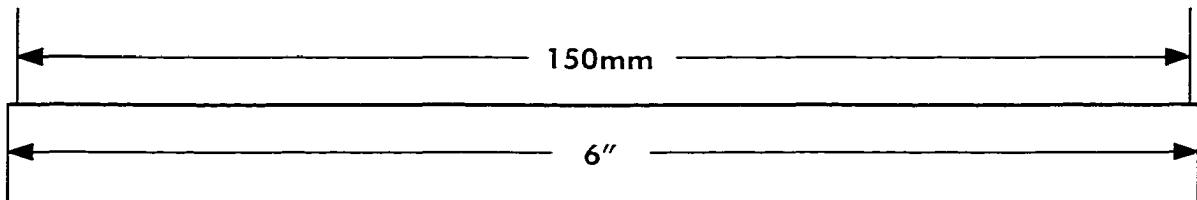
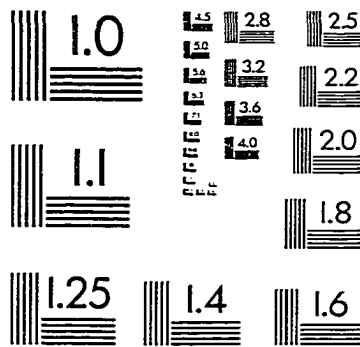
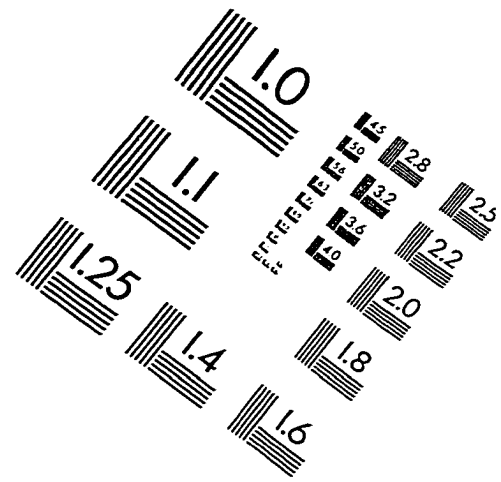
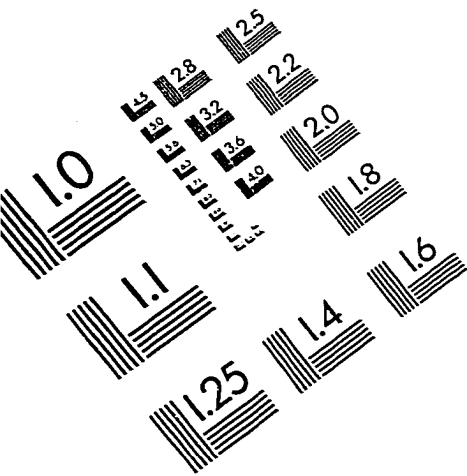
A handwritten signature in cursive script, reading "Susan Wyatt Sedwick".

Susan Wyatt Sedwick, Ph.D.
Administrative Officer
Institutional Review Board

SWS/pw
FY99-134

cc: Dr. E. Laurette Taylor, Chair, IRB
Dr. Tara M. Emmers-Sommer, Communication

IMAGE EVALUATION TEST TARGET (QA-3)



APPLIED IMAGE, Inc.
1653 East Main Street
Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989

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