Predictors Of Condom Use Self-Efficacy And Perceptions Of Responsibilities Of Safer Sex Behaviors Among College Students

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PREDICTORS OF CONDOM USE SELF-EFFICACY AND PERCEPTIONS OF RESPONSIBILITIES OF SAFER SEX BEHAVIORS AMONG COLLEGE STUDENTS

BY

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The pursuit of my Ph.D. has been the most challenging and fulfilling time of my life. There have been many people who have been instrumental in achieving my goals, and without whom I could never have achieved success.

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Chapter 1

INTRODUCTION

Background of the Problem

Acquired Immune Deficiency Syndrome (AIDS) is a global pandemic. In the absence of a cure or a vaccine, prevention of the further spread of the human immunodeficiency virus (HIV), the virus that causes AIDS, has become a major focus of responding to this epidemic. The United Nations (UN) and the World Health Organization (WHO) estimates in the Global HIV/AIDS and STD Surveillance report that currently there are 33.4 million people living with HIV/AIDS. The report estimates that since the onset of the AIDS epidemic, 13.9 million people have died as a result of this virus (UNAIDS/WHO, 1999). The HIV/AIDS Surveillance Report (CDC, 1999) prepared by the Centers for Disease Control (CDC) estimates that there are currently 688,200 reported cases of individuals with AIDS in the United States. Further, the CDC reports that 98.8% of those individuals are adults/adolescents age 13 or older. To date, 410,800 Americans have died as a result of AIDS.

There are three fundamental modes of AIDS transmission. These include: (a) unprotected sexual contact with an infected person; (b) the sharing of needles with an infected person through intravenous (iv) drug use; and (c) through receiving blood
transfusions, blood components and tissue from an infected person. Bodily fluids, primarily blood, semen and vaginal secretions, are the mediums through which the virus is spread. The CDC (1999) estimates that of the 679,739 reported cases of adults/adolescents with AIDS, the percentages by the various modes of transmission are as follows: (a) 47.97% through homosexual (men who have sexual intercourse with men) contact; (b) 6.42% through homosexual and iv drug use; (c) 25.56% through iv drug use; (d) 9.78% through heterosexual contact; (e) 1.23% through receipt of blood transfusion, blood components, or tissue; and (f) 0.72% individuals with hemophilic coagulation disorder through blood transfusions. The CDC reported that there is no reported or identified mode of transmission for 8.32% of AIDS infected individuals (CDC, 1999).

Since the first reports of AIDS in 1981, the primary goal of the research conducted on this epidemic has been aimed at education. Health care professionals believed that the spread of AIDS could be halted through mass education. The main goals of mass education have been to provide a clear and thorough knowledge of the modes of transmission of HIV, the methods that can be employed to prevent the further spread of AIDS, and to decrease fear and panic. Several recent studies have suggested that the focus on education has been relatively successful, indicating in their results that the fundamental knowledge about HIV/AIDS facts is high (Dekin, 1996; DiClemente, Forrest, & Mickler, 1990; Kelly, 1995; Lewis, Malow, & Ireland, 1997). However, although knowledge of AIDS is high, the numbers of new patients continues to increase. Thus education, while considered an important aspect in preventing the
further spread of HIV, clearly has not been proved to be the pivotal predictor of significantly changing at-risk behaviors (Basen-Engquist, 1992; Brown, DiClemente, & Beausoleil, 1992; DiClemente, Lanier, Horan, & Lodico, 1991; Fisher & Fisher, 1992). Therefore, it is indicated that research be conducted to uncover any and all possible variables that may be significant in preventing the further spread of this fatal disease.

There has been a great deal of research concentrating on the high risk sexual practices of college students, as heterosexual encounters have been the primary mode of HIV transmission for this population (Dekin, 1996; Hammer, Fisher & Fitzgerald, 1996; Hernandez & Smith, 1990; Keller, 1993). To date, there are no other studies reported in the literature concerning college students which identify other modes of HIV transmission in this population. College students are of particular interest because they traditionally engage more frequently in spontaneous, unplanned sexual encounters with multiple partners, often resulting in unprotected sex (Hernandez & Smith, 1990; Keller, 1993; Landefeld & Chren, 1988; Simkins, 1995). Further, college students also tend to engage in serial monogamy, that is, in relatively short-term, monogamous relationships. This often leads to their erroneous beliefs that they are invulnerable to contracting HIV because they “know” their partners (Caron, Davis, Halteman & Stickle, 1993; Dekin, 1996; Hammer et al., 1996; Misovich, Fisher & Fisher, 1996). Additionally, college students often engage in substance use (e.g., alcohol, etc.), which places them at an even higher risk for unprotected sexual encounters (Butcher, Manning, & O’Neal, 1991; Carroll & Carroll, 1995; Lester & Leach, 1983; MacNair-Semands & Simono, 1996). Although numerous research studies have indicated that knowledge of
HIV/AIDS for college students is high, these studies have also indicated that this has had relatively little impact upon changing high risk sexual practices (Balwin & Baldwin, 1988; Dekin, 1996; Smith, Miller & Burling, 1995; Lewis, Malow & Ireland, 1997; MacNair-Semands & Simono, 1996; McCormack, 1997; Simkins, 1994). While there is no cure or vaccine for HIV, the virus that causes AIDS, it is imperative that educational programs aimed at preventing the further spread of this fatal disease be devised and implemented. In order to do this, however, we must first uncover the underlying factors which thwart efforts to preventing the transmission of AIDS.

The safest way of preventing the sexual transmission of HIV, in effect “safe sex,” is abstinence. To date, the literature is almost completely bereft of studies devoted to understanding which factors are involved in individuals choosing to remain virgins or to abstain from sexual intercourse (Brown et al., 1992; Sprecher & Regan, 1996). However, in light of the fact that the numbers of heterosexual transmission of HIV is steadily rising (CDC, 1999), many researchers have chosen instead to investigate the practical realities of college students in high risk sexual situations and factors which can predict and promote “safer sex,” which includes condom use (Reis & Leik, 1989; Sacco, Rickman, Thompson, Levine, & Reed, 1993; Wendt & Solomon, 1995).

One theoretical approach in psychology which has been employed to investigate human sexual behavior is social cognitive theory. Social cognitive theory purports that, in the case of health-protective behavior, an individual cognitively combines their knowledge of a disease, their outcome expectancies in behavioral changes to prevent the disease, and their social influences. Thus, the adoption of
health-protective behaviors is a result of a cognitive appraisal process (Bandura, 1986; 1989). Bandura (1989), proposed that one approach to investigating high risk sexual behavior should be focused on a concept of social cognitive theory which he coined self-efficacy. Self-efficacy, as defined by Bandura, is "people's judgements of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p 391). According to Bandura (1986), an individual's perceived ability to master a task or situation, self-efficacy, impacts upon the likelihood that an individual will adopt new behaviors, regardless of their actual ability to perform those behaviors. Therefore, an individual with a lack of, or low self-efficacy will be unable to successfully manage a task or a situation, even if they possess the necessary knowledge and skills. As a result, low self-efficacy produces incongruity between knowledge and ability and behavior. Additionally, self-efficacy influences the amount of effort an individual will commit to those new behaviors and how long they will continue to execute them.

The theory that self-efficacy is related to the adoption and continuance of health behavior change has been empirically demonstrated in numerous studies (Gecas, 1989; Holden, 1991; Strecher, DeVellis, Becker, & Rosenstock, 1986). Research focusing on evaluating self-efficacy has been an effective approach to understanding various health behaviors (e.g., dental care, exercise, contraceptive use), changing negative health behaviors (e.g., cigarette smoking), and maintaining those behavioral changes (Holden, 1991). Preventative methods for sexual HIV transmission is aimed at promoting specific health behaviors, including condom negotiation and condom use. Therefore,
evaluating the self-efficacy of practicing safer sex has become a focus of research (Bandura, 1989; Basen-Engquist, 1994; Smith, McGraw, Costa, & McKinlay, 1996).

Statement of the Problem

Several current studies have been devoted to examining the practicing of safer sex measures of self-efficacy to use condoms when examining barriers to condom use among college students (Bakker, Buunk, & Manstead, 1997; Basen-Engquist, 1994; Dekin, 1996; Mahoney, 1995; O’Leary, Goodhart, Jemmott, & Boccher-Lattimore, 1992; Wendt & Solomon, 1995; Wulfert & Wan, 1993). Overall, results of these studies have confirmed that condom self-efficacy is a predictor of safer sex practices. Thus, consistent with Bandura’s (1986; 1990) self-efficacy theory, when individuals believe they have control over practicing safer sex, they are more likely to engage in these behaviors. However, if this information is to be useful to changing at-risk behaviors in college students, the variables which impact upon a person’s condom use self-efficacy must also be investigated. There are, to date, relatively few studies which investigate the predictors of condom use self-efficacy (Brafford & Beck, 1991).

Among those research studies conducted on condom use self-efficacy with undergraduate students, several salient participant variables have been identified which impact upon an individual’s condom use self-efficacy including sex and condom-user classification. However, these factors have not been investigated simultaneously. Sex differences have been found to be a predictor of condom use self-efficacy, but research studies report contradicting results. Goldman and Harlow (1993) found that men
scored lower on condom use self-efficacy than women. This was also reported by Smith et al. (1996) and Basen-Engquist (1992). However, Carroll (1991) found that women scored significantly lower than men in condom use self-efficacy. Also, studies have indicated no significant sex differences in condom use self-efficacy (Brafford & Beck, 1991; Brien et al., 1994). Thus, further exploration of the predictive validity of sex in condom use self-efficacy is indicated.

In the realm of condom-user classification (nonusers, sporadic users, ritualistic users, abstainers), results are somewhat unclear. In their study, Brafford and Beck (1991) found in one analysis that abstainers scored significantly lower than those who had previously had sexual intercourse, and then in a second analysis that among those who have had sexual intercourse, those who consistently used condoms in sexual encounters had significantly higher condom use self-efficacy than those who did not consistently use condoms. Brien et al. (1994) found that ritualistic users had significantly higher condom use self-efficacy scores than sporadic users and nonusers. Mahoney, Thombs, and Ford (1995) found that the sporadic condom users had significantly lower levels of condom use self-efficacy than ritualistic users. However, none of these previous studies have included analyses which included abstainers, nonusers, sporadic users and ritualistic users simultaneously. Thus, while condom-user classification tends to predict condom use self-efficacy, the impact of this factor is in need of further investigation.

Perceived HIV/AIDS risk (no, low, moderate, and high) has been the subject of condom use studies, but has not been a focus in condom use self-efficacy research. For
example, Wendt and Solomon (1995) found that college students in monogamous relationships were less likely to perceive themselves at risk for HIV/AIDS and were less likely to use condoms. These findings have been consistently supported in research on condom use (Caron et al., 1993; Dekin, 1996; DiClemente et al., 1990; Hammer et al., 1996; Misovich et al., 1996). This is of particular concern considering that most monogamous relationships described by college students are more precisely short-term serial monogamous relationships (Baldwin & Baldwin, 1988; Caron et al., 1993; Dekin, 1996; Hammer et al., 1996; Misovich et al., 1996). In the realm of condom use self-efficacy, perceived HIV/AIDS risk may be a predictive factor. If one does not perceive themselves to be at risk for HIV/AIDS, they may have less experience with the behaviors associated with condom use self-efficacy and thus have lower condom use self-efficacy than those who perceive themselves to be at greater risk. Thus, the predictive validity of perceived HIV/AIDS risk warrants exploration.

Similarly, relationship status (committed relationships and non-committed relationships) has received much attention in relation to condom usage (Baldwin & Baldwin, 1988; Caron et al., 1993; Dekin, 1996; Hammer et al., 1996; Misovich et al., 1996; Wendt & Solomon, 1995), but not in condom use self-efficacy. These studies have indicated that one of the main reasons an individual does not perceive themselves to be at risk for HIV/AIDS is because the individual is in a monogamous relationship. However, as mentioned previously, for college students monogamy usually refers to several, relatively short-term relationships, in effect, serial monogamy. Therefore, relationship status may also be a predictor of condom use self-efficacy as those who do
not engage in condom use and do not perceive the need to do so may have had less experience with the behaviors associated with condom use self-efficacy and thus score lower than those in non-committed relationships.

As mentioned, most studies investigating condom use self-efficacy have included differences between men and women. Results have varied between studies, with some research indicating that there are sex differences in condom use self-efficacy (Basen-Engquist, 1992; Carroll, 1991; Goldman & Harlow, 1993; Smith et al., 1996), others indicating no significant sex differences exist (Brafford & Beck, 1991; Brien et al., 1995). Although investigating sex differences in condom use self-efficacy is pertinent, this approach is limited to attributing these differences to the physiological differences between men and women.

To date, there are no reported studies which have investigated the impact that gender may have upon the individual's condom use or their condom use self-efficacy (Amaro, 1995; Sacco et al., 1993). Investigating the influence of gender upon condom use self-efficacy by including a measure of culturally defined gender-role characteristics may provide a better understanding of the cognitive barriers to adopting safer sex behaviors than by restricting the investigation to examining biological differences alone. Possessing the characteristics of either masculinity or femininity, both (androgyny), or neither (undifferentiated) may serve to predict one's condom use self-efficacy. Those who are categorized in the traditional genders of masculine and feminine may be at a disadvantage than those categorized as androgynous, as androgynous individuals possess the characteristics of both femininity and masculinity.
Also, those individuals who do not possess the characteristics of femininity or masculinity, those typed as undifferentiated, may similarly be at a disadvantage for condom use self-efficacy. Thus, the examination of gender as a predictor of condom use self-efficacy is warranted. Examining gender as a predictor of condom use self-efficacy will allow for the inclusion of the socialization differences of men and women, their gender, rather than simply by examining physiological differences, their sex.

Conducting research on condom use self-efficacy can be challenging for researchers for several reasons. For example, the sensitivity of researching individuals' sexual practices is inherently intrusive. We are asking people to, in effect, discuss issues which are very personal and perhaps may be uncomfortable for them, even when anonymity and confidentiality are ensured. Also, there is always the concern that when addressing such personal issues there is a tendency for people to lie, either by exaggerating or under reporting their sexual practices, including condom use. While including a standardized social desirability scale is one approach to addressing these issues, new ways of collecting data must be developed using less direct methods. One such method would be to employ a scenario depicting a potentially high risk sexual situation of fictitious characters similar to those participants being studied. This type of research, also known as vignette research, has been employed mainly in the realms of industrial and social psychology. In this type of study, including questions concerning specific behaviors of the characters and asking participants to write an ending for the scenario would allow participants to project their thoughts and feelings onto the
fictitious characters without requiring them to discuss their personal experiences directly. The responses of the participants could be very useful in assessing patterns of sexual behaviors and can also be instrumental in deciphering why people continue to practice high risk sexual behaviors despite the potential negative, even life threatening, consequences (Quatrelia, 1992).

Sex differences have been reported in responsibilities in the behaviors associated with safer sex practices (Sacco et al., 1993; Gerrard, Breda, & Gibbons, 1990). For example, Sacco et al. (1993) found that men had less negative attitudes toward and engaged significantly more in purchasing and carrying condoms than women, and that rates of condom use can be predicted by whether or not the man provides condoms for the sexual encounter. Further, the results also indicated that women indirectly influence condom use decisions (e.g., are more responsible for condom use negotiation), but men ultimately have the final decision over whether or not condoms will be used. Thus in sexual encounters, there appears to be specific behaviors for which responsibility is considered to be attributed to either men or women. By examining the perceptions of students with regards to the specific responsibilities attributed to men and women in practicing safer sex behaviors, we may better understand why individuals choose not to engage in safer sex practices and tailor educational programs to addressing these specific needs.

This study will expand upon the major findings of the previous investigations and will generate additional hypotheses to be tested regarding the correlates of condom use self-efficacy in college undergraduate students. Specifically, the purpose of this
study was to utilize survey research to determine if the subject variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship, married, separated, divorced, and widowed), and perceived HIV/AIDS risk (no, low, moderate, and high) will predict condom use self-efficacy in college undergraduate students. This study also investigated the perceptions of college undergraduate students regarding sex-role related responsibilities of safer sex behaviors and the outcomes of a scenario describing a heterosexual couple in a potentially high risk sexual situation.

Research Questions

1. Will the participant variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers; nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship, married, separated, divorced, and widowed), and perceived HIV/AIDS risk (no, low, moderate, and high) significantly account for condom use self-efficacy in college students?

2. Will participants attribute specific responsibilities for safer sex behaviors in a sexual encounter to either men or women?

3. What outcomes for the fictitious scenario will participants provide?
Hypotheses

1. Condom use self-efficacy will be significantly accounted for by the participant variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship, married, separated, divorced, and widowed), and perceived HIV/AIDS risk (no, low, moderate, and high).

Specifically, it is hypothesized that:

1a. Men will have higher condom use self-efficacy than women.

1b. Participants categorized as androgynous will have higher condom use self-efficacy than those categorized as masculine, feminine, or undifferentiated.

1c. Participants who report consistently using condoms in sexual encounters (ritualistic users) will have higher condom use self-efficacy than those who have never used condoms (abstainers and nonusers) and those who have occasionally used condoms (sporadic users).

1d. Participants in non-committed relationships (single and not in a committed relationship, separated, divorced, and widowed) will have higher condom use self-efficacy than those in committed relationships (single and in a committed relationship and married).

1e. Participants who perceive themselves to be at moderate and high HIV risk will have higher condom use self-efficacy than those who perceive themselves to be at low or no risk.
2. Participants will attribute specific responsibilities for safer sex behaviors to either the male character or the female character of the scenario. Specifically, participants will attribute the responsibilities of making sexual advances, having the final say in whether condoms will be used, purchasing the condoms, carrying the condoms, ensuring the condom is used correctly, and putting the condom on to the male character. The participants will attribute the responsibilities of stopping to talk about abstaining from sex, discussing using condoms, persuading the partner to use condoms if the partner should resist, and ensuring the consistent use of condoms in future encounters to the female character.

Definitions of Terms

For the purposes of this study, key variables will be both conceptually and operationally defined as follows:

1. age of participant -- the self-reported, chronological age of participants.

2. class rank of participant -- freshman, sophomore, junior, and senior, self-reported by participants.

3. condom use self-efficacy -- as measured by the 28-item CUSES (Brafford & Beck, 1991). Condom self-efficacy is defined as the perceived ability to carry out the behavior of using condoms in sexual encounters (Bandura, 1989).

4. condom-user classification -- nonusers, sporadic users, and ritualistic users, based on the categories as defined by Brien et. al. (1994) and self-reported by participants. Nonusers are participants who have had one or more sexual partners and have not
used condoms. Sporadic users are participants who have had one or more sexual partners and have occasionally used condoms. Ritualistic users are participants who have had one or more sexual partners and have always used condoms. For the purposes of data analyses, a fourth category will be utilized for participants who have never had sex and therefore will not have used condoms. This category will be labeled as abstainers.

5. gender of participant -- masculine, feminine, androgynous, and undifferentiated, as defined and measured by the Bem Sex Role Inventory (BSRI; Bem, 1981). Although Bem (1977, 1981) labels these classifications under the heading of sex-role groups, for the purposes of this study, they will be labeled as gender, as they differentiate men and women on four dimensions of culturally defined gender characteristics. Masculine is defined as participants who score high on the Masculinity scale and low on the Femininity scale. Feminine is defined as participants who score high on the Femininity scale and low on the Masculinity scale. Androgynous is defined as participants who score high on both the Masculinity and Femininity scales. Undifferentiated is defined as participants who score low on both the Masculinity and Femininity scales.

6. HIV/AIDS perceived risk -- no, low, moderate, and high, self-reported by participants. Participants will be required to estimate their perceived level of risk for contracting HIV/AIDS.

7. major of participant -- the self-reported chosen area of study of the participants.

8. relationship status of participant -- single and not in a committed relationship, single
and in a committed relationship, married, separated, divorced, widowed, self-reported by participants.

9. residential status of participant-- commuter and campus resident, self-reported by participants.

10. safe sex - the practice of abstaining or choosing not to have sexual intercourse.

11. safer sex - the practices of lowering HIV/AIDS risk in sexual encounters. This includes the practice of negotiating and using condoms in sexual encounters.

12. self-efficacy -- as defined by Bandura (1986), is “people’s judgements of their capabilities to organize and execute courses of action required to attain designated types of performances” (Bandura, 1986, p. 391).

13. sex of participant -- male and female, is defined as the biological differentiation between men and women and is self-reported by participants.

14. social desirability -- as measured by the Social Desirability Scale (Crowne & Marlowe, 1964). Social desirability is the tendency of respondents to answer questions in ways that portray them in a favorable light.

Significance of the Study

While there is an abundance of research aimed at developing strategies for understanding why the spread of HIV/AIDS continues to escalate to unimaginable proportions, there are several areas of importance which remain relatively ignored, including but not limited to sex and gender-based barriers to prevention (Amaro, 1995; Lever, 1995). Obviously, no one study will be able to ascertain all of the barriers to
preventing the further heterosexual spread of HIV/AIDS among college students. However, studies such as this can provide information on important aspects of the specific needs of college students in regards to promoting safer sex practices in campus-based prevention and intervention programs. This study seeks quantitatively to augment the understanding of the roles of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship, married, separated, divorced, and widowed), and perceived HIV/AIDS risk (no, low, moderate, high) in college students condom use self-efficacy. Additionally, this study purports to quantitatively investigate college students’ perceptions of the sex-related responsibilities of specific safer-sex practices in sexual encounters. Finally, this study attempts to investigate qualitatively differences in college students’ perceptions of the outcomes of a scenario which describes a potentially high risk sexual situation. By examining the themes prevalent in the outcomes written by participants, a more thorough understanding of possible barriers to preventing HIV/AIDS will emerge.

The findings of this study may have pertinent implications for HIV/AIDS intervention and prevention efforts and strategies to facilitate behavior change of college students’ at-risk behavior. First, in order for prevention and intervention programs to succeed, it is imperative to identify the specific needs of individuals. If it is found that sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and
ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship, married, separated, divorced, and widowed), and perceived HIV/AIDS risk (no, low, moderate, high) play an integral role in deciphering condom use self-efficacy as this study purports to show, then these variables must be taken into account when formulating and implementing campus HIV/AIDS prevention and intervention programs. Programs which include targeting those individuals with low condom self-efficacy skills and a reluctance to acknowledge their own risk for HIV/AIDS may prove to be more successful at increasing and maintaining the behavioral changes necessary to preventing the further spread of this epidemic. Also, targeting differences by sex and gender may lead to a more valid and viable means of reducing these high risk behaviors specific to college students.

Second, examining the perceived sex-related responsibilities for safer sex behaviors in a sexual encounter will serve two purposes: (a) it will contribute to the existing research on inherent sex inequities for the negotiation of and use of condoms in sexual encounters, and (b) it will offer guidance for formulating educational programs aimed at decreasing HIV/AIDS risk behavior on college campuses.

Finally, examining the themes written by participants in the scenarios included in this study will serve two purposes: (a) they will add further credibility to utilizing projective techniques in assessing students’ perceptions of sex differences in high risk sexual situations, and (b) differences found in the themes of the scenarios can be useful in assessing sex patterns of at-risk behavior and reasons behind the refusal to change high risk sexual behavior and can offer guidance for campus educational programs.
Limitations

The following represent limitations of this study:

1. The instruments used to measure the variables in this study are self-report. The self-report nature of the instruments could limit their validity. However, Heiman (1998) cites several studies which support the validity of employing self-report beyond non-self-report measures, particularly when exploring topics of a sensitive nature.

Similarly, Weinhardt, Forsyth, Carey, Jaworski and Durant (1998) reported the reliability and validity of using self-report measures in HIV-related sexual behavior studies. Also, self-report measures pose a threat to validity due to response sets (i.e., social desirability and acquiescence) or subject reactivity. As a means to counteract social desirability response sets, the Social Desirability Scale (Crowne & Marlowe, 1964) will be included in the survey. As a means to counteract acquiescence response sets, the inventories to be used in this study include reversed wording of some of the items so that all of the items are not phrased in the same direction.

2. The volunteer nature of the participants poses potential threats to both internal and external validity.

3. The type of sampling to be used for this study is nonprobability sampling, which poses potential threats to external validity. Because a sample of convenience was used, generalizations to populations should be made with caution, and is a limitation of this study.

4. Assignment of participants into groups is based on participant variables.
Thus, randomization of participants into groups is not possible, and is a limitation of this study.

5. The scenario and the ten items which were designed for use in this study and were based on previously conducted pilot studies (Quatrella, 1992; Quatrella & Mickler, 1998) has not been empirically established as a valid and reliable measure. The purpose of including this instrument was to address participants' perceptions of sex-related responsibilities for specific behaviors and outcomes of a potentially high risk sexual encounter. As Borg and Gall (1989) assert, if such an instrument has content validity because of its development, and appears to be the best measure available, it is acceptable for use in a research study.

6. The qualitative nature of the scenario outcomes poses a threat to the external validity of the study. The participants will be required to furnish an ending to the scenario provided, and the endings will be discussed by the main themes represented. As this focuses on social processes and the meanings that participants attribute to this particular social situation, it may limit the generalizability of the study.

7. The content of this material to be used in this study will focus primarily on heterosexual relationships, which also limits the generalizability of the study.

8. Ethnicity will not be included as a salient participant variable in this study as the students who attend the university who will participate are primarily Caucasian, which also limits the generalizability of the study.
Delimitations

The following represent delimitations to this study:

1. The population of interest for this study is undergraduate college students. Thus, the research sample to be included in this study will be limited to undergraduate college students. Therefore, this study is delimited to undergraduate college students.

2. This study was designed specifically to address the perceptions of traditional college-age undergraduate students. Thus, the research sample to be included in this study will be limited to undergraduate students whose ages are, for the most part, between 18 to 21 years. Therefore, this study is delimited to traditional college-age undergraduate students.
Chapter II

Review of the Related Literature

The review of the literature for the present study is divided into the following sections: HIV/AIDS prevalence; historical rationale of HIV/AIDS research among college students; college students as a high-risk group; theoretical rationale; and the relevance of the present study.

HIV/AIDS Prevalence

Acquired Immune Deficiency Syndrome (AIDS) is a global pandemic. In the absence of a cure or a vaccine, prevention of the further spread of the human immunodeficiency virus (HIV), the virus that causes AIDS, has become a major focus of responding to this epidemic. The United Nations (UN) and the World Health Organization (WHO) estimates in the Global HIV/AIDS and STD Surveillance report that currently there are 33.4 million people living with HIV/AIDS. The report estimates that since the onset of the AIDS epidemic, 13.9 million people have died as a result of this virus (UNAIDS/WHO, 1999). The HIV/AIDS Surveillance Report (CDC, 1999) prepared by the Centers for Disease Control (CDC) estimates that there are currently 688,200 reported cases of individuals with AIDS in the United States. Further, the CDC reports that 679,739 of those individuals are adults/adolescents age
13 or older. To date, 410,800 Americans have died as a result of AIDS.

There are three fundamental modes of AIDS transmission. These include: (a) unprotected sexual contact with an infected person; (b) the sharing of needles with an infected person through intravenous (iv) drug use; and (c) through receiving blood transfusions, blood components and tissue from an infected person. Bodily fluids, primarily blood, semen and vaginal secretions, are the mediums through which the virus is spread. The CDC (1999) estimates that of the 688,200 reported cases of adults/adolescents with AIDS, the number of cases by the modes of transmission are as follows: (a) 326,051 (49.97%) through homosexual (men who have sexual intercourse with men) contact; (b) 43,640 (6.42%) through homosexual and iv drug use; (c) 173,693 (25.56%) through iv drug use (males, n = 126,889, females, n = 46,804); (d) 66,490 (9.78%) through heterosexual contact (males, n = 23,361, females, n = 43,128); (e) 8,382 (1.23%) through receipt of blood transfusion, blood components, or tissue (males, n = 4,784, females, n = 3,598); and (f) 4,911 (0.72%) individuals with hemophilic coagulation disorder (males, n = 4,663, females, n = 248) through blood transfusions. The CDC reported that there is no reported or identified mode of transmission for 56,572 (8.32%; males, n = 41,037, females, n = 15,533) AIDS infected individuals (CDC, 1999).

**Historical Rationale of HIV/AIDS Research among College Students**

Since the first reports of AIDS in 1981, the primary goal of the research conducted on this epidemic has been aimed at education. Health care professionals
believed that the spread of AIDS could be halted through mass education. The main goals of mass education have been to provide a clear and thorough knowledge of the modes of transmission of HIV, the methods that can be employed to prevent the further spread of AIDS, and to decrease fear and panic. Several recent studies have suggested that the focus on education has been relatively successful, indicating in their results that the fundamental knowledge about HIV/AIDS facts is high (DeKine, 1996; Kelly, 1995; Lewis et al., 1997). However, although knowledge of AIDS is high, the numbers of newly infected people continues to increase. Thus education, while considered an important aspect in preventing the further spread of HIV, clearly has not been proved to be the pivotal predictor of significantly changing at-risk behaviors (Brown et al., 1992; DiClemente et al., 1992; Lodico, 1991; Fisher & Fisher, 1992).

The safest way of preventing the sexual transmission of HIV, in effect “safe sex”, is abstinence. To date, there are relatively few studies which attempt to understand which factors are involved in individuals choosing to remain virgins or to abstain from sexual intercourse (Brown et al, 1992; Sprecher & Regan, 1996). When abstinence is addressed, it is generally included for the purpose of providing a category for those subjects who have not had sexual intercourse in order to compare them with those who have, not to examine their reasons for doing so.

However, in light of the fact that the numbers of heterosexual transmission of HIV is steadily rising (CDC, 1999), many researchers have chosen to investigate the practical realities of college students in high risk sexual situations and factors which can predict and promote “safer sex,” which includes condom use (Reis & Leik, 1989;
Sacco et al., 1993; Wendt & Solomon, 1995) instead of focusing on abstinence. For example, in their investigation on college students' sexual attitudes and behaviors, Feigenbaum, Weinstein, & Rosen (1995) found that in spite of the high incidence of sexually transmitted diseases, college students reported engaging in unprotected sexual encounters and indicated they would not consider abstinence as a means to prevent contracting sexually transmitted diseases and HIV.

Condom use is the only reliable means of protection against the sexual transmission of HIV (Grimley, Riley, Bellis & Prochaska, 1993). Roper, Peterson, and Curran (1993) reported that if condoms are used correctly and consistently during sexually encounters, HIV transmission risk may be reduced by 70% to 100%. Thus, increasing condom use among sexually active individuals will significantly reduce the risk of HIV transmission. In order to do this, however, we must first explore the barriers to condom use.

Investigating the sexual behaviors of college students, including condom use, can be challenging for researchers for several reasons. For example, the sensitivity of researching individuals’ sexual practices is inherently intrusive. Participants in this type of research are required to discuss issues which are very personal and perhaps may be uncomfortable for them, even if anonymity and confidentiality are ensured. Additionally, researchers must also be concerned with the tendency for participants to lie when discussing such personal issues, either by exaggerating or under reporting their sexual practices. While including a standardized social desirability scale is one approach to addressing these issues, new ways of collecting data must be developed
using less direct approaches.

One such method would be to employ a scenario depicting a potentially high risk sexual situation of fictitious characters similar to those participants being studied. In this type of study, including questions concerning specific behaviors of the characters and asking participants to write an ending for the scenario would allow participants to project their thoughts and feelings onto the fictitious characters without requiring them to discuss their personal experiences directly. This type of research, also referred to as vignette research, has been employed in studies in industrial and social psychology. The responses of the participants could be very useful in assessing patterns of sexual behaviors and can also be instrumental in deciphering why people continue to practice high risk sexual behaviors despite the potential negative, even life threatening, consequences. Although to date there are no reported studies in the existing literature regarding the use of scenarios in research on HIV preventative behavior, I have conducted several pilot studies employing scenarios to address these issues (Quatrella, 1992; Quatrella & Mickler, 1998).

Quatrella (1992), employed a scenario depicting a high risk heterosexual encounter of college students to assess participants’ perceptions of the outcomes. The participants were asked to respond to several questions regarding the behaviors of the fictitious characters and then were asked to either describe what they would do in this situation (condition 1) or to write an ending to the scenario that only involved the fictitious characters (condition 2). Overall, the written responses of condition 2 were much more elaborate than those in condition 1. More importantly, participants in
condition 2 were much less concerned with societal constraints (e.g., morality issues) than those in condition 1, thus validating the credibility to utilizing projective techniques in assessing students’ perceptions of sex differences in high risk sexual situations.

Quatrella and Mickler (1998) employed similar scenarios depicting college students in a high risk sexual situation in two studies. In the first study, participants evaluated responsibility for safer sex practices according to the sex of the fictitious character in a heterosexual couple. Overall, results indicated that participants viewed specific safer sex practices as being either the responsibility of the male character (e.g., purchasing condoms, carrying condoms for future encounters, ensuring the condoms are used correctly) or the female character (e.g., discussing abstinence, discussing condom use, persuading partners to use condoms). In the second study, participants evaluated the likelihood of seven scenario outcomes related to the negotiation of condom use in a heterosexual couple and rated the character who initiated the condom use on several relevant traits. Overall, participants indicated that the male character was more likely to refuse to use condoms or to try and talk his partner out of using condoms and that the female character was more likely to give in to her partner’s refusal to use condoms and consent to unprotected sex or to become angry at her partner for being prepared with condoms. The results of both studies were consistent with stereotypical beliefs about sex-appropriate behaviors related to safer sex and added further credibility to utilizing projective techniques in assessing students’ perceptions of sex differences in potentially high risk sexual situations.
College Students as a High-Risk Group

Although it is the person’s behavior, not the groups to which they belong, that determines their relative risk of HIV/AIDS infection, several high-risk groups have been identified. College students have been identified as one such high-risk group. The sexual behaviors of college students place them at a high-risk for the heterosexual transmission of HIV/AIDS, as heterosexual encounters are the primary mode of HIV transmission for this population (Hammer et al., 1996; Keller, 1993). To date, the literature does not include any other identified mode of HIV transmission for college students.

College students traditionally engage more frequently in spontaneous, unplanned sexual encounters with multiple partners, often resulting in unprotected sex (Douglas et al., 1995; Hernandez & Smith, 1990; Keller, 1993; Landefeld & Chren, 1988; Simkins, 1995). Clearly, this places college students at significantly higher risk for the sexual transmission of HIV. Douglas et al. (1995) surveyed a nationally representative sample of undergraduate students from 2 and 4-year colleges and universities, aged 18 years or older, for health risk behaviors. One of the health risk behaviors included in the survey was sexual behaviors which contributed to unintended pregnancy and sexually transmitted diseases, including HIV infection. Of the 4,609 students included in the survey, 86.1% indicated that they had ever had sexual intercourse. Of that 86.1%, 34.5% of the students reported having six or more sexual partners. Further, 68.2% of the students surveyed had engaged in sexual intercourse
during the three months preceding the data collection, with only 29.6% indicating that they had used a condom during their last sexual encounter.

College students also engage in serial monogamy which leads to their erroneous beliefs that they are invulnerable to contracting HIV because they “know” their partners (Caron et al., 1993; Critelli & Suire, 1998; Dekin, 1996; Hammer et al., 1996; Misovich et al., 1996). In a study examining the obstacles to condom use among college students, Critelli and Suire (1998) found that college students who reported being in monogamous relationships were less likely to use condoms than those not in monogamous relationships. Students in their sample indicated that monogamy was a strategy for reducing the risk of sexually transmitted diseases. What is interesting to note is that of those students who indicated they were in a monogamous relationship during the past year that the study was conducted, 46% reported having had more than one sexual partner. Their results indicated that the average number of partners for students in monogamous relationships was 2.3 partners. This was more than those not in monogamous relationships which was 1.8 partners. Thus, the students in their study who considered themselves in monogamous relationships were actually engaged in short-term, serial monogamy. As relationship status played an important role in condom use, Critelli and Suire concluded that these students were actually negating their strategy of using monogamy as a preventative measure for contracting sexually transmitted diseases. Monogamy may also interfere with condom use, as individuals in committed relationships frequently use oral contraceptives. Additionally, Critelli and Suire found that 20% of the participants in their study indicated that they wanted to use
condoms with a sexual partner on at least one occasion for disease prevention but decided not to do so because they were using another form of birth control (e.g., oral contraceptives).

College students also engage in substance use (e.g., alcohol, etc.), which places them at even higher risk for unprotected sexual encounters (Butcher et al., 1991; Carroll & Carroll, 1995; Lester & Leach, 1983; MacNair-Semands & Simono, 1996). For example, Butcher et al. (1991) found that of their 243 respondents, almost half indicated that they had been in one or more sexual encounters because they were intoxicated, while only 20% indicated that they had used condoms in their sexual encounters.

The literature is almost completely bereft of accurate estimates of HIV infection rates among college students. This may be a result of the relatively long incubation period of the HIV virus, which has been found to be up to 12 years. Thus, transmission may take place during college years, but symptoms may not become apparent for many years. However, a few studies attempted to estimate HIV prevalence among college students in the first decade of the disease. For example, results of the CDC's seroprevalence study (Gayle et al., 1990) which included 19 colleges indicated 0.2% HIV rate. Biemiller (1989) reported that 2 out of 1,000 students were infected with HIV. While these numbers may appear small relative to other at risk populations, the mere fact that college students have not responded to the threat of HIV/AIDS by practicing safer sex behaviors suggests that these studies may have underestimated the prevalence of HIV among college students. As we enter into the third decade of
HIV/AIDS, we may find these estimates to be grossly under representative of the
deprevalence among college students today.

**Theoretical Rationale**

**Self-efficacy and health-protective behavior.** During the past decade, three
main theoretical models from the field of psychology have been used to decipher the
reasons why an individual either chooses to practice safer-sex behavior or chooses to
engage in risk taking behaviors. These include the health belief model, the theory of
reasoned action, and social cognitive theory (Aggleton, O’Reilly, Slutkin, & Davies,
1994). The health belief model (Janz & Becker, 1984; Rosenstock, 1974) contends that
health-protective behavior is a result of an individual’s decision-making process which
includes an evaluation of the severity of the disease, their belief concerning their
susceptibility to the disease, and their beliefs concerning the benefits of and the barriers
to adopting the preventative behaviors. According to the theory of reasoned action
(Ajzen & Fishbein, 1980), health-protective behavior is regulated by an individual’s
intention to perform those behaviors. The intention to perform health-protective
behavior is influenced by the individual’s attitude about performing the behavior and
their beliefs about their peers’ attitude about the behavior. Social cognitive theory
purports that, in the case of health-protective behavior, an individual cognitively
combines their knowledge of a disease, their outcome expectancies in behavioral
changes to prevent the disease, and their social influences. Thus, the adoption of
health-protective behaviors is a result of a cognitive appraisal process (Bandura, 1986;
Bandura (1989), proposed that one approach to investigating high risk sexual behavior, regardless of the theoretical framework employed, should be focused on a concept of social cognitive theory which he coined self-efficacy. Self-efficacy, as defined by Bandura, is "people's judgements of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p 391). According to Bandura (1986), an individual's perceived ability to master a task or situation, self-efficacy, impacts upon the likelihood that an individual will adopt new behaviors, regardless of their actual ability to perform those abilities. Therefore, an individual with a lack of, or low self-efficacy, will be unable to successfully manage a task or a situation, even if they possess the necessary knowledge and skills. As a result, low self-efficacy produces a incongruity between knowledge and ability and behavior. Additionally, self-efficacy influences the amount of effort an individual will commit to those new behaviors and how long they will continue to execute them.

The theory that self-efficacy is related to the adoption and continuance of health behavior change has been empirically demonstrated in numerous studies (Gecas, 1989; Holden, 1991; Strecher et al., 1986). Research focusing on evaluating self-efficacy has been an effective approach to understanding various health behaviors (e.g., dental care, exercise, contraceptive use), changing negative health behaviors (e.g., cigarette smoking), and maintaining those behavioral changes (Holden, 1991). Preventative methods for sexual HIV transmission is aimed at promoting specific health behaviors,
including condom negotiation and condom use. Therefore, evaluating the self-efficacy of practicing safer sex has become a focus of research (Bandura, 1989; Basen-Engquist, 1994; Smith et al., 1996), and is frequently now included in the theoretical frameworks of the health belief model and the theory of reasoned action as well as social cognitive theory.

Several current studies have been devoted to examining the practicing of safer sex measures of self-efficacy to use condoms when examining barriers to condom use among college students (Bakker et al., 1997; Dekin, 1996; Mahoney, 1995; O'Leary et al., 1992; Wendt & Solomon, 1995; Wulfert & Wan, 1993). Overall, results of these studies have confirmed that condom self-efficacy is a predictor of safer sex practices. Thus, consistent with Bardura's (1986; 1990) self-efficacy theory, when individuals believe they have control over practicing safer sex, they are more likely to engage in these behaviors. However, if this information is to be useful to changing at-risk behaviors in college students, the variables which impact upon a persons condom use self-efficacy must also be investigated.

Condom Use Self-Efficacy. Several current studies have been devoted to examining the practicing of safer sex measures and self-efficacy to use condoms when examining barriers to condom use among college students (Bakker et al., 1997; Basen-Engquist, 1994; Dekin, 1996; Mahoney, 1995; O'Leary et al. 1992; Wendt & Solomon, 1995; Wulfert & Wan, 1993). Overall, results of these studies have confirmed that condom self-efficacy is a predictor of safer sex practices. Thus, consistent with
Bardura's (1986; 1990) self-efficacy theory, when individuals believe they have control over practicing safer sex, they are more likely to engage in these behaviors. However, if this information is to be useful in changing at-risk behaviors in college students, the variables which impact upon a person's condom use self-efficacy must also be investigated. There are, to date, relatively few studies which investigate the predictors of condom use self-efficacy (Brafford & Beck, 1991).

Among those research studies conducted on condom use self-efficacy with undergraduate students, several salient subject variables have been identified which impact upon an individual's condom use self-efficacy including sex and condom-user classification. However, these factors have not been investigated simultaneously. Sex differences have been found to be a predictor of condom use self-efficacy, but research studies report contradicting results. Goldman and Harlow (1993) found that men scored lower on self-efficacy than women. This was also reported by Smith et al. (1996) and Basen-Engquist (1992). However, Carroll (1991) found that women scored significantly lower than men in condom use self-efficacy. Also, studies have indicated no significant sex differences in condom use self-efficacy (Brafford & Beck, 1991; Brien et al., 1994). Thus, further exploration of the predictive validity of sex in condom use self-efficacy is indicated.

In the realm of condom-user classification (nonusers, sporadic users, ritualistic users, abstainers), results are somewhat unclear. In their study, Brafford and Beck (1991) found in one analysis that abstainers scored significantly lower than those who had previously had sexual intercourse, and then in a second analysis that among those
who have had sexual intercourse, those who consistently used condoms in sexual
encounters had significantly higher condom use self-efficacy than those who did not
consistently use condoms. Brien et al. (1994) found that ritualistic users had
significantly higher condom use self-efficacy scores than sporadic users and nonusers.
Mahoney et al. (1995) found that the sporadic condom users had significantly lower
levels of condom use self-efficacy. Thus, while condom-user classification tends to
predict condom use self-efficacy, the impact of this factor is in need of further
investigation.

Perceived HIV/AIDS risk (no, low, moderate, high) has been the subject of
condom use studies, but have not been a focus in condom use self-efficacy research.
For example, Wendt and Solomon (1995) found that college students in monogamous
relationships were less likely to perceive themselves at risk for HIV/AIDS and were less
likely to use condoms. Similarly, Kusseling, Shapiro, Greenberg, and Wenger (1996)
found that 60% of the 414 sexually active students in their study did not practice safer
sex with their last sexual partner. Participants’ low perceived HIV risk was the most
commonly reported reason given by the students, constituting 75% of those sexually
active, even though the majority of these students acknowledged that they did not know
enough about their partner to be sure that the sexual encounter was actually a low risk
for HIV transmission. These findings have been consistently supported in research on
condom use (Caron et al., 1993; Dekin, 1996; DiClemente et al., 1990; Hammer et al.,
1996; Misovich et al., 1996). This is of particular concern considering that most
monogamous relationships described by college students are more precisely short-term
serial monogamous relationships (Baldwin & Baldwin, 1988; Caron et al., 1993; Dekin, 1996; Hammer et al., 1996; Misovich et al., 1996). In the realm of condom use self-efficacy, perceived HIV/AIDS risk may be a predictive factor. If one does not perceive themselves to be at risk for HIV/AIDS, they may have less experience with the behaviors associated with condom use self-efficacy and thus have lower condom use self-efficacy than those who perceive themselves to be at greater risk.

Similarly, relationship status (committed relationship and non-committed relationship) has received much attention in relation to condom usage (Baldwin & Baldwin, 1988; Caron et al., 1993; Dekin, 1996; Hammer et al., 1996; Misovich et al., 1996), but not in condom use self-efficacy. These studies have indicated that one of the main reasons an individual does not perceive themselves to be at risk for HIV/AIDS is because the individual is in a monogamous relationship. However, as mentioned previously, for college students monogamy usually refers to several, relatively short-term relationships, in effect serial monogamy. Therefore, relationship status may also be a predictor of condom use self-efficacy as those who do not engage in condom use and do not perceive the need to do so may have had less experience with the behaviors associated with condom use self-efficacy and thus score lower than those in non-committed relationships.

As mentioned, most studies investigating condom use self-efficacy have included differences between men and women. Results have varied between studies, with some research indicating sex differences in condom use self-efficacy (Basen-Engquist, 1992; Carroll, 1991; Goldman & Harlow, 1993; Smith et al., 1996), others
indicating no significant sex differences exist (Brafford & Beck, 1991; Brien et al., 1995). Although investigating sex differences in condom use self-efficacy is pertinent, this approach is limited to attributing these differences to the physiological differences between men and women.

In the literature to date, there are no reported studies which have investigated the impact that gender may have upon the individual's condom use self-efficacy (Amaro, 1995; Sacco et al., 1993). Investigating the influence of gender upon condom use self-efficacy by including a measure of culturally defined gender-role characteristics may provide a better understanding of the cognitive barriers to adopting HIV preventative behaviors than by restricting the investigation to examining biological differences alone. Possessing the characteristics of either masculinity, femininity, or androgyny may serve to predict one's condom use self-efficacy. Those who are categorized in the traditional genders of masculine and feminine may be at a disadvantage than those categorized as androgynous, as androgynous individuals possess the characteristics of both femininity and masculinity. As purported by the androgyny model, individuals who are high in both femininity and masculinity will demonstrate more flexibility and adaptability to various situations than those individuals who are high in either femininity or masculinity alone (Bem, 1974, 1981). Thus, the examination of gender as a predictor of condom use self-efficacy is warranted.

Sex differences have been reported in responsibilities in the behaviors associated with safer-sex practices (Gerrard et al., 1990; Sacco et al., 1993). For
example, Sacco et al. (1993) found that men had less negative attitudes toward and engaged significantly more in purchasing and carrying condoms than women, and that rates of condom use can be predicted by whether or not the man provides condoms for the sexual encounter. Further, the results also indicated that women indirectly influence condom use decisions (e.g., are more responsible for condom use negotiation), but that men ultimately have the final decision over whether or not condoms will be used. Thus, in sexual encounters, there appears to be specific behaviors for which responsibility is considered to be attributed either to men or women. By examining the perceptions of students with regards to the specific responsibilities attributed to men and women in practicing safer sex behaviors, we may better understand why individuals do not engage in safer sex practices and tailor educational programs to addressing these specific needs.

Relevance of the Present Study

This study will expand upon the major findings of the previous investigations and will generate additional hypotheses to be tested regarding the correlates of condom use self-efficacy in college undergraduate students. Specifically, the purpose of this study will be to utilize survey research to determine quantitatively if the subject variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship, married, separated, divorced, and widowed), and
perceived HIV/AIDS risk (no, low, moderate, and high) will predict condom use self-efficacy in college undergraduate students. Additionally, this study purports to quantitatively investigate college students’ perceptions of the sex-related responsibilities of specific safer-sex practices in sexual encounters. Finally, this study attempts to investigate qualitatively differences in college students’ perceptions of the outcomes for the characters in the potentially high risk scenario. By examining the themes prevalent in the outcomes written by participants, a more thorough understanding of possible barriers to performing HIV/AIDS preventative behaviors will emerge.

Studies such as this can provide information on important aspects of the specific needs of college students in regards to promoting safer sex practices in campus-based prevention and intervention programs. The findings of this study may have pertinent implications for HIV/AIDS intervention and prevention efforts and strategies to facilitate behavior change of college students’ at-risk behavior. First, in order for prevention and intervention programs to succeed, it is imperative to identify the specific needs of individuals. If it is found that sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), age, condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship, married, separated, divorced, and widowed), and perceived HIV/AIDS risk (no, low, moderate, and high) play an integral role in deciphering condom use self-efficacy as this study purports to show, then these variables must be taken into
account when formulating and implementing campus HIV/AIDS prevention and intervention programs. Programs which include targeting those individuals with low condom self-efficacy skills and a reluctance to acknowledge their own risk for HIV/AIDS may prove to be more successful at increasing and maintaining the behavioral changes necessary to preventing the further spread of this epidemic. Also, targeting differences by sex and gender may lead to a more valid and viable means of reducing these high risk behaviors specific to college students.

Second, examining the perceived sex-related responsibilities for safer sex behaviors in a sexual encounter will serve two purposes: (a) it will contribute to the existing research on inherent sex inequities for the negotiation of and use of condoms in sexual encounters, and (b) it will offer guidance for formulating educational programs aimed at decreasing HIV/AIDS risk behavior on college campuses.

Finally, examining the themes written by participants in the scenarios included in this study will serve two purposes: (a) they will add further credibility to utilizing projective techniques in assessing students’ perceptions of sex differences in high risk sexual situations, and (b) differences found in the themes of the scenarios can be useful in assessing sex and gender patterns of at-risk behavior and reasons behind the refusal to change high risk sexual behavior and can offer guidance for campus educational programs.
Chapter III

Design and Methodology

This chapter describes the participants, methods, and procedures that were used for this study. It also includes the validity and reliability data for the instruments which were utilized. Design and statistical analyses will be presented in relationship to the stated hypotheses.

Participant Recruitment and Selection

Professors in the undergraduate psychology department at a non-sectarian, private northeastern university were contacted in the Fall 1999 semester and requested to consider allowing students in their classes for the Spring 2000 semester to act as participants in this study. All of the professors contacted agreed to allow their students the opportunity to participate. The students of eleven undergraduate psychology classes participated in this study. The classes consisted of six general psychology classes, two statistical/experimental methods classes, a forensic psychology class, and two industrial psychology classes. These classes were chosen in an attempt to ensure that the students participating would be representative of the various majors at the university. The professors agreed to allow the students class time in order to complete the surveys.
Participants

The participants included in this study consisted of a cross-section of undergraduate students enrolled in undergraduate psychology courses. Participants were at least 18 years of age. Informed consent accompanied the surveys given to students. Participation in this study was voluntary, and in some classes, extra credit was given to students who return completed surveys. Responses were anonymous and confidential.

Pertinent demographic information included participants’ age, sex (male or female), sexual orientation (heterosexual, homosexual, bisexual, or unsure), residential status (commuter or campus resident), program year (freshman, sophomore, junior, or senior), major, relationship status (single and not in a committed relationship, single and in a committed relationship, married, separated, divorced, or widowed), and condom use classification (abstainer, nonuser, sporadic user, or ritualistic user).

Participants were also asked to indicate their level of risk (no, low, moderate, high) for contracting HIV. Also, as a measure of assessing the relevance of this topic for participants, they were asked to indicate: (a) whether they had thought of being tested for HIV; (b) whether they had been tested for HIV and, if applicable, the results of the test, and (c) whether they knew anyone who had been diagnosed with HIV/AIDS.

There were a total of 342 students enrolled in the eleven undergraduate psychology classes surveyed in this study. Of that 342 students, 304 surveys were collected yielding an 89% response rate. Of the 304 collected surveys, five surveys were discarded because the demographic data was not completed. Therefore, there was
a total sample of 299 (87%) usable surveys included in this study.

The sample included 111 men (37.1%) and 188 women (62.9%). Participants' ages ranged from 18 to 28, with a mean age of 19.8. All participants (100%) reported their sexual orientation as heterosexual. Of the 299 participants, 89 (29.8%) were commuter students and 210 (70.2%) were residential students. The sample consisted of 128 freshman (42.8%), 79 sophomores (26.4%), 55 juniors (18.4%), and 37 seniors (12.4%). The chosen majors reported by the participants are as follows: (a) Psychology (37.1%); (b) undecided (14.4%); (c) Business (12.7%); (d) Education (12.0%); (e) Science (4.7%); (f) Economics (4.7%); (g) Computer Graphics (3.0%); (h) Political Science (2.3%); (i) Sociology (2.0%); (j) English (1.7%); (k) Liberal Arts (1.0%); (l) History (1.0%); (m) Communications (1.0%); (n) Spanish (0.7%); (o) Hotel/Restaurant (0.7%); (p) General Studies (0.7%); and (q) Math (0.3%).

Of the 299 participants, 160 (53.5%) reported they were single and not in a committed relationship and 139 (46.5%) reported they were single and in a committed relationship. In the realm of condom user classification, 56 participants (18.7%) reported that they had never had sex (abstainers), 30 participants (10.0%) reported having had sex with one or more partners and never having used condoms (nonusers), 137 participants (45.8%) reported having sex with one or more partners and occasionally used condoms (sporadic users), and 76 participants (25.4%) reported having sex with one or more partners and always used condoms (ritualistic users). Ninety-eight participants (32.8%) reported that they were at no risk for contracting HIV, 157 participants (52.5) reported they were at low risk, 36 participants (12.0%)
reported they were at moderate risk, and 8 participants (2.7%) indicated they were at high risk.

Of the 299 participants, 152 (50.8%) reported they had thought about being tested for HIV and 147 (49.2%) reported that they had not thought about being tested for HIV. Sixty-four participants (21.4%) reported they had been tested for HIV, 235 participants (78.6%) reported that they had not been tested for HIV. Of the 64 participants who had been tested for HIV, 61 participants (95%) reported the results of the test were negative, and three participants (5%) reported that they did not know the results of the test. Ninety-seven participants (32.4%) indicated they knew someone with HIV, and 202 participants (67.6%) reported that they did not know someone who had been diagnosed with HIV.

**Participant Response Rate**

The response rate needed for the data analyses employed varies for each of the analyses which include multiple regression, analysis of variance (ANOVA), independent t test, and chi square goodness of fit. Green (1991) recommended a formula for determining the response rate needed for a medium-size relationship between the independent variables and the dependent variable, $\alpha = .05$ and $\beta = .20$, for multiple regression which is $N \geq 50 + 8m$, where $m$ is the number of predictor variables in the analysis. Using this formula, the response rate needed for the present study is $50 + (8)(10) = 130$. Thus, the response rate of 299 usable surveys was more than sufficient for the multiple regression analysis.
For independent t tests, Cohen (1992) reported that for a medium-size relationship between two groups, $\alpha = .05$ and $\beta = .20$, the response rate needed is 128. For ANOVA, Cohen indicated that for a medium-size relationship between four groups, $\alpha = .05$ and $\beta = .20$, the response rate needed is 180. For chi square goodness of fit test with 1 degree of freedom (df), Cohen reported that for a medium relationship size, $\alpha = .05$ and $\beta = .20$, the response rate needed is 87. Thus, the response of 299 usable surveys was more than sufficient for the data analyses performed in this study because it is well within the recommended guidelines for sample size for each of the analyses.

**Research Instruments and Method of Scoring**

The surveys utilized in this research project included informed consent and the following questionnaires: (a) Bem Sex Role Inventory (Bem, 1981); (b) Condom-Use Self-Efficacy Scale (Brafford & Beck, 1991); (c) Sexual Encounter Scenario; (d) Social Desirability Scale (Crown and Marlowe, 1964); (e) Demographic Sheet.

**Bem Sex Role Inventory (BSRI).** The BSRI is a 60 item inventory designed to measure psychological androgyyny (Bem, 1974). The BSRI scoring system was modified by Bem in 1977. The BSRI is unique from other masculinity-femininity scales in that it was designed to treat masculinity and femininity as independent dimensions rather than bipolar ends of a single dimension. The development of the scale is based on the construct of the traditionally sex-typed person as one who will use culturally defined behaviors as the ideal standard to which their behavior will be
consistent with. Further, the masculinity and femininity items were based on culturally
defined sex-typed social desirability rather than by endorsement by males and females
judgements (Bern, 1981).

The sixty items of the BSRI consist of culturally defined personality
characteristics. Twenty of the characteristics are stereotypically masculine, twenty
characteristics are stereotypically feminine, and twenty characteristics serve as filler
items. The characteristics are placed in such a way that the first characteristic and
every third one thereafter are masculine, the second characteristic and every third one
thereafter is feminine, and the third characteristic and every third one thereafter is a
filler. Respondents are required to indicate on a 7-point, Likert type scale (1 = never or
almost true, 2 = usually not true, 3 = sometimes but infrequently true, 4 = occasionally
true, 5 = often true, 6 = usually true, 7 = always or almost always true) how well each
of the 60 characteristics describes them. A sample of one of the masculine
characteristics listed in the BSRI is “Assertive” and a sample of one of the feminine
characteristics listed in the BSRI is “Sympathetic”.

A respondents’ scores are calculated, and on the basis of a median split of all
the participants on both the masculinity and femininity scales, they are categorized in
one of the four sex-types: masculine, feminine, androgynous, or undifferentiated. A
person who scores high on masculinity and low on femininity is typed as masculine; a
person who scores high on femininity and low on masculinity is typed as feminine; a
person who scores high on both masculinity and femininity is typed as androgynous;
and a person who scores low on both masculinity and femininity is typed as
undifferentiated.

Validity of the BSRI was indicated in a variety of empirical studies (Bem, 1975; Bem & Lenney, 1976, Bem, Martyna, & Watson, 1976) which supported "the central hypothesis that non androgynous individuals restrict their behavior in accordance with cultural definitions of desirable behavior for men and women significantly more often than do androgynous individuals" (Bem, 1981, p. 30).

Reliability of the BSRI was conducted on two samples of undergraduate students in Introductory Psychology courses at Stanford University and included measures of internal consistency and test-retest reliability. The first sample were given the BSRI in 1973 and included 444 male students and 279 female students. A coefficient alpha was calculated separately for males and females. Results indicate coefficient alpha scores of .75 for females and .78 for males for the Femininity scores, .87 for females and .86 for males for the Masculinity scores, and .78 for females and .84 for the males for the Femininity-minus-Masculinity Difference scores. Results indicate high reliability for all three scores. The second sample were given the BSRI in 1978 and included 476 males and 340 females. Results indicate coefficient alpha scores of .78 for females and .78 for males for the Femininity scores, .86 for females and .87 for males for the Masculinity scores, and .82 for females and .82 for the males for the Femininity-minus-Masculinity Difference scores. Results indicate high reliability for all three scores.

Test-retest reliability was established with a second administration approximately four weeks after the first administration with 28 males and 28 females
from the 1973 sample. All three scores proved to be highly reliable, with coefficient
alpha scores of .82 for females and .89 for males for the Femininity scores, .94 for
females and .76 for males for the Masculinity scores, and .88 for females and .86 for
males for the Femininity-minus-Masculinity Difference scores. Results indicate high
reliability for all three scores.

Condom Use Self-Efficacy Scale (CUSES). The CUSES is a 28 item inventory
designed to measure college students self-efficacy in using condoms (Brafford & Beck,
1991). The inventory was based on the self-efficacy theory proposed by Bandura
(1986), and to date, is the only available standardized scale for measuring condom use
self-efficacy. The 28 items address the feelings of the confidence associated with being
able to (a) acquire condoms, (b) use and dispose of condoms (i.e., put them on and take
them off), and (c) negotiate the use of condoms with a sexual partner.

The 28 items include statements with which the respondents are required to
indicate on a 5-point, Likert type scale (0 = strongly disagree, 1 = disagree, 2 =
undecided, 3 = agree, 4 = strongly agree) their level of agreement. A sample of one of
the statements listed in the CUSES is “I feel confident in my ability to discuss condom
usage with any partner I might have”. Several of the statements are negatively worded
in order to reduce response sets. These items are reverse scored, and the total of the
items scores range from 0 to 112. Thus, the lower the score, the lower the condom use
self-efficacy. Although the items are based on a Likert type scale, the data are treated
as a ratio scale measurement scale.
Convergent validity of the CUSES was determined with Brown’s (1984) Attitude Toward the Condom Scale (ATC) using all subjects and Levinson’s (1986) Contraceptive Self-Efficacy Scale (CSE) using female subjects only. Convergent validity was confirmed as the CUSES correlated significantly with the ATC, $r = .51, p < .001$, and with the CSE, $r = .55, p < .001$.

Discriminant validity of the CUSES was conducted and included a series of 1 tests which included comparing: (a) subjects who were classified as condom users with those who were classified as nonusers; (b) subjects who had previously experienced sexual intercourse with those who had not; (c) subjects who had used condoms mainly for birth control; (d) subjects who had consistently used condoms in sexual encounters with those who had not; (e) subjects who reported using condoms mainly for protection against a sexually transmitted disease with those who indicated they had not; and (f) subjects who reported having had a sexually transmitted disease with those who indicated they had not. Results indicated that condom-use self-efficacy scores were significantly higher for those subjects who: (a) reported using condoms; (b) had previously experienced sexual intercourse; (c) reported using condoms mainly for birth control; and (d) reported consistently using condoms. No significant differences were found in condom use self-efficacy between subjects who used condoms mainly for protection against a sexually transmitted disease or between subjects who reported having had a sexually transmitted disease. However, for the last comparison, as scores approached a statistical significance, results indicated that there was suggestive evidence of significance that the subjects who indicated they have had a sexually
transmitted disease may have had lower condom use self-efficacy than those who had not.

Reliability of the CUSES included a measure of internal consistency and a test-retest reliability. On a sample of 768 students, the CUSES indicated high reliability with a Chronbach’s alpha of .91 computed. Test-retest reliability was performed with the same students approximately 2 weeks after the initial testing. Test-retest reliability indicated high reliability with a coefficient score of .81.

**Sexual Encounter Scenario (SES).** The SES was designed specifically for use in this study. It was based in part on previous research conducted by the researcher (Quatrella, 1992; Quatrella & Mickler, 1998). The scenario depicts a potentially high risk sexual encounter of college undergraduate students on a college campus. Ten items to assess students’ perceptions of sex-related responsibilities in the practice of safer sex are included. The ten items include: (a) making sexual advances; (b) stopping to talk about abstaining from sex; (c) discussing using condoms; (d) persuading the partner to use condoms if he or she should resist; (e) have the final say in whether condoms will be used; (f) purchase the condoms; (g) carry or keep the condoms; (h) ensure the condom is used correctly; (i) put the condom on; (j) ensure the consistent use of condoms in future encounters. A sample of one of the items listed in the scenario is “Who do you think will be more responsible for stopping to talk about abstaining from sex (choosing not to have sex).” For each item, the respondent is required to decide which fictitious character is more responsible for the behavior described. Next, the
respondent is required to write an ending for the scenario (i.e., what will happen to the characters in this potentially high risk sexual situation).

Reliability of the ten test items was established by a coefficient alpha for internal consistency on the total sample included in this study \( N = 299 \) and resulted in an alpha coefficient of .74. A minimum Chronbach alpha reliability coefficient of .6 alpha value was recommended by Nunnally (1978). Thus, the present alpha is sufficient for internal consistency.

**Social Desirability Scale (SDS).** The SDS is a 33 item inventory designed to measure acquiescent responding, the tendency of participants to respond in favorable, socially desirable ways (Crowne & Marlowe, 1964). The 33 items are statements concerning personal attitudes and traits with which the respondents are required to indicate whether each is true or false as it pertains to them. Half of the statements provided are determined as culturally acceptable but most likely untrue, half of the statements are true but considered undesirable. One point is given for each response given in the socially desirable direction. Scores range from 0 (no social desirability) to 33 (highest social desirability). The score norms were drawn from a sample of 1,400 undergraduate students. A sample test item included in the SDS is “I never hesitate to go out of my way to help someone in trouble.” Eighteen of the items are stated in the true direction, fifteen are stated in the false direction to reduce the occurrence of response sets. One item of the SDS was omitted for the purpose of this study, thus the scores will range from 0 to 32. The item which states, “Before voting I thoroughly
investigate the qualifications of all the candidates” was omitted due to the sample included in this study. As the sample will include typical age college undergraduate students, this item will most likely not be applicable to all of the participants.

Crowne and Marlowe (1964) determined validity of the SDS by conducting various empirical studies which supported their hypotheses that individuals with higher social desirable tendencies will indicate they possess culturally acceptable traits and desirable traits.

Crowne and Marlowe (1964) determined the reliability of the SDS in two ways. First, they computed an internal consistency using the Kuder-Richardson 20 technique which indicated .88. Second, a test-retest correlation was conducted over a one month period with 57 college students also .88. Thus, the SDS has high reliability.

Procedure

Participants were recruited voluntarily from undergraduate psychology classes in the Spring 2000 semester. Prior to recruiting students, class rosters were examined to ensure that students were not enrolled in more than one of the classes to be surveyed. The students were invited to volunteer during the last 30 min of their class. Prior to participation in this study, participants were informed whether they will be given extra credit in their course as a result of completing the survey. Participants were also be told if there will be any other options for extra credit in their course. The experimenter read the informed consent to the class, answered any questions students had, and then asked for volunteers. Surveys, including the informed consent, were handed out to
those who agreed to participate, and were collected at the end of the class meeting. Participation in this study took approximately 20 min.

**Streamline Design**

The five predictors variables of interest in this study included the participant’s sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship, married, separated, divorced, and widowed) and perceived HIV/AIDS risk (no, low, moderate, and high). However, categories within two of the predictor variables needed to be adjusted according to the responses of the participants. Specifically, there were no participants who reported being married, separated, divorced or widowed. Thus, there were only two categories under the predictor variable of relationship status which included single and not in a committed relationship and single and in a committed relationship. Also, there were only three participants (1.0%) who indicated they believed they were at high risk for HIV/AIDS. Thus, the predictor variable of perceived HIV/AIDS risk was collapsed into three categories which included no, low, and moderate/high. Table 1 displays the predictor variables included in the multiple regression analysis and the subsequent ANOVAs and independent t tests.
Methods of Data Analyses

The statistical methods of data analyses for the quantitative data included multiple regression, independent t tests, one factor analyses of variances (ANOVAs) and chi square goodness of fit tests. The qualitative scenario outcome responses were organized by dominant themes by sex of participant.

The data analyses were performed through the Statistical Package for the Social Sciences (SPSS). The level of significance was set at the conventional criteria of a minimum of .05 for all analyses.

Tests of Hypotheses

Hypothesis 1. Condom use self-efficacy will be significantly accounted for by the subject variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship), and perceived HIV/AIDS risk (no, low, and medium/high).

To test this hypothesis, a multiple regression was performed. A linear combination of the independent variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship), and perceived HIV/AIDS risk (no, low, medium/high) was created to optimally predict the dependent
<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>111</td>
<td>37.1</td>
</tr>
<tr>
<td>Female</td>
<td>188</td>
<td>62.9</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masculine</td>
<td>67</td>
<td>22.4</td>
</tr>
<tr>
<td>Feminine</td>
<td>80</td>
<td>26.8</td>
</tr>
<tr>
<td>Androgynous</td>
<td>82</td>
<td>27.4</td>
</tr>
<tr>
<td>Undifferentiated</td>
<td>70</td>
<td>23.4</td>
</tr>
<tr>
<td>Condom-User Classification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abstainer</td>
<td>56</td>
<td>18.7</td>
</tr>
<tr>
<td>Nonuser</td>
<td>30</td>
<td>10.0</td>
</tr>
<tr>
<td>Sporadic User</td>
<td>137</td>
<td>45.8</td>
</tr>
<tr>
<td>Ritualistic User</td>
<td>76</td>
<td>25.5</td>
</tr>
<tr>
<td>Relationship Status</td>
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<td></td>
</tr>
<tr>
<td>Single, not in a committed relation</td>
<td>160</td>
<td>53.5</td>
</tr>
<tr>
<td>Single, in a committed relationship</td>
<td>139</td>
<td>46.5</td>
</tr>
<tr>
<td>Perceived HIV/AIDS risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No risk</td>
<td>98</td>
<td>32.8</td>
</tr>
<tr>
<td>Low risk</td>
<td>157</td>
<td>52.5</td>
</tr>
<tr>
<td>Moderate/High risk</td>
<td>44</td>
<td>14.7</td>
</tr>
</tbody>
</table>
variable of condom use self-efficacy as measured by the CUSES (Braford & Beck, 1991).

Although there are five predictor variables of interest in this study, there was a total of ten predictor variables entered into the multiple regression analysis. This was a result of the need to effect code three of the predictor variables which contained more than two groups per variable. The predictor variables of gender and condom-user classification included four groups, thus were each comprised of three variables in the multiple regression analysis. The predictor variable of perceived HIV/AIDS risk included three groups, thus was comprised of two groups in the multiple regression analysis.

The predictor variables included in the multiple regression analysis were then analyzed separately to identify the differences within each subject variable, and were included in the following hypotheses:

**Hypothesis 1a.** Men will have higher condom use self-efficacy than women.

To test this hypothesis, an independent t test was performed between men and women participants with the dependent variable the condom use self-efficacy score.

**Hypothesis 1b.** Participants categorized as androgynous will have higher condom use self-efficacy than those categorized as masculine, feminine, or undifferentiated.

To test this hypothesis, a one factor ANOVA was performed on the subject
variable gender which included categorizing participants as masculine, feminine, androgynous and undifferentiated on the dependent variable the condom use self-efficacy score.

**Hypothesis 1c.** Participants who report consistently using condoms in sexual encounters (ritualistic users) will have higher condom use self-efficacy than those participants who have never used condoms (abstainers and nonusers) and those who have occasionally used condoms (sporadic users).

To test this hypothesis, a one factor ANOVA was performed on the subject variable condom user classification which included abstainers, nonusers, sporadic users and ritualistic users on the dependent variable which was the condom use self-efficacy score.

**Hypothesis 1d.** Participants in non-committed relationships will have higher condom use self-efficacy than those in committed relationships.

To test this hypothesis, an independent t test was performed between the subject variable relationship status which included single and in a committed relationship and single but not in a committed relationship on the dependent variable condom use self-efficacy score.

**Hypothesis 1e.** Participants who perceive themselves to be at medium/high HIV risk will have higher condom use self-efficacy than those who perceive themselves to
be at low or no risk.

To test this hypothesis, a one factor ANOVA was performed on the subject variable perceived HIV/AIDS risk which included none, low, and medium/high on the dependent variable condom use self-efficacy score.

Hypothesis 2. Participants will attribute specific responsibilities for safer sex behaviors to either the male character or the female character.

To test this hypothesis, chi square goodness of fit tests were conducted on each item in the questionnaire to determine if the participants attribute the safer sex behaviors described in each of the ten items to the male character or the female character. Specifically, participants will attribute the responsibilities of making sexual advances, having the final say in whether condoms will be used, purchasing the condoms, carrying the condoms, ensuring the condom is used correctly, and putting the condom on to the male character. The participants will attribute the responsibilities of stopping to talk about abstaining from sex, discussing using condoms, persuading the partner to use condoms if the partner should resist, and ensuring the consistent use of condoms in future encounters to the female character.
Chapter IV

Results

The results of the data analyses are presented in the following sections: model of validation to exclude confounding effects; tests of hypotheses; themes of the scenario responses; and summary of findings.

Model of Validation to Exclude Confounding Effects

The sensitive nature of the topic of the present research and the self-report method utilized warranted the inclusion of a measure of social desirability. Social desirability is the tendency for people to respond to items in a manner that presents them in a socially acceptable, favorable light. Thus, the SDS (Crown & Marlowe, 1964), a standardized measure of social desirability, was included in the surveys to exclude this potential confounding variable. The scores on the SDS range from 0 (no social desirability) to 32 (highest social desirability). The range of SDS scores for the participants in the present research was from 1 to 30, with a mean SDS score of 14.38. A Pearson product moment correlation was conducted between participants' SDS scores and CUSES scores yielding a significant relationship $r = .1319$, $p < .05$. Although the magnitude of the relationship is not large, a positive relationship between these two measures exists. Therefore, the results must be viewed cautiously.
Tests of Hypotheses

Hypothesis 1. Condom use self-efficacy will be significantly accounted for by the participant variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship), and perceived HIV/AIDS risk (no, low, and moderate/high).

To test Hypothesis 1, a standard multiple linear regression through SPSS was conducted. The variables of sex, gender, condom-user classification, relationship status, and perceived HIV/AIDS risk were the predictor variables and the CUSES score was the dependent measure. Analysis was performed using SPSS Regression and SPSS Frequencies for evaluation of assumptions.

Results of the evaluation of assumptions indicated it was not necessary to transform the variables due to skewness, reduction of the number of outliers, or to improve the normality, linearity, or homoscedasticity of residuals. With the use of a $p < .001$ criterion for Mahalanobis distance, no outliers among the cases were found. No cases had missing data and no suppressor variables were found, $N = 299$.

A significant $F(10, 288) = 13.83$, $p < .001$ was found with an $R^2$ of $.32448$. Therefore, the null hypothesis of no relationship between the predictor variables and the dependent variable is rejected. The coefficient of determination $R^2$ was 32.4% which is the proportion of the variance of condom use self-efficacy explained by the
linear combination of the five independent variables. Thus, the multiple $R$ of .56963 confirms Hypothesis 1.

As depicted in Table 2, the variables of gender, condom-user classification and relationship status were significant predictors of condom use self-efficacy. However, participants’ sex and perceived HIV/AIDS risk were not significant predictors of condom use self-efficacy, although they did in combination produce a significant multiple $R$.

To address the issue of multicollinearity, the degree to which the predictor variables are intercorrelated, Table 3 displays the intercorrelations among the ten categories of the five predictor variables and the dependent variable in the multiple regression analysis. As seen in Table 3, the largest correlation between the ten categories of the five predictor variables is -.537. Licht (1995) proposed that correlations of $|r| > .80$ between predictor variables of a multiple regression analysis should be considered problematic. Therefore, the variables included in the analysis do not appear to be measuring the same construct, and multicollinearity of the variables is not a limitation of the results of the multiple regression analysis performed.

**Hypothesis 1a.** Men will have higher condom use self-efficacy than women.

Sex of participant was found to be significant, $t(297) = 2.57, p < .05$. Men had higher condom use self-efficacy scores ($M = 93.05, SD = 12.59$) than women ($M = 88.64, SD = 15.32$). Thus, Hypothesis 1a was supported.
Table 2

Summary of Simultaneous Multiple Regression Analysis for Variables Predicting Participants’ Condom Use Self-Efficacy (N=299)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX</td>
<td>-2.46</td>
<td>1.64</td>
<td>-.08</td>
</tr>
<tr>
<td>GEN₁</td>
<td>11.25</td>
<td>2.03</td>
<td>.32***</td>
</tr>
<tr>
<td>GEN₂</td>
<td>5.28</td>
<td>2.03</td>
<td>.16**</td>
</tr>
<tr>
<td>GEN₃</td>
<td>10.25</td>
<td>2.00</td>
<td>.32***</td>
</tr>
<tr>
<td>CUC₁</td>
<td>3.71</td>
<td>2.92</td>
<td>.08</td>
</tr>
<tr>
<td>CUC₂</td>
<td>5.06</td>
<td>2.14</td>
<td>.17*</td>
</tr>
<tr>
<td>CUC₃</td>
<td>15.00</td>
<td>2.29</td>
<td>.45***</td>
</tr>
<tr>
<td>REL</td>
<td>6.16</td>
<td>1.54</td>
<td>.21***</td>
</tr>
<tr>
<td>RISK₁</td>
<td>2.65</td>
<td>1.65</td>
<td>.09</td>
</tr>
<tr>
<td>RISK₂</td>
<td>4.09</td>
<td>2.35</td>
<td>.10</td>
</tr>
</tbody>
</table>

Summary statistics: $R = .56928$, $R^2 = .32408$

Note. GEN = gender, CUC = condom-user classification, REL = relationship status, RISK = perceived HIV/AIDS risk. There are three variables each for GEN and CUC, and two variables for RISK because of the need to effect code these variables. *$p < .05$. **$p < .01$. ***$p < .001$. 
Table 3

Correlations among Independent Variables and the Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>CUSES</th>
<th>SEX</th>
<th>GEN₁</th>
<th>GEN₂</th>
<th>GEN₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSES</td>
<td>1.00</td>
<td>-15**</td>
<td>.19**</td>
<td>-.12*</td>
<td>.18**</td>
</tr>
<tr>
<td>SEX</td>
<td>-.15**</td>
<td>1.00</td>
<td>-.37***</td>
<td>.28***</td>
<td>.07</td>
</tr>
<tr>
<td>GEN₁</td>
<td>.19**</td>
<td>-.37***</td>
<td>1.00</td>
<td>-.32***</td>
<td>-.33***</td>
</tr>
<tr>
<td>GEN₂</td>
<td>-.12*</td>
<td>.28***</td>
<td>-.32***</td>
<td>1.00</td>
<td>-.37***</td>
</tr>
<tr>
<td>GEN₃</td>
<td>.18**</td>
<td>.07</td>
<td>-.33***</td>
<td>-.37***</td>
<td>1.00</td>
</tr>
<tr>
<td>CUC₁</td>
<td>-.06</td>
<td>-.16**</td>
<td>.03</td>
<td>-.05</td>
<td>-.08</td>
</tr>
<tr>
<td>CUC₂</td>
<td>-.01</td>
<td>.04</td>
<td>.10*</td>
<td>-.01</td>
<td>-.02</td>
</tr>
<tr>
<td>CUC₃</td>
<td>.35***</td>
<td>-.04</td>
<td>-.07</td>
<td>-.07</td>
<td>.12*</td>
</tr>
<tr>
<td>REL</td>
<td>.27***</td>
<td>.13*</td>
<td>-.05</td>
<td>.03</td>
<td>.04</td>
</tr>
<tr>
<td>RISK₁</td>
<td>.01</td>
<td>-.05</td>
<td>.01</td>
<td>.01</td>
<td>-.06</td>
</tr>
<tr>
<td>RISK₂</td>
<td>.04</td>
<td>-.11*</td>
<td>.12*</td>
<td>-.04</td>
<td>-.11*</td>
</tr>
</tbody>
</table>

Note. GEN = gender, CUC = condom-user classification, REL = relationship status, RISK = perceived HIV/AIDS risk. There are three variables each for GEN and CUC, and two variables for RISK because of the need to effect code these variables.

*p < .05. **p < .01. ***p < .001.

(table continues)
Table 3

Correlations among Independent Variables and the Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>CUC₁</th>
<th>CUC₂</th>
<th>CUC₃</th>
<th>REL</th>
<th>RISK₁</th>
<th>RISK₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSES</td>
<td>-.06</td>
<td>-.01</td>
<td>.35**</td>
<td>.27***</td>
<td>.01</td>
<td>.04</td>
</tr>
<tr>
<td>SEX</td>
<td>-.16**</td>
<td>.04</td>
<td>-.04</td>
<td>.13*</td>
<td>-.05</td>
<td>-.11*</td>
</tr>
<tr>
<td>GEN₁</td>
<td>.03</td>
<td>.10*</td>
<td>-.07</td>
<td>-.05</td>
<td>.01</td>
<td>.17*</td>
</tr>
<tr>
<td>GEN₂</td>
<td>-.05</td>
<td>-.01</td>
<td>-.07</td>
<td>.03</td>
<td>.01</td>
<td>-.04</td>
</tr>
<tr>
<td>GEN₃</td>
<td>-.08</td>
<td>-.02</td>
<td>.12*</td>
<td>.04</td>
<td>-.06</td>
<td>-.11*</td>
</tr>
<tr>
<td>CUC₁</td>
<td>1.00</td>
<td>-.31***</td>
<td>-.19***</td>
<td>-.02</td>
<td>.09</td>
<td>.05</td>
</tr>
<tr>
<td>CUC₂</td>
<td>-.31***</td>
<td>1.00</td>
<td>-.54***</td>
<td>.19***</td>
<td>.08</td>
<td>.17**</td>
</tr>
<tr>
<td>CUC₃</td>
<td>-.19***</td>
<td>-.54***</td>
<td>1.00</td>
<td>.10*</td>
<td>-.09</td>
<td>-.13*</td>
</tr>
<tr>
<td>REL</td>
<td>-.02</td>
<td>.19***</td>
<td>.10*</td>
<td>1.00</td>
<td>-.07</td>
<td>-.01</td>
</tr>
<tr>
<td>RISK₁</td>
<td>.09</td>
<td>.08</td>
<td>-.09</td>
<td>-.07</td>
<td>1.00</td>
<td>-.44***</td>
</tr>
<tr>
<td>RISK₂</td>
<td>.05</td>
<td>.17**</td>
<td>-.13*</td>
<td>-.01</td>
<td>-.44***</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note. GEN = gender, CUC = condom-user classification, REL = relationship status, RISK = perceived HIV/AIDS risk. There are three variables each for GEN and CUC, and two variables for RISK because of the need to effect code these variables.

*p < .05. **p < .01. ***p < .001.
Hypothesis 1b. Participants categorized as androgynous will have higher condom use self-efficacy than those categorized as masculine, feminine, or undifferentiated.

As displayed in Table 4, a significant main effect was found for gender, $F(3, 295) = 12.02$, $p < .001$. Post hoc analyses conducted with the Student Newman-Keuls test indicated significant differences ($ps < .05$) between participants categorized as masculine from those categorized as feminine and undifferentiated and between participants categorized as androgynous from those categorized as feminine and undifferentiated. Table 5 displays the means and standard deviations for each group. Thus, Hypothesis 1b is partially supported.

Table 4

Analysis of Variance for Gender

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between treatments</td>
<td>6823.55</td>
<td>3</td>
<td>2274.52</td>
<td>12.02***</td>
</tr>
<tr>
<td>Within treatments</td>
<td>55830.41</td>
<td>295</td>
<td>189.26</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>62653.96</td>
<td>298</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. ***$p < .001$. 
Table 5

Mean Condom Use Self-Efficacy Scores by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masculine</td>
<td>95.30</td>
<td>11.63</td>
<td>67</td>
</tr>
<tr>
<td>Feminine</td>
<td>87.40</td>
<td>15.51</td>
<td>80</td>
</tr>
<tr>
<td>Androgynous</td>
<td>94.55</td>
<td>12.66</td>
<td>82</td>
</tr>
<tr>
<td>Undifferentiated</td>
<td>83.76</td>
<td>14.69</td>
<td>70</td>
</tr>
</tbody>
</table>

Hypothesis 1c. Participants who report consistently using condoms in sexual encounters (ritualistic users) will have higher condom use self-efficacy than those participants who have never used condoms (abstainers and nonusers) and those who have occasionally used condoms (sporadic users).

As displayed in Table 6, a one factor ANOVA revealed a significant main effect for condom-user classification, $F(3, 295) = 22.21, p < .001$. Post hoc analyses conducted with the Student Newman-Keuls test indicated significant differences ($ps < .05$) between the following groups: (a) ritualistic users and the sporadic users, nonusers and abstainers; (b) sporadic users and the abstainers; and (c) nonusers and the abstainers. Table 7 displays the means and standard deviations for each group. Thus, Hypothesis 1c was supported.
Table 6

Analysis of Variance for Condom-User Classification

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between treatments</td>
<td>11544.40</td>
<td>3</td>
<td>3848.13</td>
<td>22.21***</td>
</tr>
<tr>
<td>Within treatments</td>
<td>51109.56</td>
<td>295</td>
<td>173.25</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>62653.96</td>
<td>298</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: ***p < .001.

Table 7

Mean Condom Use Self-Efficacy Scores by Condom-User Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstainers</td>
<td>80.27</td>
<td>15.57</td>
<td>56</td>
</tr>
<tr>
<td>Nonusers</td>
<td>87.47</td>
<td>14.23</td>
<td>30</td>
</tr>
<tr>
<td>Sporadic Users</td>
<td>90.18</td>
<td>13.16</td>
<td>137</td>
</tr>
<tr>
<td>Ritualistic Users</td>
<td>98.93</td>
<td>10.55</td>
<td>76</td>
</tr>
</tbody>
</table>
**Hypothesis 1d.** Participants in non-committed relationships will have higher condom use self-efficacy than those in committed relationships.

An independent t test was performed between the subject variable relationship status which included single and in a committed relationship and single but not in a committed relationship on the dependent variable condom use self-efficacy score. Results indicated that those participants who are single and in a committed relationship had significantly higher condom use self-efficacy scores than those not in a committed relationship, t (297) = -4.92, p < .001. This result is the opposite of what was hypothesized. Thus, Hypothesis 1d was not supported.

**Hypothesis 1e.** Participants who perceive themselves to be at medium/high HIV risk will have higher condom use self-efficacy than those who perceive themselves to be at low or no risk.

A one factor ANOVA did not reveal a significant main effect by perceived HIV/AIDS risk, F (2, 296) = .30, p > .05. Thus, Hypothesis 1e was not supported.

**Hypothesis 2.** Participants will attribute specific responsibilities for safer sex behaviors to either the male character or the female character. Specifically, it was hypothesized that participants would attribute the responsibilities of making sexual advances, having the final say in whether condoms will be used, purchasing the condoms, carrying the condoms, ensuring the condom is used correctly, and putting the condom on to the male character. Also, it was hypothesized that the participants would
attribute the responsibilities of stopping to talk about abstaining from sex, discussing using condoms, persuading the partner to use condoms if the partner should resist, and ensuring the consistent use of condoms in future encounters to the female character.

Table 8 displays the chi square goodness of fit tests conducted on each of the ten items. As predicted, participants attributed specific responsibilities to either the male or the female character. Thus, Hypothesis 2 was supported.

As predicted, the male character was perceived as being more responsible than the female character for the following behaviors: (a) making sexual advances; (b) purchasing condoms; (c) carrying/keeping the condoms; (d) ensuring the proper use of the condom; and (e) putting the condom on. However, although it was hypothesized that the male character would be perceived as more responsible for having the final say in whether condoms would be used in the encounter, results indicate that participants viewed the female character as more responsible for this behavior. As predicted, the female character was perceived as being more responsible than the male character for the following behaviors: (a) initiating a discussion about abstinence; (b) initiating a discussion about condom use; (c) persuading the partner to use condoms should the partner resist; and (d) ensuring that condoms will be used in future encounters.

Themes of the Scenario Responses

A content analysis of the open-ended responses to the scenario was conducted to determine, on a qualitative basis, the dominant themes in the participants' perceptions of the outcomes of the potentially high risk sexual encounter depicted, and to determine
### Table 8

**Chi Square Results for Participants' Perceptions of Character Responsibilities**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \chi^2 )</td>
<td>( f )</td>
</tr>
<tr>
<td>Making sexual advances</td>
<td>160.40***</td>
<td>259</td>
</tr>
<tr>
<td>Discussing abstinence</td>
<td>238.42***</td>
<td>16</td>
</tr>
<tr>
<td>Discussing condom use</td>
<td>107.16***</td>
<td>60</td>
</tr>
<tr>
<td>Persuading partner to use condoms</td>
<td>154.60***</td>
<td>42</td>
</tr>
<tr>
<td>Final say regarding condom use</td>
<td>35.48***</td>
<td>98</td>
</tr>
<tr>
<td>Purchasing condoms</td>
<td>146.09***</td>
<td>254</td>
</tr>
<tr>
<td>Carrying condoms</td>
<td>129.80***</td>
<td>248</td>
</tr>
<tr>
<td>Ensuring condoms are used correctly</td>
<td>26.49***</td>
<td>194</td>
</tr>
<tr>
<td>Putting the condom on</td>
<td>166.32***</td>
<td>261</td>
</tr>
<tr>
<td>Consistent condom use in future encounters</td>
<td>6.77***</td>
<td>127</td>
</tr>
</tbody>
</table>

**Note.** For each analysis, \( N = 299, df = 1 \). ***\( p < .001 \).
if there were any qualitative differences in responses by sex of participant.

Of the 299 participants, 13.0% did not respond to the open-ended item. Overall, there were four main outcome themes reported by the 260 participants that responded which included the following: (a) the characters do not have sex (12.70%); (b) the characters do have sex (17.69%); (c) the characters have sex without using a condom (4.23%); and (d) the characters have sex and use a condom (65.38%). Table 9 displays the frequencies and percentages of the main outcome responses by sex of participant.

Clearly, of the 260 respondents, the majority indicated that the characters in this situation would engage in sexual intercourse (87.30%). What is interesting to note is that the majority of those indicating the characters would have sex reported that they believed the characters would practice safer sex by using a condom (74.9%). Additionally, participant sex effects are evident in the sheer numbers of responses indicating that the characters do not engage in sex. Of the 95 men who responded, 8.42% indicated that the characters would not have sex. Women participants (n = 165) were almost twice as likely to report that the characters would not have sex (15.15%).

Of the 260 participants who responded to the open-ended item, 53.85% included a reason for the outcome reported. Women participants (61.82%) were more likely than men (40%) to attach a reason to the scenario outcome.

**Reasons attached to outcome condition 1.** Of the 260 respondents who provided an outcome to the scenario, 12.70% indicated that the characters do not have sex (outcome condition 1). The reasons provided included the following: (a) the characters
**Table 9**  

*Scenario Outcome Themes by Sex of Participant*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Male</th>
<th>%</th>
<th>Female</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response.</td>
<td>16</td>
<td>14.41</td>
<td>23</td>
<td>12.24</td>
</tr>
<tr>
<td>They do not have sex.</td>
<td>8</td>
<td>7.21</td>
<td>25</td>
<td>13.29</td>
</tr>
<tr>
<td>They have sex.</td>
<td>23</td>
<td>20.72</td>
<td>23</td>
<td>12.24</td>
</tr>
<tr>
<td>They have sex without a condom.</td>
<td>5</td>
<td>4.51</td>
<td>6</td>
<td>3.19</td>
</tr>
<tr>
<td>They have sex with a condom.</td>
<td>59</td>
<td>53.15</td>
<td>111</td>
<td>59.04</td>
</tr>
</tbody>
</table>

Note. *n = 111.  b n = 188.*
are not ready (69.70%); (b) there is no condom available (12.12%); (c) the male character refuses to use a condom (3.03%). No reason was given by 15.15% of those in condition 1. The frequencies and percentages for condition 1 by sex of participant are displayed in Table 10. Although this condition was accounted for by a relatively small number of respondents, it is interesting to note that the majority of those in outcome condition 1 (69.70%) reported that the characters were not ready to have sex.

Table 10

Reasons Attached to Outcome Condition 1 by Sex of Participant

<table>
<thead>
<tr>
<th>Reason</th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>No reason.</td>
<td>1</td>
<td>12.50</td>
<td>4</td>
<td>16.00</td>
</tr>
<tr>
<td>They are not ready.</td>
<td>6</td>
<td>75.00</td>
<td>17</td>
<td>68.00</td>
</tr>
<tr>
<td>There is no condom available.</td>
<td>1</td>
<td>12.50</td>
<td>3</td>
<td>12.00</td>
</tr>
<tr>
<td>The male refuses to use a condom.</td>
<td>1</td>
<td>4.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. * n = 8. * n = 25.
Reasons attached to outcome condition 2. Forty-six participants (17.69%) of the 260 who reported an outcome to the scenario recounted that the characters have sex (outcome condition 2), but did not stipulate whether or not condoms were used in the encounter. Of those 46 participants in outcome condition 2, only three participants (6.52%) attached a reason. Three women (13.04%) indicated that the characters have sex because they have mutually agreed to the decision.

Reasons attached to outcome condition 3. A relatively small percentage of the 260 participants who provided an outcome reported that the characters have sex without using a condom (outcome condition 3), representing 4.23%. Of the 11 participants in outcome condition 3, three respondents (27.27%), two males (40%) and one female (16.67%) did not attach a reason why the characters have sex without using a condom. One of the male participants (20%) and two of the female participants (33.33%) reported that the characters have sex without using a condom because the male character refuses to use a condom in the encounter, comprising 27.27% of the participants in this condition. Two of the male participants (40%) and three of the female participants (50%) indicated that the characters have sex without a condom because there is no condom available for the encounter, comprising 45.46% of the participants in this condition.

Reasons attached to outcome condition 4. The majority of those participants
who responded to the open-ended item (59.04%) indicated that the characters have sex using a condom (outcome condition 4). Sixty-nine participants included in outcome condition 4 did not attach a reason why the characters have sex using a condom. The reasons attached to this outcome included the following: (a) to prevent pregnancy and sexually transmitted diseases (STDs; 9.41%); (b) because the male is prepared for the encounter with condoms (10.00%); (c) the male tried to talk the female out of using condoms, but she insisted (20.59%); and (d) they have mutually agreed to use condoms (19.41%). Table 11 displays the frequencies and percentages of the reasons attached to outcome condition 4 by sex of participant.

There are some interesting sex effects apparent in the reasons given by participants to this outcome condition. For example, women participants (11.71%) were almost twice as likely than men (6.78%) to indicate that the characters had sex using a condom because the male character was prepared for the encounter. Also, women participants (11.71%) were twice as likely than men (5.09%) to indicate the reason why the characters have sex using a condom was for the prevention of pregnancy and STDs.

**Summary of Findings**

A Pearson product moment correlation was conducted between participants’ social desirability scores and condom use self-efficacy scores yielding a significant relationship $r = .1319, p < .05$. Although the magnitude of the relationship is not large, a positive relationship between these two measures exists. Therefore, the results must
Table 11

**Reasons Attached to Outcome Condition 4 by Sex of Participant**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Male(^a)</th>
<th>%</th>
<th>Female(^b)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reason.</td>
<td>31</td>
<td>52.54</td>
<td>38</td>
<td>34.24</td>
</tr>
<tr>
<td>To prevent pregnancy and STDs.</td>
<td>3</td>
<td>5.09</td>
<td>13</td>
<td>11.71</td>
</tr>
<tr>
<td>The male character is prepared with condoms.</td>
<td>4</td>
<td>6.78</td>
<td>13</td>
<td>11.71</td>
</tr>
<tr>
<td>The male tried to talk the female out of using</td>
<td>11</td>
<td>18.64</td>
<td>24</td>
<td>21.62</td>
</tr>
<tr>
<td>condoms, but she insisted.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>They mutually decide to use condoms.</td>
<td>10</td>
<td>16.95</td>
<td>23</td>
<td>20.72</td>
</tr>
</tbody>
</table>

Note. \(^a\) n = 59. \(^b\) n = 111.
be viewed cautiously.

Hypothesis 1 predicted that condom use self-efficacy would be significantly accounted for by the subject variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship), and perceived HIV/AIDS risk (no, low, and moderate/high). Results of the standard multiple linear regression analysis supported Hypothesis 1. Specifically, gender, condom-user classification and relationship status contributed significantly to the linear relationship. However, although sex and perceived HIV/AIDS risk did not contribute significantly to the linear relationship, they did in combination produce a significant multiple R.

Hypothesis 1a predicted that men would have higher condom use self-efficacy than women. An independent measures t test indicated that sex of participant was found to be significant, $t(297) = 2.57, p < .05$. Men had higher condom use self-efficacy scores ($M = 93.05, SD = 12.59$) than women ($M = 88.64, SD = 15.32$). Thus, Hypothesis 1a was supported.

Hypothesis 1b predicted that participants categorized as androgynous would have higher condom use self-efficacy than those categorized as masculine, feminine, or undifferentiated. A one factor ANOVA resulted in a significant main effect for gender, $F(3, 295) = 12.02, p < .001$. Post hoc analyses conducted with the Student Newman-Keuls test indicated significant differences ($ps < .05$) between participants categorized as masculine from those categorized as feminine and undifferentiated and between
participants categorized as androgynous from those categorized as feminine and undifferentiated. Thus, Hypothesis 1b was partially supported.

Hypothesis 1c predicted that participants who report consistently using condoms in sexual encounters (ritualistic users) would have higher condom use self-efficacy than those participants who have never used condoms (abstainers and nonusers) and those who have occasionally used condoms (sporadic users). A one factor ANOVA revealed a significant main effect for condom-user classification, $F(3, 295) = 22.21, p < .001$. Post hoc analyses conducted with the Student Newman-Keuls test indicated significant differences ($p < .05$) between the following groups: (a) ritualistic users and the sporadic users, nonusers and abstainers; (b) sporadic users and the abstainers; and (c) nonusers and the abstainers. Thus, Hypothesis 1c was supported.

Hypothesis 1d predicted that participants in non-committed relationships would have higher condom use self-efficacy than those in committed relationships. An independent $t$ test indicated that those participants who are single and in a committed relationship had significantly higher condom use self-efficacy scores than those not in a committed relationship, $t(297) = -4.92, p < .001$. This result is the opposite of what was hypothesized. Thus, Hypothesis 1d was not supported.

Hypothesis 1e predicted that participants who perceive themselves to be at medium/high HIV risk would have higher condom use self-efficacy than those who perceive themselves to be at low or no risk. A one factor ANOVA did not reveal a significant main effect by perceived HIV/AIDS risk, $F(2, 296) = .30, p > .05$. Thus, Hypothesis 1e was not supported.
Hypothesis 2 predicted that participants would attribute specific responsibilities for safer sex behaviors to either the male character or the female character. Specifically, it was hypothesized that participants would attribute the responsibilities of making sexual advances, having the final say in whether condoms will be used, purchasing the condoms, carrying the condoms, ensuring the condom is used correctly, and putting the condom on to the male character. Also, it was hypothesized that the participants would attribute the responsibilities of stopping to talk about abstaining from sex, discussing using condoms, persuading the partner to use condoms if the partner should resist, and ensuring the consistent use of condoms in future encounters to the female character. As predicted, chi square goodness of fit tests (\(p < .001\)) on all ten items indicated that participants attributed specific responsibilities to either the male or the female character. Thus, Hypothesis 2 was supported.

As predicted, the responsibilities of (a) making sexual sexual advances, \(\chi^2(1) = 160.40, p < .001\); (b) purchasing the condoms, \(\chi^2(1) = 146.09, p < .001\); (c) carrying/keeping the condoms, \(\chi^2(1) = 129.80, p < .001\); (d) ensuring the proper use of the condom, \(\chi^2(1) = 26.49, p < .001\); and (e) putting the condom on, \(\chi^2(1) = 166.32, p < .001\), were attributed to the male character. However, although it was hypothesized that the male character would be perceived as more responsible for having the final say in whether condoms would be used in the encounter, results indicated that this behavior was attributed to the female character, \(\chi^2(1) = 35.48, p < .001\). As predicted, the behaviors of (a) initiating a discussion about abstinence, \(\chi^2(1) = 238.42, p < .001\); (b) initiating a discussion about condom use, \(\chi^2(1) = 107.16, p < .001\); (c) persuading the
partner to use condoms should the partner resist, $\chi^2(1) = 154.60, p < .001$; and (d) ensuring that condoms will be used in future encounters, $\chi^2(1) = 6.77, p < .001$, were attributed to the female character.

Qualitative analysis of the dominant outcome themes of the open-ended responses to the scenario depicting characters in a potentially high risk sexual situation was conducted. Overall, there were four main outcome themes reported by the 260 participants that responded to this item which included the following: (a) the characters do not have sex (12.70%); (b) the characters do have sex (17.69%); (c) the characters have sex without using a condom (4.23%); and (d) the characters have sex and use a condom (65.38%).

As the results of the present study indicated that social desirability was proved to be significantly correlated with students' reports of their condom use self-efficacy, support was given to the contention that developing new methods of collecting data must be developed using less direct approaches. Thus, the results of this study further add to the credibility of employing scenario research when examining topics of a sensitive nature.
Chapter V

Discussion, Limitations, and Implications

Discussion

The purpose of this study was to expand upon the major findings of previous investigations and to generate additional hypotheses to be tested regarding the correlates of condom use self-efficacy in college undergraduate students. Specifically, the present study has utilized survey research to: (a) determine that the selected subject variables of sex, gender, condom-user classification, relationship status, and perceived HIV/AIDS risk would predict condom use self-efficacy; (b) investigate the perceptions of sex-role related responsibilities of safer-sex behaviors; and (c) examine the outcomes of a scenario depicting a heterosexual couple in a potentially high risk sexual situation.

The hypotheses tested in this study included the following:

1. Condom use self-efficacy would be significantly accounted for by the subject variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single and not in a committed relationship, single and in a committed relationship), and perceived HIV/AIDS risk (no, low, and
1a. Men would have higher condom use self-efficacy than women.

1b. Participants categorized as androgynous would have higher condom use self-efficacy than those categorized as masculine, feminine, or undifferentiated.

1c. Participants who report consistently using condoms in sexual encounters (ritualistic users) would have higher condom use self-efficacy than those participants who have never used condoms (abstainers and nonusers) and those who have occasionally used condoms (sporadic users).

1d. Participants in non-committed relationships (single and not in a committed relationship) would have higher condom use self-efficacy than those in committed relationships (single and in a committed relationship).

1e. Participants who perceive themselves to be at medium/high HIV risk would have higher condom use self-efficacy than those who perceive themselves to be at low or no risk.

2. Participants would attribute specific responsibilities for safer sex behaviors to either the male character or the female character of the fictional scenario. Specifically, participants would attribute the responsibilities of making sexual advances, having the final say in whether condoms will be used, purchasing the condoms, carrying the condoms, ensuring the condom is used correctly, and putting the condom on to the male character. The participants would attribute the responsibilities of stopping to talk about abstaining from sex, discussing using condoms, persuading the partner to use condoms if the partner should resist, and ensuring the consistent use of condoms in future
encounters to the female character.

What follows is a discussion of the findings of the test of the impact of social desirability, the hypotheses testing and the outcome themes of the scenario responses.

**Social Desirability.** There was a significant relationship between the participants’ responses on the SDS (Crowne & Marlowe, 1964), a standardized measure of social desirability, and the CUSES (Brafford & Beck, 1991), a standardized measure of condom use self-efficacy. Although the magnitude of the relationship was not large, \( r = .1319, p < .05 \), a positive relationship between these two measures existed and represents a limitation of this study. Therefore, the results must be viewed cautiously.

This finding was not completely surprising considering the nature of the topic under study. The sensitive nature of sex research and the utilization of the self-report method in this study warranted the inclusion of a measure of social desirability scale, and this was proved necessary.

Although the result of this study indicated a positive relationship between the CUSES and the SDS scores, the two reported studies conducted with the CUSES did not find a similar relationship. For example, Brafford and Beck (1991) reported no relationship between CUSES and the short form of the SDS (Strahan & Gerbasi, 1972), \( r = .01, p > .05 \), in their development and validation of the CUSES. Similarly, Brien et al. (1994) reported no relationship between the CUSES subscales they factored in their study and the short form of the SDS, although they did not report the correlation values in their study.
It is conceivable that the difference in the findings of the present study and those previously conducted lies in the difference between the forms of the SDS used. The present study employed the original form of the SDS which includes 32 items, whereas the studies conducted by Brafford and Beck (1991) and Brien et al. (1994) used the short form of the SDS (Strahan & Gerbasi, 1972) which includes 10 items. Although the short form of the SDS is reported to have high reliability and validity compared with the original version of the SDS (Strahan & Gerbasi, 1972), the difference between the two versions may be a contributing factor to the significant finding in the present study. It is also possible that the difference in the findings lies in the samples of college students used in each study. In other words, the positive relationship found between participants' social desirability and condom use self-efficacy may be attributed to this specific sample itself.

**Research Hypothesis 1.** This hypothesis was supported by the data. When subjected to a multiple linear regression analysis, the participant variables of sex (male and female), gender (masculine, feminine, androgynous, and undifferentiated), condom-user classification (abstainers, nonusers, sporadic users, and ritualistic users), relationship status (single, not in a committed relationship and single, in a committed relationship), and perceived HIV/AIDS risk (no, low, moderate/high) were significant predictors of condom use self-efficacy, $F(10, 288) = 13.83, p < .001$ with an $R^2$ of .32448. The unique contributions of gender, condom-user classification, and relationship status to the variance of condom use self-efficacy was appreciable. The
subject variables of sex and perceived HIV/AIDS risk did not significantly add to the variance over and above gender, condom-user classification, and relationship status; however, in combination 32.4% of the variance of condom use self-efficacy was explained by the combination of these five independent variables. Although the amount of explained variance is statistically significant, it only accounts for approximately one-third of the total variance in condom use self-efficacy. This finding suggests that there are more factors which account for the measure of condom use self-efficacy than were used for this analysis. Therefore, further investigation of the salient factors of condom use self-efficacy is warranted.

The finding that sex and perceived HIV/AIDS risk did not add significantly to the correlation was surprising. It was expected that these variables would directly relate to the condom use self-efficacy measure. Regrettably, there is limited empirical knowledge concerning factors that influence condom use self-efficacy (Brafford & Beck, 1991; Brien et al, 1994), and to date, there are no other studies which have attempted to determine the predictor variables of condom use self-efficacy. As sex and perceived HIV/AIDS risk did in combination with the other variables produce a significant multiple R, perhaps these variables are indirectly related to condom use self-efficacy but are more directly related to the other independent variables of gender, condom-user classification, and relationship status.

Although the participant variables of sex and perceived HIV/AIDS risk were not significant predictors of condom use self-efficacy, they did in combination produce a significant multiple R. Therefore, they were not excluded in the univariate analyses.
Research Hypothesis 1a. This hypothesis was supported by the data. When subjected to an independent measures 1 test, sex of participant was found to be significant, 1 (297) = 2.57, p < .05. As predicted, male participants had higher condom use self-efficacy scores than women.

The literature is conflicting regarding the existence of sex differences in condom use self-efficacy. The results of the present investigation supports the findings of previous studies which indicate sex differences exist in condom use self-efficacy (Basen-Engquist, 1992; Carroll, 1991; Goldman & Harlow, 1993; Smith et al., 1996.) However, most of the literature indicates that men have significantly lower condom use self-efficacy than women (Basen-Engquist, 1992; Goldman & Harlow, 1993; Smith et al., 1996). The present study yielded the opposite result. Male participants in this study had significantly higher condom use self-efficacy scores than female participants. This was also found in a study by Carroll (1991).

The finding that men had significantly higher condom use self-efficacy was not surprising, as condom use has traditionally been viewed as a male responsibility (Gerrard et al., 1990; Sacco et al., 1993). As purported by self-efficacy (Bandura, 1977), performance accomplishment is the most influential source of self-efficacy. Thus, as men have more experience with condom use, it was expected that men would have significantly higher condom use self-efficacy than women. It is, after all, a method of contraception which is employed by a man. It is the male who ultimately will decide whether or not he will use a condom. As the CUSES measures the comfort level of such abilities as purchasing condoms and the using and disposing condoms, abilities
which are traditionally attributed to men, it seems plausible that men would have higher condom use self-efficacy than women. However, the two reported studies which employed the CUSES (Brafford & Beck, 1991) both reported no sex significant differences in condom use self-efficacy (Brafford & Beck, 1991; Brien et al., 1994). The discussion sections of both of these reported studies purported that sex should not be considered when investigating condom use self-efficacy with the CUSES. The results of the present investigation, however, indicated sex differences did exist in condom use self-efficacy. Therefore, it is indicated that the participant variable of sex not be excluded in future studies of condom use self-efficacy and warrants further investigation.

**Research Hypothesis 1b.** This hypothesis was partially supported by the data. When subjected to a one factor ANOVA, a main effect for gender was found, $F(3, 295) = 12.02, p < .05$. It was predicted that those participants categorized as androgynous would have higher condom use self-efficacy than those categorized as masculine, feminine, and undifferentiated. Results of the post hoc analyses indicated that those participants categorized as masculine and those categorized as androgynous had significantly higher condom use self-efficacy than those categorized as feminine and undifferentiated.

It was predicted that androgynous individuals would have higher condom use self-efficacy because these individuals possess characteristics of both masculinity and femininity. As purported by the androgyne model, individuals who are high in both
femininity and masculinity demonstrate more flexibility and adaptability to various situations than those individuals who are high in either masculinity or femininity alone, or who are low in both (undifferentiated; Bem, 1974; 1981).

The CUSES (Brafford & Beck, 1991) addresses the mechanics of condom use (e.g., purchasing condoms, putting condoms on and taking them off), which are traditionally viewed as a masculine trait and the negotiation of condom use, which is traditionally viewed as a feminine trait. Therefore, people who are high in both masculinity and femininity would conceivably have higher condom use self-efficacy than those in the either of the traditional genders of masculine or feminine, or those who are low in both masculinity and femininity (undifferentiated). However, results of the present study indicated that those categorized as masculine as well as those categorized as androgynous had significantly higher condom use self-efficacy scores than those categorized as feminine and undifferentiated. Perhaps this may be a result of the inequities in number of items which address the mechanics of condom use self-efficacy as opposed to those addressing the negotiation of condoms on the CUSES scale. It may also result from the traits attributed to being masculine (e.g., assertiveness, defends own beliefs, dominant, etc.) as measured on the BSRI (Bem, 1981). Results suggest that the impact of gender on condom use self-efficacy warrants further exploration.

**Research Hypothesis 1c.** This hypothesis was supported by the data. When subjected to a one factor ANOVA, a main effect for condom-user classification was found, $F(3,$
295) = 22.21, p < .001. As predicted, participants who report consistently using condoms had higher condom use self-efficacy scores than those participants who have never used condoms (abstainers and nonusers) and those who have occasionally used condoms (sporadic users). Results of the post hoc analyses indicated significant differences (ps < .05) in condom use self-efficacy between the following groups: (a) ritualistic users and the sporadic users, nonusers, and abstainers; (b) sporadic users and the abstainers; and (c) nonusers and the abstainers.

The findings of the present study are consistent with those in previous research studies on condom use self-efficacy (Brafford & Beck, 1991; Brien et al., 1994; Mahoney et al., 1995). For example, Brafford and Beck (1991) found that abstainers had significantly lower condom use self-efficacy scores than those who had previously had sexual intercourse with the CUSES. They also found that ritualistic users had higher self-efficacy scores than sporadic users and nonusers. Brien et al. (1994) found similar results with the CUSES, reporting that ritualistic users had significantly higher condom use self-efficacy scores than sporadic users and nonusers. However, neither of these two reported studies using the CUSES employed all four categories used in the present study in their research designs. As the current investigation found significant differences in the condom use self-efficacy of sporadic users and abstainers as well as between nonusers and abstainers, further investigation is warranted.

**Research Hypothesis 1d.** This hypothesis was not supported by the data. However, when subjected to an independent measures t test, there was significance by
relationship status, $t(297) = -4.92, p < .001$. Those participants who were single and in committed relationships had significantly higher condom use self-efficacy scores than those who were single and not in committed relationships. This was opposite of what was predicted.

This result was surprising as it was predicted that those individuals in committed relationships would have lower condom use self-efficacy than those not in committed relationships. Although relationship status has not been a focus of condom use self-efficacy, it has been a focus of condom use research. Numerous research studies have indicated that individuals in committed relationships are less likely to perceive themselves to be at risk for HIV/AIDS and are thus less likely to use condoms in sexual encounters (Baldwin & Baldwin, 1988; Caron et al., 1993; Critelli & Suire, 1998; Dekin, 1996; Hammer et al., 1996; Misovich et al., 1996; Wendt & Solomon, 1995). Also, individuals in committed relationships are more likely to use other forms of birth control (e.g., oral contraceptives) than to use condoms. The finding of the present research that relationship status does impact upon condom use self-efficacy indicates the need for further research.

Perhaps the finding of the present research that those in committed relationships had higher condom use self-efficacy is a result of the nature of the realities of college students' committed relationships. College students tend to engage in short-term, serial monogamy. Thus, those in committed relationships may have had more experience using condoms because they have had more sexual partners. For example, Critelli and Suire (1998) found that those students in their study who reported being in
monogamous, committed relationships had a higher average number of sexual partners
than those not in committed relationships. Also, this may be a reflection of the
differences in the communication levels between these groups. Those in committed
relationships may possess better communication skills or may feel more confident in
their relationships for the negotiation of such issues as condom use.

**Research Hypothesis 1e.** This hypothesis was not supported by the data. When
subjected to a one factor ANOVA, no significant main effect was found for perceived
level HIV/AIDS risk on condom use self-efficacy, $F(2, 296) = 0.30, p > .05$.

This finding was surprising as it was predicted that those individuals who
perceive themselves to be at greater risk for HIV/AIDS would have higher condom use
self-efficacy than those who perceive themselves to be at no or low risk. Although
perceived HIV/AIDS risk has not been a focus in condom use self-efficacy research, it
has been included in research on condom use. For example, Wendt and Solomon
(1995) found that those students who were less likely to perceive themselves at risk for
HIV/AIDS were less likely to use condoms. Similarly, Kusseling et al. (1996) found
that students’ low perceived HIV risk was the most commonly reported reason given for
not using condoms in their last sexual encounter, even though the majority of those
responding acknowledged they did not know enough about their last partner to ensure
the encounter was actually a low risk for HIV transmission. These findings have been
consistently supported in research on condom use (Caron et al., 1993; Dekin, 1996;
DiClemente et al., 1990; Hammer et al., 1996; Misovich et al., 1996).
The findings of the present investigation may be a result of relatively small number of respondents who considered themselves to be at moderate/high risk for HIV/AIDS (n = 44). It may also be a result of the level of social desirability in the sample. It is possible the students in this study under reported their perceived level of HIV/AIDS risk due to their tendency to present themselves in a favorable manner.

**Research Hypothesis 2.** This hypothesis was supported by the data. When subjected to chi square goodness of fit tests, the ten items of the scenario indicated that participants attributed specific responsibilities for safer sex behaviors to either the male or the female character.

As predicted, the male character was perceived as being more responsible than the female character for the following behaviors: (a) making sexual advances; (b) purchasing condoms; (c) carrying/keeping the condoms; (d) ensuring the proper use of the condom; and (e) putting the condom on. However, although it was hypothesized that the male character would be perceived as more responsible for having the final say in whether condoms would be used in the encounter, results indicate that participants viewed the female character as more responsible for this behavior. As predicted, the female character was perceived as being more responsible than the male character for the following behaviors: (a) initiating a discussion about abstinence; (b) initiating a discussion about condom use; (c) persuading the partner to use condoms should the partner resist; and (d) ensuring that condoms will be used in future encounters. The results further indicate the need to investigate the role of sex-role related expectancies
in sexual encounters.

Overall, these findings are consistent with the relatively few studies previously conducted on sex-role related behaviors in condom use. Those behaviors related to the negotiation of safer sex behaviors are attributed to women, and those behaviors related to the mechanics of safer sex behaviors are attributed to men (Basen-Enquist, 1992; Catania et al., 1992; Kline et al., 1992; Quatrela & Mickler, 1998; Sacco et al., 1993).

It was surprising, however, that women were perceived by this sample as being more responsible for the final decision over whether condoms will be used in the encounter. This is the opposite of what has been reported in the literature (Catania et al., 1992; Kline et al., 1992; Sacco et al., 1993) For example, Sacco et al. (1993) found that although women indirectly influence condom use decisions (e.g., are more responsible for condom use negotiation), men ultimately have the final decision over whether or not condoms will be used. Also, Kline et al. (1992) found in their study of cultural norms and condom negotiation among Black and Latina women that women lack the empowerment to have the final say in whether or not condoms will be used in sexual encounters.

There are several possible ways to interpret this finding. Perhaps the present investigation is an indication that the subordinate roles which women have traditionally taken in sexual relationships is changing. It is also possible that women are perceived as having more power in sexual encounters than they actually do in reality. Finally, it is also possible that this finding is unique to this sample and does not represent a change in the empowerment of women in sexual encounters.
**Scenario Themes.** The main points of interest concerning the themes of the scenario included in the survey were: (a) the outcomes of the scenario and (b) the reasons attached to the outcomes. Of the 299 participants, 87% responded to this open-ended item. There was no sex of participant effect of those responding to the open-ended item. This suggests that the situation described by the scenario is of equal significance to both men and women. It also further validates the use of scenarios in investigations of sex research.

The majority of those responding to this item (87.30%) indicated that the fictitious characters engage in sexual intercourse. This finding suggests that sexual activity among college students is high, which has been supported throughout the literature (Douglas et al., 1995; Hammer et al., 1996; Hernandez & Smith, 1990; Keller, 1993; Landefeld & Chren, 1988, Simkins, 1995). Thus, the use of scenarios in sex research is further validated.

The four main outcome themes generated by this item included the following: (a) the characters do not have sex (12.70%); (b) the characters do have sex (17.69%); (c) the characters have sex without using a condom (4.23%); and (d) the characters have sex using a condom (65.38%). Although the fewest number of participants indicated that the fictitious characters would have sex without using a condom (4.23%), this is one of the most important findings generated from this research. It suggests that regardless of the negative consequences, students perceive engaging in unprotected sex as a viable outcome in sexual encounters. This has been consistently reported in the literature (Caron et al., 1993; Critelli & Suire, 1998; Douglas et al., 1995; Feigenbaum

The finding that the majority of those responding to this item indicated that the characters would use a condom in their encounter (65.38%) is encouraging. It suggests that practicing safer-sex measures in a sexual encounter is a viable consideration for students. It also suggests that the educational efforts in the realm of HIV/AIDS have been successful, which has been reported in the literature (Dekin, 1996; Kelly, 1995; Lewis et al., 1997). However, we must be careful in drawing conclusions from this data, as the scenario describes the first potential sexual encounter between characters who have known each other for six months, and does not include any items to address future encounters between the characters. The literature available on college relationships have indicated that college students often use condoms early in relationships, but discontinue condom use for alternative methods of contraception (e.g., oral contraceptives) once a monogamous relationship has been established (Caron et al., 1993; Critelli & Suire, 1998; Dekin, 1996; Hammer et al., 1996; Misovich et al., 1996).

From the four themes generated, there was a sex of participant effect in the numbers of those reporting that the characters do not have sex. Women (13.29%) were almost twice as likely than men (13.29%) to indicate this response. This suggests that women were more likely to consider abstinence as a viable choice in sexual encounters than men.

Of the 260 participants who wrote an ending for the scenario, 53.8% included a
reason for the outcome reported. Those who indicated that the characters do not have sex (12.70%) included the following reasons: (a) the characters are not ready (69.70%); (b) there was no condom available (12.12%); and (c) the male character refused to use a condom (3.03%).

The finding that the characters do not have sex because they are not ready suggests that students view an equality among men and women in the decision making of sexual encounters, and that not engaging in sex is a viable choice. The findings that the characters do not engage in sex because there is no condom available suggests that refusal to engage in sexual encounters without condoms is a viable choice for some students. Again, this suggests that the educational efforts in the realm of HIV/AIDS have been successful, which has been reported in the literature (Dekin, 1996; Kelly, 1995; Lewis et al., 1997). Finally, the finding that the characters do not have sex because the male partner refuses to use a condom suggests that some of the participants perceived the woman as having the final decision in this sexual encounter. This is opposite of what is reported in the literature, that women lack empowerment in sexual relationships (Catania et al., 1992; DiVasto et al., 1984; Kline et al., 1992; Sacco et al., 1993). This finding supports the quantitative analysis of the scenario in which participants viewed the female character as being more responsible for the final decision over whether condoms will be used in the encounter. Again, this may suggest that the subordinate roles of women in sexual relationships is changing. It may also suggest that women are perceived as having more power in sexual encounters than they actually do in reality.
Of the participants who indicated that the characters have sex (17.69%), only three females (13.04%) indicated a reason. The reason attached to this condition was that the characters have sex because they have mutually agreed to this decision. Although relatively small, this finding also suggests that students view an equality among men and women in the decision making of sexual encounters.

Of the participants who indicated that the characters have sex without a condom (4.23%), the following reasons were attached: (a) the male character refuses to use a condom (27.27%); (b) there was no condom available (45.46%). The finding that the characters have sex without using a condom because the male refuses suggests that some participants view the male as having the final say in whether or not condoms will be used, and that women will place themselves at risk because they lack the negotiation skills necessary to protect themselves. This finding is supported throughout the literature, indicating that women indirectly influence condom use decisions, but men ultimately have the final decision over whether condoms will be used (Catania et al., 1992; Kline et al., 1992; Sacco et al., 1993). The finding that the characters engage in sex without condoms because there is no condom available suggests that some students perceive the characters as placing themselves at risk and proceeding to have sex rather than waiting until condoms are available. This finding is reported in the literature which overwhelmingly reports that college students engage more frequently in spontaneous, unplanned sexual encounters without condoms (Douglas et al., 1995; Hernandez & Smith, 1990; Keller, 1993; Landefeld & Chren, 1988; Simkins, 1995).

Of the participants who indicated that the characters have sex using a condom
(65.38%), the following reasons were attached: (a) to prevent pregnancy and sexually transmitted diseases (9.41%); (b) because the male character is prepared for the encounter with condoms (10.00%); (c) the male tried to talk the female out of condoms, but she insisted (20.59%); and (d) the characters have mutually agreed to use condoms (19.41%).

The finding that the characters practice safer sex in order to prevent pregnancy and sexually transmitted diseases is also suggestive that the educational efforts in the realm of HIV/AIDS have been successful, which has been reported in the literature (Dekin, 1996; Kelly, 1995; Lewis et al., 1997). A sex of participant effect was found for this outcome response reason. Women (11.71%) were twice as likely than men (5.09%) to indicate the reason why the characters had sex with a condom was to prevent pregnancy and sexually transmitted diseases. This finding suggests that the issues of preventing pregnancy and the spread of sexually transmitted diseases is of greater significance to women participants than their male counterparts.

The findings that the characters have sex with the use of a condom because the male character is prepared for the encounter with condoms suggests that some of the participants viewed women as being in the passive role in the realm of condom use. This was further supported in the quantitative analysis of the scenario, as participants viewed that the male character was responsible for purchasing and carrying/keeping the condoms. Women (11.71%) were almost twice as likely than men (6.78%) to indicate the characters had sex with a condom was because the male character was prepared for the encounter with condoms. This suggests that women viewed the female character in
the scenario as being dependent on the male to be prepared for the encounter. This again is reflective of research which indicates that women indirectly influence condom use, but men ultimately have the final decision over whether they will be used (Catania et al., 1992; Kline et al., 1992; Sacco et al., 1993). It is also suggestive of the societal norms regarding condom use which typically place men in the role of being responsible for providing condoms for sexual encounters (Basen-Enquist, 1992; Catania et al., 1992; Carroll, 1991; Gerrard et al., 1990; Kline et al., 1992; Quatrella & Mickler, 1998; Sacco et al., 1993).

The findings that the characters use condoms in the sexual encounter because the male tried to talk the female out of using condoms but she insisted again is suggestive that some participants viewed the female character as having the final decision in this sexual encounter. This is opposite of what is reported in the literature, that women lack empowerment in sexual relationships (Catania et al., 1992; DiVasto et al., 1984; Kline et al., 1992; Sacco et al., 1993). This finding also supports the quantitative analysis of the scenario in which participants viewed the female character as being more responsible for the final decision over whether condoms will be used in the encounter. Again, this may suggest that the subordinate roles of women in sexual relationships is changing. It may also suggest that women are perceived as having more power in sexual encounters than they actually do in reality.

The findings that the characters have sex using a condom because they have mutually agreed to this decision again suggests that some of the participants viewed an equality among men and women in the decision making of sexual encounters. This
suggests that some of the participants viewed condom negotiation as a part of the
decision making process over whether or not condoms will be used in sexual
encounters.

Limitations

The limitations of the present study included the following:

1. The instruments used to measure the variables in this study were self-report.
The self-report nature of the instruments could limit their validity. However, Heiman
(1998) cites several studies which support the validity of self-report beyond non-self-
report measures, particularly when exploring topics of a sensitive nature. Similarly,
Weinhardt et al. (1998) reported the reliability and validity of using self-report
measures in HIV-related sexual behavior studies.

Also, self-report measures pose a threat to validity due to response sets (i.e.,
social desirability and acquiescence) or participant reactivity. As a means to counteract
social desirability response sets, the Social Desirability Scale (Crowne & Marlowe,
1964) was included in the survey. However, a positive correlation was found between
the SDS and the CUSES, \( r = .1319, p < .05 \). This represents a limitation of this study,
and therefore, the results must be viewed cautiously.

As a means to counteract acquiescence response sets, the inventories used in
this study included reversed wording of some of the items so that all of the items were
not phrased in the same direction.

2. The volunteer nature of the participants posed potential threats to both
internal and external validity.

3. The type of sampling used for this study was nonprobability sampling, which poses potential threats to external validity. Because a sample of convenience was used, generalizations to populations should be made with caution, and is a limitation of this study.

4. Assignment of participants into groups was based on participant variables. Thus, randomization of participants into groups was not possible, and is a limitation of this study.

5. The scenario and the ten items which were designed for use in this study and were based on previously conducted pilot studies (Quatrella, 1992; Quatrella & Mickler, 1998) has not been empirically established as a valid and reliable measure. The purpose of including this instrument was to address participants’ perceptions of sex-related responsibilities for specific behaviors and outcomes of a potentially high risk sexual encounter. As Borg and Gall (1989) assert, if such an instrument has content validity because of its development, and appears to be the best measure available, it is acceptable for use in a research study.

Reliability of the ten test items was established by a coefficient alpha for internal consistency on the total sample included in this study (N = 299) and resulted in an alpha coefficient of .74. A minimum Cronbach alpha reliability coefficient of .6 alpha value was recommended by Nunnally (1978). Thus, the present alpha value was sufficient for internal consistency.

6. The qualitative nature of the scenario outcomes poses a threat to the external
validity of the study. The participants were required to furnish an ending to the scenario provided, and the endings will be discussed by the main themes represented. As this focuses on social processes and the meanings that participants attribute to this particular social situation, it may limit the generalizability of the study.

7. The content of this materials used in this study focused primarily on heterosexual relationships, which also limits the generalizability of the study.

8. Ethnicity was not included as a salient participant variable in this study as the students attending the university sampled are primarily Caucasian. This also limits the generalizability of the study.

Implications for College Counseling Programs

Several current studies have been devoted to examining the practicing of safer sex measures and self-efficacy to use condoms when examining barriers to condom use among college students (Bakker et al., 1997; Basen-Enquist, 1994; Dekin, 1996; Mahoney, 1995; O’Leary et al., 1992; Wendt & Solomon, 1995; Wufert & Wan, 1993). Overall, results of these studies have confirmed that condom use self-efficacy is a predictor of safer sex practices. Thus, consistent with Bandura’s self-efficacy theory (1986; 1990), when individuals believe they have control over practicing safer sex, they are more likely to engage in these behaviors. However, if this information is to be useful in changing at-risk behaviors in college students, the variables which impact upon a person’s condom use self-efficacy must also be investigated.

The findings of the present study have implications for campus-based
prevention and intervention programs. The present study determined that, in
combination, the participant variables of sex, gender, condom-user classification,
relationship status and perceived HIV/AIDS risk were significant predictors of condom
use self-efficacy. Also, results indicated that there were significant differences in
condom use self-efficacy by sex, gender, condom-user classification, and relationship
status. Finally, results of the present study indicated that there are perceived sex-role
related responsibilities in sexual encounters. The implications of these results for
college-based prevention and intervention programs include the following:
1. Addressing sex-specific issues that influence condom-use self-efficacy is
recommended. Prevention and intervention programs should be tailored to emphasize
the message that the mechanics of condom use (e.g., purchasing condoms) and the
negotiation of condom use is the responsibility of both men and women. Programs
should incorporate practicing these behaviors, including such techniques as role playing
condom negotiation and requiring students to purchase condoms, in order to increase
students' self-efficacy. Although it is suggested that prevention and intervention
programs bring men and women together for educational activities, particularly when
conducting role playing, it is also suggested that they conduct seminars and educational
activities designed specifically for men or women. As sex differences were found in
both the qualitative and quantitative results of this study, addressing the specific needs
of men and women separately is recommended.
2. It is recommended that gender-specific issues that influence condom use self-efficacy
be addressed. The qualities attributed to masculinity and androgyny should be instilled
or reinforced so as to better enable the students to feel confident in their ability to protect themselves in high-risk situations.

3. As self-efficacy theory proposes (Bandura, 1977), performance accomplishment is the most influential source of self-efficacy. Thus, desensitizing students to condoms is recommended. This is particularly important for those students who have no prior experience with condoms (abstainers and nonusers), as this study demonstrated that they had lower condom-use self efficacy than those students who had prior experience with condoms (sporadic users and ritualistic users).

4. Addressing the issues specific to relationship status is recommended. Prevention and intervention programs should include discussing the realities of college relationships, especially the phenomenon of serial monogamy. Interestingly, this study evidenced that those students who were in committed relationships had higher condom-use self efficacy than those not in committed relationships. This may be due to the confidence of those in committed relationships to discuss issues regarding safer-sex measures or that those in committed relationships possess better communication skills than those not in committed relationships. Regardless of the reasons for the differences, prevention and intervention programs should address the communication skills, including condom-use negotiation skills, needed to practice safer sex measures.

5. It is recommended that educators emphasize the understanding of the behaviors which place college students at risk (e.g., serial monogamy). It is, after all, a person's behaviors, not the groups to which they belong, that determines their relative risk of HIV/AIDS infection.
Implications for Future Research

The results and implications of this study suggest several possibilities for future research on undergraduate students’ condom use self-efficacy. Those possibilities include the following:

1. A replication of this study would further establish its reliability and validity.

2. A path analysis to assess a possible path model leading to condom use self-efficacy would be useful in explaining the direction and relationships of the correlates of condom use self-efficacy. Since the participant variables sex and perceived HIV/AIDS risk were not significant predictors of condom use self-efficacy but did in combination produce a significant multiple $R$, it may be that these variables will be included in a path model as indirectly related to condom use self-efficacy but more directly related to the independent variables.

3. Since the amount of explained variance in the multiple regression, although statistically significant, only accounts for approximately one-third of total variance in condom use self-efficacy, other salient factors must be explored. Possible factors for future research studies could include the following: (a) including the religious affiliation of the participant; (b) including the total number of sexual partners of the participants; (c) inquiring about diagnosis of sexually transmitted diseases; (d) gauging the internal/external locus of control of the participant; (e) including a measure of attitude toward condoms; and (f) including a measure of self-esteem.

4. Further research on the reliability and validity of employing scenario research for
investigating the sexual behaviors of college students needs to be conducted.

5. Scenario research which includes vignettes of varying lengths of time in the relationship (e.g., first encounter, three months later, six months later, etc.) needs to be conducted to address the effect of monogamy on the practice of safer sex.

6. The implications of social desirability in sex research needs to be further explored.

7. A valid and reliable instrument to measure sex-role related behaviors in sexual encounters needs to be developed.

8. The operational definition of monogamy in college student relationships needs to be established in order to better understand the phenomenon itself, as well as to ensure that future research studies be comparable to each other, particularly when investigating relationship status as a predictor of condom use self-efficacy.

9. Accurate estimates of HIV infection rates among college students need to be determined. Although college students have been identified as a high-risk group for HIV transmission due to their sexual behaviors and their refusal to respond to the threat of AIDS by practicing safer sex, there are few estimates of the prevalence of HIV among college students.


Dekin, B. (1996). Gender differences in HIV-related self-reported knowledge,


Yarnold (Eds.), *Reading and understanding multivariate statistics* (pp. 19-64). Washington, DC: American Psychological Association.


of the Eastern Psychological Association, Washington, DC.


Strahan, R., & Gerbasi, K. (1972). Short homogeneous version of the


Appendix A

Informed Consent
Dear Potential Participant,

Thank you for taking the time to read our invitation to participate in this research project. The present study is being conducted in fulfillment of the Ph.D. dissertation requirement in Counseling Psychology in the Education and Professional Psychology Department of Seton Hall University, South Orange, New Jersey. The purpose of this study is to examine college students' feelings about their ability to use condoms in sexual encounters, regardless of whether or not they have actually used condoms. Also of interest in this study is college students' perceptions of specific behaviors of fictitious characters who are in potentially high risk sexual situations. The survey requires you to respond to questions concerning your own behavior as well as your opinions about the behaviors of the fictitious characters.

The following pages consists of three standardized inventories including the BEM Inventory, the Brafford-Beck Inventory, and the Crowne-Marlowe Scale as well as a scenario followed by questions concerning the behavior of the fictitious characters in which you will be required to indicate which character is more responsible for ten specific behaviors, including condom use. Then, you will be required to write an ending for the scenario. Finally, you will be required to provide specific demographic information. Included in the demographic information is a question which asks you to disclose your sexual orientation as well as other personal information. The BEM Inventory consists of 60 personality characteristics which you will be required to indicate on a scale from 1 ("never or almost never true") to 7 ("always or almost always true") how true each of these characteristics is in describing you. The Brafford-Beck Inventory consists of 28 statements concerning your feelings about condom use in specific situations, regardless of whether or not you are sexually active or have never used (or had a partner who used) condoms, which you will be required to indicate on a scale from 0 ("strongly disagree") to 4 ("strongly agree") your level of agreement/disagreement for each statement. The Crowne-Marlowe Scale consists of 32 statements concerning personal attitudes and traits which you will be required to indicate for each statement "T" for True or "F" for False as it pertains to you personally.

Please read the directions for each inventory carefully and then respond to each item in the spaces provided. Please note that only complete surveys will be used. Failure to respond to any portion of the survey (including the demographic information) will result in the survey being discarded. If you choose to participate, completing the inventories will take you approximately 30 minutes.

There are no foreseeable risks or discomforts which would occur as a result of your participating in this study. In the unlikely event that any discomfort or injury occurs (e.g., psychological discomfort), we cannot offer you any compensation or treatment. This research study deals with topics that may be morally objectionable to some students.
If you feel that this subject matter is morally objectionable or you believe you may be troubled by completing the inventories, feel free not to do them. If you do answer them and experience some discomfort, we encourage you to speak with a trusted friend or a professional. There may be no significant benefit to you by participating in this research, however studies such as this can generate data that can be useful in understanding college students' perceptions concerning the topics addressed in this study. In some cases, extra credit may be given for your participation in this study for the class in which you received the survey. If your instructor offers extra credit for completing this project and you do not want to take part, your professor will offer you an alternative means to obtain the extra credit. You will be notified of this before you are asked to participate.

All of your answers will remain confidential and anonymous. Please do not put your name or directly identifiable information on any of the forms. The results will most likely be published, but only in a general, summary form.

Your careful participation in this study is greatly appreciated but is completely voluntary. You may refuse to participate in this study and withdraw from participation at any time without negative consequences. If you decide to participate, your completion and return of the inventories implies your informed consent; thus, you do not have to put your name on any form.

If you have any questions, please feel free to ask any of the following people:

- The person who handed you this material.
- The people conducting this research:

Lucy A. Quatrella  LucyAQuatrella@worldnet.att.net
Dr. Byron Hargrove  hargroby@shu.edu or (973) 275-2855

This project has been reviewed and approved by the Seton Hall University Institutional Review Board for Human Subjects Research. The IRB believes that the research procedures adequately safeguard the subject's privacy, welfare, civil liberties, and rights. The Chairperson of the IRB may be reached through the Office of Grants and Research Services. The telephone number of the Office is (973) 275-2974.

I have read the material above, and any questions I asked have been answered to my satisfaction. I agree to participate in this activity, realizing that I may withdraw without prejudice at any time.
A summary of the results will be available in April 2000 from the authors of this study. Please contact us at the e-mail addresses or the telephone number listed above.

Thank you for considering taking part in our research.

Cordially,

Lucy A. Quatrella, MA
Doctoral Candidate

Byron K. Hargrove, Ph.D.
Dissertation Mentor
Appendix B

Condom Use Self-Efficacy Scale
The Condom Use Self-Efficacy Scale

Directions: These questions ask about your own feelings about using condoms in specific situations. Please respond even if you are not sexually active or have never used (or had a partner who used) condoms. In such cases, indicate how you think you would feel in such a situation. Responses are scored as follows:
0 = strongly disagree, 1 = disagree, 2 = undecided, 3 = agree, and 4 = strongly agree.
For each of the following items, please circle the number which corresponds to your level of agreement: disagreement with the statement.

0 1 2 3 4 1. I feel confident in my ability to put a condom on myself or my partner.

0 1 2 3 4 2. I feel confident I could purchase condoms without feeling embarrassed.

0 1 2 3 4 3. I feel confident I could remember to carry a condom with me should I need one.

0 1 2 3 4 4. I feel confident in my ability to discuss condom usage with any partner I might have.

0 1 2 3 4 5. I feel confident in my ability to suggest using condoms with a new partner.

0 1 2 3 4 6. I feel confident I could suggest using a condom without my partner feeling “diseased.”

0 1 2 3 4 7. I feel confident in my own or my partner’s ability to maintain an erection while using a condom.

0 1 2 3 4 8. I would feel embarrassed to put a condom on myself or on my partner.

0 1 2 3 4 9. If I were to suggest using a condom to a partner, I would feel afraid that he or she would reject me.

0 1 2 3 4 10. If I were unsure about my partner’s feelings about using condoms, I would not suggest using one.

0 1 2 3 4 11. I feel confident in my ability to use a condom correctly.
123

01234 12. I would feel comfortable discussing condom use with a potential sexual partner before we had any sexual contact (e.g., hugging, kissing, caressing, etc.).

01234 13. I feel confident in my ability to persuade a partner to accept using a condom when we have intercourse.

01234 14. I feel confident I could gracefully remove and dispose of a condom after sexual intercourse.

01234 15. If my partner and I were to try to use a condom and did not succeed, I would feel embarrassed to try to use one again (e.g., not being able to unroll condom, putting it on backwards, or awkwardness).

01234 16. I would not feel confident suggesting using condoms with a new partner because I would be afraid he or she would think I’ve had a past homosexual experience.

01234 17. I would not feel confident suggesting using a condom with a new partner because I would be afraid he or she would think I have a sexually transmitted disease.

01234 18. I would not feel confident suggesting using a condom with a new partner because I would be afraid he or she would think I thought they had a sexually transmitted disease.

01234 19. I would feel comfortable discussing condom use with a potential sexual partner before we ever engaged in sexual intercourse.

01234 20. I feel confident in my ability to incorporate putting a condom on myself or my partner into foreplay.

01234 21. I feel confident that I could use a condom with a partner without “breaking the mood.”

01234 22. I feel confident in my ability to put a condom on myself or my partner quickly.

01234 23. I feel confident I could use a condom during intercourse without reducing any sexual sensations.
24. I feel confident that I would remember to use a condom even after I have been drinking.

25. I feel confident that I would remember to use a condom even if I were high.

26. If my partner didn't want to use a condom during intercourse, I feel I could easily convince him or her that it was necessary to do so.

27. I feel confident that I could use a condom successfully.

28. I feel confident that I could stop to put a condom on myself or my partner even in the heat of passion.
Appendix C

Sexual Encounter Scenario
Scenario

Jesse and Lisa are 18 year old college undergraduates. They have been dating for about six months. They live in the same dormitory on campus. They spend a lot of time together, and have become very close. Although this is not the first serious relationship for either of them, it is the first relationship they have had since leaving home and coming to school. Tonight, Jesse and Lisa went to the school basketball game, and then went back to the dorm for pizza. Both of their roommates have gone home for the weekend, so they have their dorm rooms to themselves. When they returned from the game, they ate and decided to relax by watching television in Lisa's room. As they were lying together on the bed watching television, they started kissing, and both of them began thinking about the possibility of having sex.

Directions: Listed below are ten questions. After reading each question carefully, please indicate which of the two you believe is MOST responsible with the behavior contained in the question by circling their name.

1. Who do you think will be more responsible for making sexual advances (going beyond kissing)?
   - Jesse
   - Lisa

2. Who do you believe will be more responsible for stopping to talk about abstaining from sex (choosing not to have sex)?
   - Jesse
   - Lisa

If they decide to have sex...

3. Who do you think will be more responsible for bringing up the discussion about using condoms?
   - Jesse
   - Lisa

4. Who do you think will be more responsible for persuading the other to use condoms if he she should resist?
   - Jesse
   - Lisa

5. Who do you think will have the final say in whether or not condoms will be used?
   - Jesse
   - Lisa

If they decide to use condoms...

6. Who will be more responsible for purchasing the condoms?
   - Jesse
   - Lisa
7. Who will be more responsible carrying or keeping the condoms?  
   Jesse    Lisa

8. Who will be more responsible for making sure the condoms are used correctly?  
   Jesse    Lisa

9. Who will be more responsible for putting the condom on?  
   Jesse    Lisa

10. Who will be more responsible for the consistent use of condoms in future encounters?  
    Jesse    Lisa

Please write an ending to the scenario (what you think will happen between these characters) using the spaces provided.
Appendix D

Demographic Sheet
Demographic Sheet

Directions: The following is a list of questions which are important to the analysis of our study. We realize that these questions ask for personal information, and we appreciate your responses to these items. Please do not put your name or any directly identifiable information anywhere on this form.

1. Sex (circle one): Male    Female

2. Age: ______

3. Class rank (circle one): Freshman    Sophomore    Junior    Senior

4. Major (fill in or circle if undecided): _________________________ undecided

5. Residential Status (check one):
   ___ Commuter student    ___ Residential student (live on campus)

6. Sexual Orientation (check one):
   ___ Heterosexual    ___ Homosexual    ___ Bisexual    ___ Unsure

7. Relationship Status (check one):
   ___ Single, not in a committed relationship    ___ Single, in a committed relationship
   ___ Married    ___ Separated    ___ Divorced    ___ Widowed

8. Which of the following statements is true of you? (check one)
   ___ I have never had sex.
   ___ I have had sex with one or more partners and have never used a condom.
   ___ I have had sex with one or more partners and have occasionally used a condom.
   ___ I have had sex with one or more partners and have always used a condom.

9. What do you think are your chances of getting HIV/AIDS? (check one)
   ___ None    ___ Low    ___ Medium    ___ High

10. Have you thought about being tested for HIV/AIDS? (circle one)    Yes    No

11. Have you ever been tested for HIV/AIDS? (circle one)    Yes    No
    If YES, what was the outcome of your results? (circle one)    Positive    Negative

12. Do you know anyone who has tested positive for HIV/AIDS? (circle one)    Yes    No
Appendix E

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Bem Sex-Role Inventory

Test Booklet (Short and Original)

Permission for:
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