Assessing College Students Readiness To Change Alcohol Use Behavior Related to Perceptions of Alcohol Effects on Sexual Assault

Patricia Pasky McMahon
ASSESSING COLLEGE STUDENTS’ READINESS
TO CHANGE ALCOHOL USE BEHAVIOR RELATED TO
PERCEPTIONS OF ALCOHOL EFFECTS ON SEXUAL ASSAULT

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The incidence of sexual assault on the college campus has not declined for women despite a national decline in violent crime. Binge drinking continues to be an issue on college campuses and has been directly associated with the increased risk of sexual assault. The lack of programming effectiveness by institutions of higher education to deter the incidence of sexual assault related to alcohol use on college campuses continues to be a major issue across the nation. Legislation such as the Clery Act which requires all institutions of higher education receiving federal funds to make public all reported sexual assaults on their campuses and efforts to deter this crime have yet to make an impact in reducing the incidence of sexual assault.

The present research examined female and male college students’ readiness to make a behavioral change related to sexual assault vulnerability due to alcohol use. The theoretical framework for this study was the Transtheoretical Model of Change.
Instruments used were the Illinois Rape Myth Assessment survey, the Alcohol Use Disorders Identification Test, and the University of Rhode Island Change Assessment survey.

This study found that the majority of students responding to the survey did not believe in rape myths, over one-third admitted to binge drinking, and of those choosing to binge drink, over one-third were women. Of those reporting to binge drink, 94 percent were in the precontemplation stage indicating that they did not acknowledge their alcohol use was in need of a change in order to decrease risk of sexual assault.

These findings suggest a need for a new direction in sexual assault prevention programming that incorporates alcohol use awareness. The recommended format should identify the intended audiences’ stage of readiness to make a change in alcohol use in order to decrease risk of sexual assault. Stage identification would determine the processes needed to support the transition to the stage where action upon the problem would follow. Support for students to acknowledge and then to act upon their high risk drinking in order to lessen the risk of sexual assault may eventually lead to a decrease incidence of sexual assault.
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CHAPTER I

1 INTRODUCTION

1.1 Overview of the Topic

Brownmiller (Fisher, et al., 1975), a 1970s sociologist, wrote that rape was not a sexually driven act, but an act driven by a quest for power and control. Results of further research indicated that not only was sexual assault a power driven act, but that society primarily believed that sexual assaults were largely a consequence of various errors made by women; not the fault of the perpetrator; further substantiating society’s belief in rape myths (Burt, 1980; Gilbert, Heesacker, & Gannon, 1991; Morry & Winkler, 2001; Nayak, Byrne, Martin, & Abraham, 2003; Payne, Lonsway, & Fitzgerald, 1999). These proposed errors by women included provocative dress, alcohol use, permitting any form of intimate contact with the perpetrator such as kissing and touching, and if the woman had invited the perpetrator into her living area such as a dorm room.

Prior to 1987, sexually violent crimes such as rape and sexual assault were viewed as infrequent crimes as reported by the National Crime Victimization Survey (NCVS) (1987; Koss, Gidycz, & Wisniewski, 1987). The groundbreaking study by Koss et al. found the incidence of sexual assault reported at institutions of higher education within a 6-month period was 38 per 1,000 women. These startling statistics were corroborated by
subsequent studies which found that one in four college women reported to researchers they had been sexually assaulted during their lifetime, and one in five college women reported experiencing a sexual assault during their college years (Fisher, Cullen, & Turner, 2000; Karjane, Fisher, & Cullen, 2002, 2005; Tjaden & Thoennes, 1998). The significant differences in statistical reports from the NCVS and other researchers was found to be due to screening differences in the phraseology of questions and wording used to determine the type of incident that occurred (Fisher, et al., 2000). For example, in some reports wording used did not include various ways in which women can be victimized that would indicate a sexual assault or rape had occurred.

College women continue to face a higher incidence of sexual assault than their non-college counterparts (Fisher, et al., 2000; Sorenson, Stein, Golding, & Burnam, 1987). Alcohol is a common factor found in rapes occurring in college women and non-college women and is found to be used with high frequency by victims and perpetrators during the time of the sexual assault (Abbey, Clinton, McAuslan, Zawacki, & Buck, 2002; Zawacki, Abbey, Buck, & McAuslan, 2005). Despite efforts designed to respond to the prevalence of sexual assault in the community and on college campuses, the incidence of sexual assault has not declined, though nationally, other violent crimes such as burglary and home invasions have declined (Sampson, 2003; Statistics, 2007). Adair (2006) reviewed the effectiveness of sexual assault prevention programs that were intended to impact sexual violence on the college campus. The review found that few programs had been formally evaluated and none of the reviewed programs indicated that the information gained by the participant from the individual programs did in fact result in a decline in sexual assault.
1.2 Background of the Study

During the 1990s, the U.S. Congress was prompted to pass several laws for institutions of higher education management of sexual assault on campus. The laws included the Student Right-To-Know and Campus Security Act of 1990 and its amendment, the Campus Sexual Assault Victims’ Bill of Rights of 1992, usually referred to as the Clery Act. The Federal laws mandated that institutions of higher education notify students about crime on campus, publicize their prevention and response policies, maintain open crime reports, and ensure sexual assault victims their basic rights.

The Clery Act was again amended in 1998 and renamed the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act. The Clery Act was named in honor of Jeanne Clery, a student who was tortured, raped, sodomized, and murdered in her dormitory room in 1986. The Clery Act was the result of the efforts of the victim’s family and families of other victims who recognized the imperative need for institutions of higher education to change their response to campus crime, both in the areas of prevention and response.

In 1999, the U.S. Congress mandated that the National Institute of Justice (NIJ) investigate institutions of higher education compliance with the Clery Act. The directive was brought about by Congress in response to public concern over campus crime, specifically the unrelenting incidence of sexual assault found among institutions of higher education (Karjane, et al., 2005). The NIJ released the report in December 2005 that reviewed institutions of higher education compliance with the Federal policies. Findings indicated that sexual assault awareness and prevention programs conducted by institutions of higher education directed at deterring sexual assault on their campuses
lacked achievement of their primary goal. The NIJ report concluded that programs instituted on college campuses directed at deterring sexual assault on the campus were not effective in achieving their goal which was to deter sexual assault. A previous and more recent meta-analysis of sexual assault education programs reported that sexual assault prevention programs did impact participants’ knowledge and attitudes for short periods of time, but there was no effect on the incidence of sexual assault on the respective college campuses (Anderson, Stoelb, Duggan, & Hieger, 1998; Anderson & Whiston, 2005).

Programs directed at deterring rape myths and rape supportive attitudes are predicated on a belief that changing rape myths and rape supportive attitudes would lead to a decline in sexual assault (Flores & Hartlaub, 1998). A meta-analysis conducted in 1998 by Flores and Hartlaub targeted sexual assault programs directed at rape myth acceptance. The programs evaluated were found to have a small effect size of .30. The analysis concluded that none of the studies demonstrated a long term effect as a result of the program. Another meta-analytic study of programs directed at rape supportive attitudes found that attitude change did occur following the program, but this change declined over time (Brecklin & Forde, 2001). Lacking within the program reports was documentation of any effect on sexual assault incidence. The analysis noted that program evaluations must move beyond attitude change to exploring the relationship between attitude change and the incidence of sexual assault. The NIJ report identified that rape myths held by college students intermingled with alcohol issues involved in sexual assault needed to be incorporated into new programming designs (Karjane, et al., 2005).
The incidence of sexual assault has not declined for college women despite a national decline in violent crime (Bureau of Justice Statistics, 2007). The efforts of institutions of higher education to conduct intense sexual assault prevention programs, and legislation such as the Clery Act which requires all institutions of higher education receiving federal funds to make public all reported sexual assaults on their campuses and efforts to deter this crime, have yet to make an impact in reducing the incidence of this crime (Sampson, 2003).

While it is acknowledged that men can fall victim to sexual assault and rape, the focus of studies referenced within this research concentrate primarily on issues and parameters related to sexual assault committed against college women specifically residing within the U.S. The interchangeable use of rape and sexual assault among the reviewed studies requires both terms to be used when referencing various reports. The term “sexual assault” is the designated term directly related to sexual violence committed against college women that was used specifically for this study.

1.3 Purpose of the Study

The present research intends to examine female and male college students’ readiness to make a behavioral change related to sexual assault vulnerability due to alcohol use. The study:

- determined if there is a perceived relationship between alcohol use and sexual assault as measured by two tools that measure alcohol use and rape myth beliefs,
- identified college students’ assessment of what is sexual assault as measured by rape myth beliefs,
assessed the college students’ level of readiness to change alcohol use behavior in order to decrease individual risk of sexual assault utilizing a change assessment tool.

Success of intervention programming should lead to a decline in the incidence of sexual assault on college campuses. It is proposed that the information gathered from this survey will provide a unique depiction of individuals within the study. The unique picture will support the need to tailor sexual assault intervention programming to the audience, thus enhancing the probability of long-term success of future programs. By examining the research results of students attending two different campuses within one university system, differences among students’ responses may be observed. The differences would then support the need for programs to assess the intended audience prior to the program design. Program design would then account for individual parameters such as understanding the relationship of alcohol use to sexual assault, belief in rape myths, and most importantly, the readiness to change alcohol use and rape myth beliefs in order to decrease the risk and the incidence of sexual assault.

This study is based on the findings of Prochaska, Norcross, and DiClemente (1994) that less than 20% of an identified group having a similar problem or issue are prepared to take action on that problem or issue. The Transtheoretical Model of Change (TTM) is a model depicting the various stages of readiness to change of the individual. By identifying the stage of change of an individual within a group, appropriate timed coping skills may be incorporated. The benefit of the individualization within the group provides program planners with a more realistic format that may lead to broader program success. Identifying the stage of change of the intended audience may enhance long-term
success in a sexual assault prevention program’s mission. Participants’ readiness to address the effects of alcohol use on sexual assault and rape myths held by the participants are the intended focus of this study.

1.4 Research Questions

The research questions included:

1. What perceptions do college students have concerning the effects of alcohol on sexual assault?
2. Do students adhere to traditional rape myths?
3. What stage of readiness to change behavior are college students with regard to their perception of the effect of alcohol use on the risk of sexual assault?

It was hypothesized that the initial measurement of the perceptions concerning alcohol’s effect on sexual assault, the present definition of sexual assault, and students’ readiness to change behavior related to alcohol use would vary within and between groups surveyed. The findings provided a unique platform from which future intervention programming could be tailored.

1.5 Definition of Terms

Campus culture. Campus culture is based on the shared patterns of behavior, assumptions, values, and beliefs of individuals participating in the organization (Gonzalez, 2002).

Campus culture change. For successful change in the campus culture, the power of the peer group must be used with the classroom being identified as the primary locus of culture building (Kuh, 2002).
Culture. Culture refers to patterns of human activity and the symbolic structures that give such activity significance. Culture denotes the whole product of a group or society including technology, art, science, as well as moral systems and the characteristic behaviors and habits of the specific group (Lindberg, et al., 2002; Tsui, 2000).

Prevention program. A prevention program is a planned event that focuses on the development of skills that enable the participants to avoid problem behaviors. Skills that are related to effective prevention include supporting participants’ abilities to develop cognitive skills, abilities to communicate assertively, and abilities to negotiate resisting the problem behavior (Adam, 2005).

Rape myth. Rape myths are attitudes and beliefs about rape that are generally false but are widely and persistently held, and they serve to deny and justify male sexual aggression against women (Lonsway, 1996). In this study, rape myths were measured by the Illinois Rape Myth Assessment tool.

Rape. Rape is legally defined as forced sexual intercourse including both psychological coercion as well as physical force. Forced sexual intercourse means vaginal, anal, or oral penetration by the offender(s). This includes incidents where the penetration is from a foreign object. Included are attempted rapes, male as well as female victims, and both heterosexual and homosexual rape (Bureau of Justice Statistics, 2007).

Sexual assault. Sexual assault includes a wide range of victimizations, including attacks or attempted attacks generally involving unwanted sexual contact between victim and offender. Sexual assaults may or may not involve force and include such things as grabbing or fondling and includes verbal threats (Bureau of Justice Statistics, 2007).
Sexual violence. The World Health Organization (Organization, 2002) defined sexual violence as any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed against a person’s sexuality using coercion, by any person, regardless of their relationship to the victim, in any setting, including but not limited to home and work (p. 149).

1.6 Assumptions

Thus far, sexual assault programs offered across the U.S. have yet to make a significant impact to deter campus sexual assault (Adair, 2006; Anderson & Whiston, 2005). It is assumed that the multitude of programs that have been presented on college campuses have not been successful in deterring the incidence of sexual violence due to the omission of initial assessment of important aspects of the intended student audiences. While campus programs have been designed to address issues surrounding sexual assault on the college campus including alcohol, preliminary identification of student specific factors to that campus have been neglected in the program design. The student specific factors include (a) individual student’s belief that alcohol use may increase the risk of sexual assault, (b) the presence and type of rape myths held by the individuals within the targeted group, and (c) individual student’s readiness to change a behavior, such as alcohol use, in order to deter risk of sexual assault.

1.7 Limitations of the Study

Two campuses based within one large university were used to conduct this study. Though each of the campuses are similar in size, residential accommodations, Greek Life membership, athletic programs, and extent of degree attainment; the types and extent of
alcohol and sexual assault intervention programs offered were not controlled within this study.

It is acknowledged that other factors besides alcohol use and rape myths are part of the broad issues of sexual assault prevention on the college campus. As is discussed, the Transtheoretical Model of Change (TTM) may not be readily translated for use to international populations that bear a different perspective concerning individual freedoms.

1.8 Significance to Nursing

Sexual assault is a crime primarily against women and youth and the incidence on college campuses is not declining (Karjane, et al., 2005). The unremitting prevalence of sexual assault among college women indicates a need for a new approach that takes into account audience specific factors. College health nurses are in a prime position to make an impact on this issue. College health nurses institute many of the sexual assault prevention programs and may be one of the initial contacts made by the victim (Fisher, Daigle, Cullen, & Turner, 2003). College health nurses already are knowledgeable about the importance of identifying patients’ state of readiness to make lifestyle changes (Von Ah, Ebert, Ngamvitroj, Park, & Kang, 2004).

The significance of this study lies in the support of nursing initiatives to institute audience specific programs that may lead to attainment of the program objective which is to deter sexual assault as it relates to alcohol use. This study provides a unique nursing opportunity that enables the college health nurse to impact the campus culture in the area of sexual violence. Targeting the campus culture through programs specifically designed to address patterns of behavior, assumptions, values, and beliefs as they relate to the
perceptions of the effects of alcohol on the incidence of sexual assault may lead to a culture that demonstrates intolerance to this type of violence.
CHAPTER II

2 REVIEW OF THE LITERATURE

This is a review of the literature pertinent to the unrelenting problem of sexual assault on college campuses with a focus on alcohol use and college students’ perception of rape myths. Rape and sexual assault are defined. To demonstrate the relationship between campus sexual assault and alcohol, an overview of sexually violent crime on the college campus, the role of alcohol in sexual assault, the social fraternity and sorority life, the college athletes’ use of alcohol as it relates to involvement with sexual assault risk, resident assistants’ function in prevention programs, and the relationship of alcohol to sexual assault is presented. The lack of successful intervention programming directed at rape myths and the effects of the campus culture on the incidence of sexual assault is reviewed. The theoretical framework for this study is found within the context of the Transtheoretical Model of Change (TTM) from which the University of Rhode Island Change Assessment tool is derived. Presented within the discussion are the Illinois Rape Myth Assessment tool and the Alcohol Use Disorders Identification Test. Gaps in the literature pertaining to this topic are presented.

2.1 Introduction

Violence against women is an issue that had not been identified as a concern or even a social problem until the early 1970s (Tjaden & Thoennes, 1998). Prior to this
time, the following statement by 17th century Sir Matthew Hale was read to all juries involved in rape trials; “Rape is an accusation easy to be made, hard to be proved, but harder to be defended by the party accused” (Rozee & Koss, 2001). Through the work of feminist researchers, activists, and the Women’s Movement, the legal and social parameters of rape in the United States changed. Scholars from disciplines such as philosophy, literature, law, and sociology began to investigate the matter of violence against women. From this concern of violence against women grew an alarming awareness of the sexual victimization of women. The research spurred interest in the findings that sexual victimization of college women had reached epidemic proportions (Fisher, et al., 2000). This victimization is often referred to by the term “hidden rape” due to the lack of victim reporting that this crime has occurred (Burgess & Koss, 1988; Fisher, et al., 2000). Researchers report that for every rape reported to the police, 3 to 10 rapes committed are not reported (Fisher, Cullen, & Daigle, 2005; Karjane, et al., 2002; Koss, et al., 1987).

2.2 Sexually Violent Crime on the College Campus

Rape and sexual assault occur primarily to women between the ages of 15 and 19 with the second most prevalent age span to be 20 to 24 (Fisher, et al., 2005; Koss, et al., 1987). This posits college women in the age range of these two highest age-risk categories. The unique setting of the college environment enables women and men to come into contact in a variety of public and private places on college campuses. The incidence of rape on private and major university campuses is a two times greater compared to public and smaller institutions of higher education (Karjane, et al., 2005; Koss, et al., 1987).
Date and acquaintance rape accounts for over 80% of all rapes on college campuses (Dunn, Vail-Smith, & Knight, 1999). Public outrage supported by research findings that indicated college women are at a greater risk for sexual victimization than women in the general population led to the U.S. Congress passing the Student Right to Know and Campus Security Act of 1990 (Fisher, et al., 2000). This act mandates that institutions of higher education receiving federal student aid make public and distribute to their students, faculty, and staff campus security reports including crime statistics. The mandate includes that campuses specify programs and interventions undertaken to deter these crimes.

In a descriptive correlation study involving pre-college sexual victimization and college assault, it was found that 57% of high school girls (n = 100) experienced some form of sexual victimization, usually in a dating situation. These girls inwardly blame themselves and silently move forward to college. Further evaluations of these girls who have been pre-college victims find that they have a tendency to use alcohol at a higher rate, report higher levels of consensual sex, and experience more dating victimization during their college years (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2001; Himelein, 1995). O’Keefe (2005) conducted a review of risk factors associated with teen dating violence and concluded that research supports findings that sexual violence occurring during the teen years correlated with higher rates of sexual victimization during the college years.

The majority of incidents of sexual assault and rape involving college women are not reported to the campus or community police, or campus officials. Lack of reporting to legal authorities ranged from 81.7% to 95% of those involved. Research reports that 2.1%
reported their sexual assault to the police, whereas 4% reported to campus personnel (Fisher, et al., 2003). Due to this lack of reporting, the police statistics do not bear out the actual numbers of women who experience sexual victimization (Dunn, et al., 1999). Reasons for this underreporting include victims feeling they will not be believed, lack of proof, fear of unsympathetic police, or the victim not considering the incident as serious enough to report. Friends and family may be accessed for support but a staggering 20% to 59% of victims will suffer silently, seeking no assistance (Dunn, et al., 1999; Fisher, et al., 2000; Fisher, et al., 2003).

2.3 Defining Sexual Assault and Rape on the College Campus

Further exploration of the consistent lack of reporting of sexual violence found that women needed to first see themselves as a victim in order to report that they had been a victim of a crime (Pino, 1999). Exploring how women define rape or sexual assault found that half of the victims who did not disclose that they were a victim defined rape to be a random occurrence by a stranger resulting in a violent sexual attack with serious injury (Kahn & Mathie, 1994; Payne, et al., 1999). In a comparison study designed to discern characteristics of sexual assaults that involved intoxication, physical force, and verbal coercion, it was found that women who reported physical force were most likely to label what had occurred as a rape, to hold the perpetrator as responsible for what occurred, to report the most negative effects, and to view this episode as most serious (Abbey, Parkhill, Beshears, Clinton, & McAuslan, 2005).

Koss, Figueredo, and Prince (2002) evaluated recall experiences of sexual assault victims and found that recall of sexual assault also is an important consideration in regards to the victim identifying the occurrence as a sexual assault as well as reporting
the assault. Recall of the sexual assault is influenced by how the victim initially appraises the experience. Victims who see the incident such as a sexual assault reconstruct it differently than those who see it as a bad sexual experience. Victims who view the sexual assault as being their fault will recall it differently than those who view the sexual assault as caused by a sexual perpetrator. Rationale for self-blame includes the victim’s perception of inaction by not saying “no” enough times or self-blame due to alcohol use. Recall of the victim is greatly affected by substances used prior to the assault. Benzodiazepines, cannabis, and alcohol use result in the victim being able to recall only the most salient features, without ability to recall details (Koss, et al., 2002). The type of recall and parameters surrounding the sexual assault directly affect the victim’s willingness to report the assault and provides the rational for the victim’s silence.

Researchers also found that 80 to 90% of offenders are known by the victim (Abbey, et al., 2005; Fisher, et al., 2005; Mills & Granoff, 1992). Dunn et al. (1999) found that 45% of perpetrators did not believe they had committed a rape though their descriptions of the incidents would meet the legal definition of rape. A majority of men believed that a woman’s refusal to have sex was not serious and that a woman would have to say no at least 2.6 times before he would believe her (Mills & Granoff, 1992). An investigation of college males’ tendency toward committing sexual violence found that 25% of college men admitted to sexually aggressive behavior and of these, 4% admitted to committing rape (Abbey, McAuslan, & Ross, 1998; Koss, et al., 1987; Lisak & Miller, 2002). It has been reported that sexually aggressive men selected partners for potential vulnerability to sexual coercion (Himelein, 1995; Lisak, 2004).
2.4 The Role of Alcohol in Sexual Assault

Substantial alcohol use is widespread among college students especially in social settings where the risk of sexual assault has been linked (Abbey, Clinton, et al., 2002; Fisher, et al., 2000; Fisher, et al., 2003; Harrington, Brigham, & Clayton, 1999). Women should not be held to blame for being a victim of sexual assault due to alcohol use any more than men should be excused of forcing sexual advances on women due to the men’s use of alcohol (Abbey, Zawacki, Buck, Testa, Parks, & Norris, 2002; Norris, et al., 2005; Testa & Livingston, 2002). A woman’s alcohol use does not cause her to be assaulted and alcohol use does not cause men to sexually assault women (Lisak, 2004). Empowering college women to exert control over potentially dangerous situations such as sexual assault must begin with a baseline awareness of factors that could place the women in harm’s way (Mohler-Kuo, Dowdall, Koss, & Wechsler, 2004). Mohler-Kuo et al. (2004) also noted that availing the same information to men may further enable men to identify as supporters of a safer environment for women.

Mohler-Kuo et al. (2004) reported on a previously little studied area concerning rapes of college women that occur when the women were intoxicated. This study used the data from the 1997, 1999, and 2001 Harvard School of Public Health College Alcohol Study (CAS) surveys. The pool consisted of 120 colleges, with a random sample of 215 female students selected from each survey representing a national cross-section of students enrolled at 4-year colleges. The analytic sample included all college women in the 1997 ($n = 8,567$), 1999 ($n = 6,988$), and 2001 ($n = 6,988$) CAS. Differences among the prevalence of rape between survey years were compared ($p < 0.5$) using Pearson chi-
statistics and odds ratios to examine rape occurring while the victim was intoxicated, other rape such as forcible rape, and any rape.

Of the women in this study (Mohler-Kuo et al., 2004) that reported they had been raped, 72% of the victims experienced rape while intoxicated. This study also found that women were at a high risk of rape while intoxicated if the women were under 21, were White, resided in sorority houses, used illicit drugs, and drank heavily in high school. In addition, a relationship was reported between the incidence of sexual assault and the incidence of binge drinking on the college campus. It was found that women have a 1.5 fold increased risk of being sexually assaulted while intoxicated when attending an institution of higher education that has a reported higher rate of binge drinking rates than on a college campus reported to have low binge drinking rates (Mohler-Kuo, et al., 2004).

Dates that ended in sexual assault have been associated with heavy alcohol use by men and women (Abbey, Zawacki, Buck, Testa, Parks, Norris , et al., 2002). Sexual assault intervention and prevention programs on the college campus continue to focus on a variety of causes for women to be sexually assaulted including stranger and acquaintance sexual assault, alcohol use, and rape myths, yet no significant decline is found in the incidence of sexual assault (Carter, Ortman, Roe, Volk, & Alexander, 2004; Karjane, et al., 2005).

Characteristics of a prototype of sexual assault perpetrators on the college campus identify descriptors such as male, 20 years old, who sexually assaults a dating partner, which usually occurs within the victim’s living area, with a 50% reported use of alcohol (Abbey, et al., 1998). The study also found that the male perpetrator who reported sexually assaulting a victim once had typically sexually assaulted women on average
three times. Lisak’s (2004) work corroborates the serial nature of the campus sexual assault predator.

A study conducted by Lisak and Miller (2002) at a New England institution of higher education identified 120 rapists out of a sample of 1,882 college students. Of the 120 men, 76 were identified to be serial rapists and on average had 14 victims. The study compared the predatory characteristics of incarcerated rapists to the study sample and found that both groups shared the same violent and predatory behavior. This led the researchers to state that it is the sexual predators who are primarily responsible for rape on campus, not alcohol influencing an otherwise “good guy” to commit a sexual assault. The study concluded with recommendations that future programming must be directed at the vast majority of men who will never commit sexually criminal acts. The programs must help the non-sexual offending males understand that their interaction in peer groups and activities either actively or passively support or hide the sexual predators in their midst. The non-sexual offenders become facilitators or passive bystanders to the sexual predator by their laughing at the predator’s jokes, and by listening in an accepting manner to the predator’s stories of unwilling sexual conquests. Educating the non-sexual offender to oppose the few strengthens the entire community’s opposition to a culture that supports sexual violence (Lisak & Miller, 2002).

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) report (2002) noted that alcohol is the rape drug of choice among perpetrators. The NIAAA study also found that more than 70,000 students between the ages of 18 and 24 survive alcohol-related sexual assaults each year. The results from this report determined that sexual assault frequently involves alcohol consumption. Further, this report indicates that many
rapes are preplanned by the perpetrator encouraging the woman to drink to intoxication for the sole purpose of obtaining sex from the woman.

Sexual assault perpetrated by a stranger has apparent danger cues, whereas an assault perpetrated by an acquaintance can require a woman to undergo much more information processing such as interpreting the perpetrator’s motivations along with assessing what repercussions her response may cause (Norris, et al., 2005). Norris et al. (2005) undertook a two-pronged study based on the realization of the differences among women in processing danger cues from an acquaintance, along with the knowledge that women have preconceived beliefs about how alcohol will affect their reactions to any given situation. The study found that the more vulnerable the woman perceived she would be if she was drinking alcohol, the more vulnerable she reacted in a threatening situation such as sexual assault when she was drinking alcohol. Also, it was found that the more vulnerable the women expected alcohol to make them, the more powerlessness and passivity they projected. Norris et al. concluded that sexual assault prevention programs need to address the women’s cognitions and resistance responses when confronted with sexual assault. The parameters of cognition and resistance responses are different for each woman leading to the importance of audience assessment prior to program planning and implementation.

It has been determined that alcohol use is one of the strongest predictors of rape (Abbey, Clinton, et al., 2002; Abbey & McAuslan, 2004; Koss & Gaines, 1993; Mohler-Kuo, et al., 2004; Zawacki, Buck, Abbey, McAuslan, & Clinton, 2002). Alcohol involvement concerning sexual assault perpetration has been studied from various perspectives. Alcohol and non alcohol using perpetrators were compared to non
perpetrators (Abbey, Zawacki, Buck, Testa, Parks, Norris, et al., 2002). Both non-alcohol consuming perpetrators and alcohol consuming perpetrators reported a stronger history of delinquency, aggressive and sexually dominant personality styles, and more frequent misconceptions of women’s friendliness such as sexual interest, greater support for casual sex, and more traditional gender role beliefs, than did non perpetrators. The researchers also found that both alcohol using and non alcohol using types of perpetrators encouraged their victims to consume alcohol. This suggests that programs need to focus on the individual’s use of alcohol in dating and sexual situations rather than on general drinking patterns.

A tool used to measure alcohol use and problems associated with drinking among the college population is the Alcohol Use Disorders Identification Test (AUDIT). The time period evaluated by this test for the majority of the questions relates to the past 12 months. Results of the AUDIT compare closely to other self-report alcohol abuse screening tests including the Michigan Alcohol Screening Test and the test commonly referred to as the CAGE test which is an acronym for cut down, annoyed, guilty, and eye opener (Locke & Mahalik, 2005). Various studies exploring alcohol use in relation to campus violence such as sexual assault have used this tool in the college population (Locke & Mahalik, 2005; Reinert & Allen, 2002; Ullman, Karabatsos, & Koss, 1999).

2.5 Greek Life and the Relationship of Alcohol to Sexual Assault

Fraternity men constitute one of the highest risk groups for alcohol-related problems among college students (Meilman, Leichliter, & Presley, 1999). Problems associated with alcohol use among fraternities include fights, arguments, poor grades, and unplanned sexual activity. Controversy exists concerning the perception that fraternity
members and their residences are considered as highly related phenomena that lead to the sexual assault of women (Foubert, 2000; Schwartz & Nogrady, 1996). The term rape culture is affiliated with fraternities indicating that the environment within the fraternity is one that supports values and beliefs for an environment conducive to rape (Boswell & Spade, 1996; Foubert, 2000; Larimer, et al., 2001).

A significant subset of fraternity members report symptoms of alcohol dependence as evidenced in the results of a study of 28 pledge classes at a large West coast university (Larimer, et al., 2001). A longitudinal randomized study designed to impact drinking rates and prevalence of alcohol-related negative consequences such as sexual assault was conducted (Larimer, et al., 2001). Though a decline in drinking behavior was found, no impact was made in the reduction of alcohol-related consequences.

Women who belong to sororities, whether living in sorority housing or not, have been found to drink more alcohol than non-Greek female groups and attribute their engaging in casual sex to their alcohol consumption (Abbey, Clinton, et al., 2002). Previous research directed at sorority women and sexual assault found that almost half of the women had experienced some form of sexual coercion; 24% experienced attempted rape, and 17% were victims of completed rape (Mohler-Kuo, et al., 2004). Further, Mohler-Kuo et al. (2004) found that almost half of the rapes occurred in a fraternity house, and over 50% occurred during a fraternity function or were perpetrated by a fraternity member.
2.6 College Athletes, Alcohol Use, and Sexual Assault

Sexual aggression in college men who participate in collegiate athletics has been found to have a relationship to the incidence of sexual assault. Koss and Gaines (1993) found that one third of sexual assaults on college campuses were committed by male college athletes. Other studies have explored male athletes’ sexual aggression and alcohol use finding that alcohol use was related to an increase in these males acting more sexually aggressive (Fisher, et al., 2000; Testa & Livingston, 2002; Ullman, et al., 1999). Locke and Mahalik (2005) researched male sexual aggression, rape myth acceptance, and alcohol use as this triad of variables had not been previously explored. Although athletic involvement did not predict sexual aggression or rape myth acceptance, alcohol use did show a relationship with sexual aggression in the male athletes in this study. Female athletes, alcohol use, and sexual assault or sexual aggression were not discussed.

2.7 Role of Resident Assistants in Sexual Assault Prevention

According to Sharkin, Plageman, and Mangold (2003), resident assistants (RA) are student leaders who are employed by an institution of higher education to monitor and assist students who live in the residence hall. Students interested in becoming an RA usually undergo a specific training program designed to provide them with essential information to support the students residing on the RA’s floor. Knowledge of the policies of the institution of higher education, on campus resources, and communication skills are among the areas that an RA program may include. RAs are considered paraprofessionals and typically have professional staff such as resident coordinators to whom they report.

Offering programs to their residents is an integral part of the RA’s duties. Programs may vary from diversity issues to wellness concerns but should also include
campus safety as noted in the litigation involving the University of Southern Maine. Maine’s Supreme Judicial Court reinstated a lawsuit that was filed by the parents of a female student who was raped in their residence halls ("Sexual assault lawsuit against U. of Southern Maine may proceed, court rules", 2001). The Court ruled that the case could go forward because the woman had not met with a resident assistant nor was the student given information about campus safety. This indicates the pivotal role of the RA in programming and dissemination of campus-related information, yet little is found in the literature concerning the role of the RA in sexual assault prevention programming on the college campus.

2.8 Rape Myths

The origin of the study of the concept of rape myths initially was introduced by sociologists and feminists in the 1970s (Payne, et al., 1999). Feminists such as Brownmiller (1975) wrote and spoke extensively about society condoning sexual violence against women. Specifically, Brownmiller wrote that rape of a woman by a man “was a victorious conquest over her being, the ultimate test of his superior strength, the triumph of his manhood” (p. 14). This statement indicated that rape was not a sexually driven act, but an act driven by a quest for power and control. Entwined with this concept were findings by researchers such as Koss et al. (1987) that society believed that rape was a consequence of errors made by women (Nayak, et al., 2003).

The results of the above cited studies indicated that myths associated with sexual assault are ingrained into society and hold victims responsible for their own assault and are the rationale for victims not reporting and for not seeking assistance following a sexual assault. These myths include beliefs that the woman is responsible, or the
perpetrator is not to blame for the sexual assault if the woman dressed provocatively, consumed alcohol, or allowed intimate touching, or if there was a history of sexual activity in the past either with the perpetrator or with other males.

Brecklin and Forde (2001) specifically evaluated programs directed at effecting rape supportive attitudes and rape myths among college students. In each of the programs, the positive attitude change that was initially found as a result of the intervention program declined over time. This fact has been documented in the literature since the 1990s (Adair, 2006; Hanson & Gidycz, 1993; Heppner, Humphrey, Gunn Hillenbran, & DeBord, 1995). The foundation for future programming is negatively impacted by two omissions in sexual assault prevention programs directed at rape supportive attitudes and rape myths. The reports lack research directed at gaining insight into possible causes of program participants reverting to pre-program attitudes (Brecklin & Forde, 2001). The reports also lack measurement of program effectiveness found through assessing program curriculum and outcome measurements to determine effect of the program to deter campus sexual assault (Adair, 2006).

One of the early tools designed to investigate the acceptance of rape myths was Burt’s (1980) Rape Myth Acceptance Scale (RMAS). This instrument was designed to assess the characteristics and the role of the victim. The RMAS has been used by various researchers exploring the perceptions and attitudes about rape myths and the effects that the attitudes and beliefs in these myths have on victims primarily on college campuses (Gilbert, et al., 1991; Morry & Winkler, 2001; Nayak, et al., 2003). The Illinois Rape Myth Acceptance Scale (IRMA) was later designed to incorporate more extensive aspects
of rape myths held by society with a particular focus on college students (Payne, et al., 1999).

Payne, et al. (1999) noted the lack of structural exploration and concept mapping of the construct of rape myth. It was concluded that further study was needed specifically concerning structural issues of rape myth acceptance such as victims deserving to be raped and the perpetrators’ motives. Payne et al. also identified among rape myth scales an absence of structural investigations that attended to how rape myths functioned among men and women. The measurement considerations included a thoroughly developed construct base and a well delineated content domain and domain structure. In the pretest period of the instrument’s development, important areas to address included wording to reflect the current time period and clarity of the terminology. The early focus on clarifying terminology strengthened the instrument’s reliability.

The Illinois Rape Myth Acceptance Scale (IRMA) is a 45-item scale based on 6 criteria with 7 subscales. In designing IRMA, the researchers incorporated components that were similar to RMAS with the addition of three important content areas. These areas were identified as the presumption of the victim’s enjoyment of rape, the deviant characteristics of rape, and the definition of what is rape (Payne, et al., 1999). Preliminary studies were conducted demonstrating that rape myths cannot be viewed as unidimensional but as one component with several subscales.

A short form of the IRMA referred to as the Illinois Rape Myth Acceptance Scale-Short Form (IRMA-SF) was designed by the researchers of the IRMA to accommodate investigators who may find a 45-item questionnaire too lengthy. The IRMA-SF consisted of 20 items with an alpha of .87. The researchers advised that the
shortened version was made to assess only general rape myth acceptance and was not able to measure any of the specific rape components as listed in the long form.

Validity of an instrument is enhanced by the consistency in implementing the instrument (Waltz, Strickland, & Lenz, 2005). The content within the study as presented by Payne et al. (1999) clearly delineates not only the process that led to the evolution of the IRMA, but the essential steps needed to implement, score, and analyze the results of the instrument. The results of several studies consistently support the findings of Payne et al. demonstrating participants scoring higher on the 7-point Likert scale of the IRMA-SF indicates a greater degree of rape myth acceptance (Bohner, Unna, Siebler, & Samson, 2002; Locke & Mahalik, 2005; Loh, Gidycz, Lobo, & Luthra, 2005).

2.9 Campus Culture

An important element of campus culture is the epistemological orientation of how students acquire knowledge. Institutions of higher education need to examine intentional and unintentional means of how students acquire knowledge in order to successfully support the bridging of efforts between the academic arena and complex campus issues such as alcohol abuse and sexual assault (Tsui, 2000). The campus culture is not easy to change as can be seen by the unrelenting incidence of sexual assault documented on college campuses since 1985. To develop successful institutional cultural change, capturing the power of the peer group and focusing on curriculum infusion have been suggested (Kuh, 2002; Riley, Durbin, & D'Ariano, 2005). Students’ perceptions of campus culture affects the way the students will choose to participate and act within the college campus (Ropers-Huilman, Carwile, Lee, & Barnett, 2003). Results of studies have documented that institutions of higher education must deal with the “rite of
passage” belief among students that students believe impels them to consume alcohol in varying amounts, often to excess. This high level of consumption has been directly linked to the prevalent rates of sexual assault on the campus (Abbey, Zawacki, Buck, Testa, Parks, & Norris, 2002; Cole, 2006; Mohler-Kuo, et al., 2004; Tevyaw, Borsai, & Colby, 2007). The challenges of dismantling what Ottens and Hotelling (2001) termed as the rape culture on college campuses will require intensive, sustained rape education with attention to alcohol abuse and use.

The National Advisory Council of the National Institute on Alcohol Abuse and Alcoholism established a task force directed to evaluate and make recommendations on how to deal with the culture of campus alcohol ("Alcohol and Sexual Assault", 2002). The findings included the importance of targeting individual students who are both high risk and non-high risk in order to build a foundation that would link to the other recommendations with the aim of making a campus culture change. Other strategies included involvement by the student body as a whole and partnership with the surrounding community. Identifying individual attitudes and perceptions was identified as a key component to a successful beginning to attain a culture change.

2.10 Analysis of Program Effectiveness to Decrease the Incidence of Sexual Assault

Whereas great strides have been made in the understanding of sexual assault on the college campus, there is little evidence within published studies that indicate the programs impacted the incidence of sexual assault (Adair, 2006). Program evaluations traditionally occurred at 1 month to 5 months post-intervention; concluding diminished positive effect of the program’s intent (Anderson & Whiston, 2005). Lack of empirical
evidence for program effectiveness and effect on the incidence of sexual assault were cited as deficiencies consistently found among sexual assault prevention programs (Anderson & Whiston, 2005; Heppner, et al., 1995).

Three meta-analyses were conducted over the past 9 years. Flores and Hartlaub (1998) focused on studies investigating rape myths; Brecklin and Forde (2001) evaluated studies exploring attitudes about rape; and a broader overview of rape prevention programs was conducted by Anderson and Whiston (2005). Each meta-analysis concluded that few, if any, programs supplied empirical evidence that the programs implemented affected the incidence of sexual assault on the college campus.

Karjane, Fisher, and Cullen (2005) noted that the incidence of sexual assault on college campuses has not declined despite various efforts by institutions of higher education. Stein (2007) noted that despite the last few decades of the institutions of higher education response to Federal mandates requiring sexual assault prevention programming, few strategies have made a measurable impact.

As hypothesized by some studies, Brecklin and Forde (2001) concluded that mixed gender groups do not do as well in accomplishing the goals of a sexual assault awareness program as single gender groups. Multiple sessions provided throughout the four years of college were widely recommended which were similar to Flores and Hartlaub’s (1998) recommendations. Programs focusing primarily on males as perpetrators were also found to be ineffective (Stein, 2007). Incorporating a peer model that is representative of the target group was hypothesized to enhance program success.

With the consistent acknowledgment that sexual assault prevention programs directed at impacting attitudes, behavior, and knowledge rebound over time, there are
parallel recommendations for improvement of future programs. Respondents to program surveys note that the information was not relevant to them which is why, in part, the information gained was not felt to be necessary to retain (Gidycz, et al., 2001). Efficacy for future sexual assault programs includes recommendations that participants need to identify their own risk factors in order to make an impact in deterring sexual assault on the campus (Adair, 2006). Programs need to incorporate audience specifics into program focus in order to enhance success (O'Donnell, et al., 2002). Programs need to be designed that respond to the underlying individual and situational factors that contribute to the sexual exploitation of college women.

Although several research studies indicate that individuals tend to acquire behaviors and attitudes of the particular group of which they are a part, knowing the characteristics of that group is significant as it may not be the same as other peer groups (Choate, 2003; Harrington, et al., 1999; Wechsler, et al., 2003). As noted in models of behavioral change, individuals are more likely to take action if the individual perceives the self as vulnerable. Programs designed to identify individual behavioral beliefs and vulnerabilities may tend to be more successful. As previously noted, a culture change is what may be required to finally impact the alcohol and sexual assault issue, but no change is possible if the same unsuccessful efforts are continued.

2.11 Theoretical Framework

Life itself is change. Prochaska et al. (1994) detected, as did the Greek philosopher, Heraclitus, that each moment in time is different; nothing remains static for an instant, from a planetary to a molecular level. Prochaska et al., who are the authors of the Transtheoretical Model of Change (TTM), found the philosophy of existentialism to
be liberating. The philosophy of existentialism emphasizes the existence of the person as a free and responsible agent who is able to determine his or her path through the individual’s choices by free will (Lindberg, et al., 2002). This philosophy stresses the significance of the human experience and the expression of human freedom. The existentialist sees the individual truly acting in the light of the open space of possibilities that the world allows (Blackburn, 1996). This philosophy is strongly evidenced throughout the TTM.

2.11.1 Readiness to Change; the Transtheoretical Model of Change

Utilizing the Transtheoretical Model of Change (TTM), unique programs can be designed that will have the ability to directly impact the intended population (Prengel, 2005). The assessment of the stage of readiness for change of specific attitudes and beliefs will provide information pertinent for the design of a program specific to the targeted group. Future programming on the campuses of institutions of higher education could adopt pre-program assessment as a standard in order to plan a tailored program that will hopefully lead to making an impact. This impact will be found by observing a decrease in the incidence of sexual assault on college campuses; something that has not been accomplished since the problem was initially researched in 1987 by Koss, Gidycz, and Wisniewski (Fisher, et al., 2000; Karjane, et al., 2002; Koss, et al., 1987).

In 1982, the Transtheoretical Model of Change (TTM) was introduced as a method to support how people intentionally change a behavior with and without psychotherapy (Prochaska, DiClemente, & Norcross, 1992). The authors of the TTM realized that despite multitudes of theories on behavioral change, there was no clear understanding of how people change. By combining the profound insights of
psychoanalysis, the powerful techniques of behaviorism, the experiential methods of cognitive therapies, the liberating philosophy of existentialism, and the humane relationships of humanism, they introduced the TTM (Prochaska, et al., 1994).

These psychologists worked from the premise that if there were basic common principles that could reveal the structure of change, addictive and other unhealthy behaviors could more successfully be eliminated. Using the TTM, the first addictive behavior studied was smoking. They identified processes of change that were applied at various times that supported the change. When these processes were correctly applied to the stage at which the individual was at the time, the movement to the next stage came more smoothly. By understanding the importance of correctly identifying the individual’s stage of change, one can then apply the associated processes to support this stage correctly.

2.11.2 Overview of the Transtheoretical Model and Stages of Change

The philosophical framework of the Transtheoretical Model of Change (TTM) is found in existentialism. There is a strong commitment to the belief that the individual possesses free will with the freedom to choose a path in life. Inherent in this philosophy is the individual choosing to act within the many possibilities found in our world.

The TTM evolved from the review of over 300 theories of psychotherapy with the goal to determine how people change addictive behaviors with and without treatment (Glanz, Lewis, & Rimer, 1997). From this extensive search, nine essential principles were derived called the processes of change. These processes are defined as any activity that the individual initiates to help modify his or her thinking, feeling, or behavior (Prochaska, et al., 1994). From these processes, Prochaska, Norcross, and DiClemente
conducted an empirical analysis of individuals termed *self changers* as compared to smokers using professional therapy. The participants described various strategies that they used during their struggle to quit. This led to the realization that these strategies were not described in any of the over 300 current psychotherapies.

The processes of change designed by Prochaska et al. (1994) included:

- consciousness-raising
- social liberation
- emotional arousal
- self re-evaluation
- commitment
- countering
- environmental control
- rewards
- helping relationships

Many techniques may be used with each process. The goal of all of these techniques is to increase awareness and depth of feeling which supports the individual to progress through each stage.

Consciousness-raising is heralded as the most widely used change process and initially was described by Sigmund Freud. Freud noted that the main objective of psychoanalysis was to make the unconscious conscious (Prochaska, et al., 1994). This process is expanded to include any new knowledge about the self and the nature of the individual’s problem.
Prochaska et al. (1994) related social liberation as support found in the external environment. For those committed to quit smoking, the support can be found in removal of ashtrays from the living environment, non-smoking areas located in public establishments, and lower insurance rates for non-smokers. The parallel to social liberation on the college campus for a student opting to limit alcohol use can be found in supportive means such as alternative non-alcohol events held on campus, substance-free housing, and alcohol-free events held off campus among the local community clubs and taverns. This boosts self-esteem as the individual comes to believe in the individual’s aptitude to hold the power and ability to change.

Emotional arousal works at a deeper feeling level than consciousness raising. It is an extremely powerful process that enables the individual to learn what defenses the self is harboring against change. It is often termed the dramatic release or catharsis. It is felt when an emotional experience occurs such as a close relative dying from lung cancer due to smoking (Prochaska, et al., 1994). A similar example of the catharsis is felt by the individual when it is learned that a friend was sexually assaulted after being encouraged to drink excessively.

Self re-evaluation enables the individual to observe what life and the self may be like when the problem is conquered. This is the period of time when the individual assesses feelings and thoughts about oneself in light of the problem.

Commitment is sometimes referred to as “self-liberation” because it is an acknowledgement that the individual is the only one responsible for the self. The next step is choosing to go public with the commitment. Announcing to others about the new
commitment has been proven to be quite powerful in supporting the individual’s success than keeping the commitment private.

Countering is a term that indicates the individual is replacing a healthy response with an unhealthy choice. Healthy alternatives also can be effective as countering techniques; for example, a student can opt to eat dinner prior to attending a social gathering instead of imbibing alcohol prior to attending the party.

Environmental control involves a restructure by the individual of the present external environment. This may include such measures as reducing the amount of alcohol planned for the event and including the availability of snacks throughout the evening. Hosting creative events without alcohol and displaying commitment for a reduction or absence of alcohol are within the purview of the environmental controls.

Rewards in the form of positive reinforcement are more successful than negative measures (Prochaska, et al., 1994). This can take the form of praise from others for success in the work accomplished thus far. Positive reinforcement may also be found in the form of self rewards set earlier in the process.

Helping relationships are essential for those attempting change alone or through the guidance of psychotherapy. The individual requests support from others by sharing what help is needed and relating what presently is being experienced.

Prochaska, et al. (1994) noted that behavioral change unfolds through a series of changes that are supported by the use of the newly identified processes of change. These changes, which are inherent to the TTM, were identified as occurring in a series of six specific stages. Each of the stages occurs in a predictable, well defined pattern that demonstrates a series of tasks that are accomplished over a period of time prior to the
movement to the next stage. There are six defined stages of change which include (a) precontemplation, (b) contemplation, (c) preparation, (d) action, (e) maintenance, and (f) termination.

2.11.2.1 Precontemplation Stage

The precontemplation stage is described as the period of time when site of the problem eludes the individual. Those in this stage prefer to change those around them rather than change themselves. Precontemplators avoid information about the problem and experience a feeling of demoralization. Recognition that these feelings of demoralization are normal is a first step in moving to the next stage.

2.11.2.2 Contemplation Stage

The contemplation stage is when the problem is acknowledged and solutions are explored. Due to a lack of knowledge about how to solve the problem, contemplators may remain in this stage for years. Self-changing smokers have been noted to stay in this stage for two years before taking action (Prengel, 2005). Transition to the next stage occurs when attention is on the solution and futuristic thoughts dominate the thinking.

2.11.2.3 Preparation Stage

During the preparation stage, action is seen within the next 30 days. Success is seen with careful planning with a detailed design for action with the necessary change processes in place to support the individual through to the maintenance stage.
2.11.2.4 Action Stage

Behavior modification and essential adaptations to the environment occur during the action stage. This stage requires the greatest commitment of time and energy to the goal. The move to the goal is imminent.

2.11.2.5 Maintenance Stage

Success within the maintenance stage relies on recognition of the gain made thus far. In so doing, lapses and relapses may be prevented. This stage may last from six months to a lifetime (Prochaska, et al., 1994).

2.11.2.6 Termination Stage

The ultimate goal for all those undergoing a change is to attain the termination stage. The former addiction or problem does not present any threat; the behavior never returns. The individual has complete self confidence that he or she can cope without fear of relapse. The cycle of change is now exited and the individual overcomes the struggle (Prochaska, et al., 1994).

Figure 1 clearly depicts the processes that support each stage of the change process.
Figure 1. Stages of change in which particular change processes are most useful

To determine the present stage of the individual requires first that the individual identify what action he or she needs to take, such as not drinking or limiting the amount of alcohol intake. Next, identifying the current stage of the individual is key to the successful progress toward the goal. To determine this, the individual is asked to respond “yes” or “no” to the following statements.

1. I solved my problem more than six months ago.
2. I have taken action on my problem within the past six months.
3. I am intending to take action in the next month.
4. I am intending to take action in the next six months.

A “no” response to all statements indicates the precontemplation stage. A “yes” to number four and a “no” to the other statements places the individual in the contemplation stage. A “yes” to statements three and four and a “no” to the others place the person in
the preparation stage. A “yes” to statement two and a “no” to statement one places the individual in the action stage. When statement one is responded to with a “yes,” the individual has achieved the maintenance stage (Prochaska, et al., 1994).

This initially appears as a linear progression toward a goal. In reality this is very rare. Relapse is to be expected. The average self changer will revert to previous stages several times before achieving the maintenance stage. The process is more clearly depicted in a spiral form. Prochaska et al. (1994) likened the change process to climbing the Leaning Tower of Pisa; as the individual walks up the spiral stairs, a few steps are taken that head downward prior to ascending to the next level.

2.11.3 Conceptual Model

The TTM is a conceptual model. It represents a new paradigm replacing the more action oriented paradigm that previously dominated behavior change in the field of psychotherapy. According to Fawcett and Downs (1992), a conceptual model must reflect the philosophic stance and evolved practice tradition of members of a discipline of which TTM exemplifies. This model guides the theory of how people master change. This is accomplished by the outlining of the action and support needed for successful behavioral change.

The TTM exemplifies a fully evolved conceptual model specifically because (a) the TTM possesses the phenomena to be studied which is how people change a behavior, (b) the focus is on the distinct nature of the problem which is change; (c) the focus is about the subjects which are those that have a behavior in need of change; (d) the research design is quasiexperimental, the methods are observation and questionnaire; (e)
the data analysis focuses on the end stage, but also data was identified that supported intra-stage predictors for success; and (f) the TTM entails a summary of contributions.

The significant contributions made by this model are found within the unprecedented successes achieved by the TTM. Scientific and professional shifts are required. The shifts include movement (a) from an action paradigm to a stage paradigm, (b) from reactive to proactive recruitment, (c) from expecting participants to match program needs to having programs match participants’ needs, and (d) from clinic-based to community-based behavioral health programs that apply the most powerful individualized and interactive intervention strategies. Fawcett and Downs (1992) and Glanz et al. (1997) surmised that with these shifts, the U.S. may be better prepared to respond to the many unmet needs related to prevention of chronic disease and premature death.

Review of the TTM finds that it may provide a most unique approach to the ongoing issue of the impact of alcohol on sexual assault. Several parameters were explored in relation to the appropriateness of the TTM for this study. The parameters include clarity, consistency, difficulty level for implementation, and the diagrammatic representation of the model.

The TTM demonstrates precise boundaries with fluid movement within the model. Consistency is found in the clear description of each stage and supporting processes. The theoretical and conceptual definitions found within each stage and each process is clearly and consistently defined. This is demonstrated by the multitude of problem behaviors that have met with successful change by following this model. The validity of the content and constructs outlined in the TTM are observed in the repetitive
trials with various problems by the founders of this theory and those using it. Organizations utilizing the TTM in various research projects include the National Institutes for Alcoholism and Alcohol Abuse, the National Cancer Institute, the Centers for Disease Control projects aimed at HIV/AIDS prevention, Johnson and Johnson Worldwide, the American Lung Association, and the American Cancer Society (Prochaska, et al., 1994). Propositional clarity is demonstrated in the simplistic cookbook approach to support successful change for any individual with or without a therapist. This model is systematic in the recommended approach in order to achieve success with any change. Each stage is linked to the next along with the supporting processes which links each to the theory.

Congruency between the stages and processes is demonstrated by the balance among them along with the preparation needed from the previous stage to progress to the next level. Regression to the previous stage or to a lower stage is possible without stage frustration due to the balanced construction which allows this movement. This model is based on a building block format with the individual attaining each stage in a sequential pattern, even if there is regression. The fit between the assumption of the change, the constructs needed to obtain the change, and the supporting processes is consistent with the appearance of the actual process in any actual use of the model or clinical study of the model.

One of the initial and sometimes still prevailing criticisms of the TTM is the simplicity of the whole process. From the simplistic steps to identify the individual’s present stage, to the supporting processes inherent in each stage; the spiral movement remains to be a very straightforward, easy to understand methodology. Using Chaffee
and Berger’s Scientific Criteria for analysis, the TTM is found to be an effective and useful scientific theory ("Health context; Transtheoretical Model", 2001). This is based on the TTM possessing a strong explanatory power as can be seen by the ability to provide credible explanations for the two major components: the stages of change and the processes of change. The TTM has strong internal consistency as demonstrated by the solid presentation of the interconnectedness and internal logic (Grothues, et al., 2005; Larimer, et al., 2001; Locke & Mahalik, 2005). The TTM is extremely useful in the area of heuristic provocativeness as exemplified in the multitude of national and international research that it spurred in multiple disciplines along with promoting further expansion of knowledge in the area of change not limited to behavior, but into attitudes and more.

Diagrammatic representation: The initial review of this model may appear linear due to the straightforward approach that leads to the success of the change as depicted in Figure 2.

**Figure 2.** Linear representation of the Stages of Change

Figure 3 more clearly depicts the spiral pattern of change. Those successful at change go through these stages three to four times before they make it to the top and exit the cycle (Prochaska et al., 1994, p. 48).
Figure 3. The spiral of change

Meleis (2005) identified six principles used to determine the acceptability and usefulness of a theory. These include gender sensitivity of the testing, diversity of the population tested, vulnerability and marginalization of the population tested, cultural competency of the methods, boundaries of the theory, philosophical framework, and significant testing.

Marginalization as a principle within theory testing as described by Meleis (2005) pertains to a population such as people who are stripped of their voice, power, and right to resources. Vulnerable and marginalized populations are readily found among those tested through the TTM. Populations that include alcoholics, drug addicts, and those practicing high risk sexual behaviors may include people as described by Meleis as a marginalized population. Through successful intervention with the right processes at the right stage found within the TTM, a new self-image may emerge, leading to a new way of life (Grothues, et al., 2005). The feelings of vulnerability and loss of power are replaced with self-control and self-determination. The individuals who are successful look, think, feel, and act with genuine confidence (Prochaska, et al., 1994).
Cultural competency of the TTM methods is supported by Posner ("Behavior change -- A summary of four major theories", 2004) who noted that in a study of sex workers in Bolivia, few study participants were in the precontemplative or contemplative stages in regard to condom use. Through the identification of the stage of change of the study participants, the correct processes were incorporated into the program. The results were found in the successful change by the participants to adapt safe-sex practices through condom use. The success of the TTM in a culture outside of the U.S. led to further recommendation for use of the TTM by those working with women at high risk for HIV infection and transmission at the IX International Conference on AIDS in Berlin in 1993, Germany. The researchers extended the boundaries of testing TTM beyond the U.S. borders. Testing of this theory in Great Britain proved to be equally successful as demonstrated in the U.S. (Prochaska, et al., 1994).

2.11.4 Usefulness of the Transtheoretical Model in Identifying the Individual’s Stage

In practice, the TTM clearly outlines the exact steps necessary to implement the model such as an individual desiring to make a change or as the health professional supporting a patient’s desire to institute a change. The TTM is concrete in the presentation and the design for use to accomplish the goal of making a permanent change. Due to the concrete nature of this model, it is appropriate to incorporate into the assessment of students’ perception of the students’ alcohol use on sexual assault. This model is directed toward specific patient intervention through the identification of the specific stage of change which is lacking in previous sexual assault intervention programs. The simplicity of this model, though significantly challenging to the individual
undergoing the change, makes it appropriate for individuals in need of making a change. The relevancy to the practice of nursing is observed in the success found in the thousands who have used this model and achieved a healthier lifestyle (Prochaska, et al., 1994).

2.11.5 Research Supportive of the Transtheoretical Model of Change

Due to the consistency of the format of this model as demonstrated above, the testability of this model has been exceptional. Not only have the founders of the TTM used it to assess the successful change patterns found using this model in over 30,000 people, many national and international health-related organizations have adopted the model as their focus to achieve health changes in their particular populations (Prochaska, et al., 1994).

Through the diligent efforts of Prochaska et al. (1994) to assess the effectiveness of their model, it was further demonstrated that people often do not quit due to lack of motivation, but due to the therapy failing to match the stage specific needs of the participants. This is noteworthy when deciding to apply this model as a prelude to program design directed at the issues of alcohol’s effect on sexual assault. The model was 93% predictive of which clients would drop out at various stages; strengthening the model’s focus on the importance of the need to match the treatment or supportive processes with the patients’ stages (Prochaska, et al., 1994). Riebe et al. (2003) conducted a study in dieters ($n = 84$) to assess program effectiveness for long-term weight loss using TTM constructs for behavior change, nutrition education, and exercise as opposed to those without the TTM plan. It was found in the follow-up data collected at 2 years that participants in the group offered the TTM strategies were more likely to continue long-
term exercise at the recommended levels for health benefits (confidence scores 35.5 vs. 29.6, $p < 0.5$).

Success rates when incorporating the TTM into a program vary according to programs and intervention modes. Researchers reported a two times greater increase in participant success with condom use in high risk populations ($n = 1,289$ at risk women and 322 HIV-positive women) using TTM than in participants who were presented with other intervention programs (Galavotti, et al., 1998). Similar findings were reported for cigarette smoking cessation programs and alcohol rehabilitation programs. This leads to the assumption that the initial identification of the current stage the individual is in will enable programs to be specifically tailored to support success of the intervention program. This may lead to the establishment of core groups that are needed to support a campus culture change.

Credibility of a theory is found in the ability to find a balance between the theoretical claims and the empirical evidence (Meleis, 2005), both of which are strong points for this model. TTM was built from extensive review of over 300 theories on therapy addressing how people change. The organization of the similar findings among these theories led to the evolution of the TTM and stages of change. Many quasiexperimental design studies have evolved which look at how to support change in an individual once the decision is made to want to change. These studies also have directed efforts to raise awareness of the need for change such as seen in the community—level HIV intervention that demonstrated a reduction in behaviors that put people at a greater risk for HIV (DiClemente, 2004). The research conducted by the founders of the TTM has far reaching implications for other disciplines outside of
psychology, including nursing, medicine, sociology, and economics (Xiao, O'Neill, Prochaska, Kerbel, & Bristow, 2001). The TTM model exemplifies conclusions made by Meleis (2005) that a theory’s usefulness is found in its ability to stimulate new observations and insights that are able to be corroborated such as seen with the multiple organizations adopting the TTM as a mode of assessment and intervention.

The TTM is an invaluable model for use within the studies aimed at deterring sexual assault on the college campus. Relevant to this research is Prochaska, Norcross, and DiClemente’s (1992) findings that after studying a representative sample of more than 15 high risk behaviors, fewer than 20% of any of the problem population were prepared for action at any given time. Using information about the intended audience may help intervention programs to be more successful. The TTM is generalizable to any area an individual may plan to change. In the U.S. and countries that espouse the value of freedom of choice, the TTM would be a welcome addition to present supportive measures for change. This may not be true in other countries that have a more restricted approach to what an individual may or may not choose to do (Samuelson, 1997).

2.11.6 Relation of the Transtheoretical Model to Carper’s Patterns of Knowing

Carper’s Patterns of Knowing describes four patterns of knowing as the patterns relate to nursing knowledge and practice (Carper, 1997). The four patterns are empirics, ethics, personal knowing, and aesthetics. Empiric knowing deals with the physical senses, what is known by seeing, touching, and hearing. Empiric knowing is grounded in scientific knowledge and theories. Ethical knowing is directed at making decisions about actions to be taken based on what is right and inherently good. Ethical knowing is used to
decide how to determine priorities, importance, and placement of loyalty. Personal knowing includes the inner experiences leading to the achievement of the authentic self. This self is able to live in an open and honest manner. Aesthetic knowing is directed at the inner creative resources that enable an experience to be brought into reality. Achievement of this process requires an appreciation of the meaning of the presenting situation.

The TTM relates to personal knowing when the final or termination stage of TTM is successfully completed. Primarily aesthetic and ethical patterns are affected, but not to the degree of personal knowing. Empirical patterns which dictate the scientific knowledge to the individual such as the fact that smoking will produce disease or excessive alcohol use increases the risk of sexual assault is not affected through this change process as it is not a primary motivator to enter the process (Prochaska, DiClemente, et al., 1992).

Aesthetic patterns are part of the end result of the change process. The behavior being changed needs to be changed due to empirical evidence that the continuation of the present path will eventually cause dysfunction of the organism such as poor health, sexual assault, or even death. Though not directly affected, aesthetic knowing is found in the patterns experienced by the individual in the termination phase when the change is accomplished. The individual indirectly will know that he or she is better for the change. The subconscious level will know that this is the right path even if there were heavy consequences to pay such as the alcoholic in recovery, yet the family and the job are no longer (Prochaska, et al., 1994). The ethical pattern of knowing that results contains the understanding that the change is the right decision. Changing the particular behavior is
seen as essential for the goal to be achieved as with condom use for HIV prevention (DiClemente, 2004).

Through the TTM, when the terminal phase or even the maintenance phase is achieved, the individual will have experienced change that is affecting the whole, enhancing self-awareness through personal knowing. The process of the change expands individual awareness and leads to learning more about the self, which in turn will open a new appreciation of others. This personal knowing results in a broadening of the life experience by moving from the pre-change comfort zone (Chinn & Kramer, 1995). TTM enables the ability to identify and establish a deeper relationship with others who have the same problem and have conquered or have yet to conquer it. This provides for continued growth within the experience of the change. Ultimately a deeper self-awareness results which will permeate other relationships (Velicer, Prochaska, Fava, Norman, & Redding, 1998). This permeation may be the roots needed to establish a campus culture change.

The creative processes involved with personal knowing are reflected and paralleled through the TTM stages. These include opening, centering, and realizing processes. The opening process encompasses the precontemplation and contemplation stages. A mix with the aesthetic and ethical patterns is the quiet motivator to provide the incentive to go from the precontemplation stage where no problem is identified on the surface to the contemplation stage where the problem is identified (Prochaska, et al., 1994). The centering process occurs in the preparation and action stages when the plan will occur within the next month and the behavior is under modification. Centering may be considered as the architectural support from which movement is now possible. The
individual will acquire an integral balance, confidence, and serenity as centering is achieved and he or she moves through this stage.

The realizing process is demonstrated through words, behavior, actions, and personality. The genuine-whole self is expressed by what is being experienced and there is comfort in being who one really is and not what one assumes is expected by others. The realizing process is demonstrated through the actions seen in the action and maintenance stages. The real self no longer is anchored down by the previous behavior; the real self is allowed to be seen.

2.11.7 Testing of the Transtheoretical Model of Change

The TTM evolved from the discipline of psychology and in particular from the field of psychoanalysis; hence the extensive initial testing was conducted in this discipline. The initial testing of the TTM involved assessing the process of change in those attempting to quit smoking and those attempting to lose weight (Prochaska, et al., 1994). The research was funded by the National Institute of Health. The study, conducted over a 2-year period, involved 1,000 participants who were attempting to stop smoking by themselves and 800 participants attempting to lose weight either individually or through the support of a weight-loss program. Prochaska et al. observed the systematic relationships among the stages and the process of change within these two groups. It was from this study that the processes needed for the change to occur were identified to happen during specific stages. By categorizing participants by the current stage, the supportive processes needed to sustain the individual to his or her goal evolved. The researchers noted that the speed or successful achievement to the next stage did not depend on the gender of the individual, but on the accurate determination of what stage
the individual was in for the problem the individual wanted to overcome (Samuelson, 1997).

Many studies document the successes using the TTM with various health behaviors. One significant finding documented that the longer an individual remained in the contemplative stage when considering weight loss, the less likely the individual would progress further (Wee, Davis, & Phillips, 2005). Findings from a randomized clinical trial evaluating treatment plans for opioid dependence ($n = 55$) supported the efficacy and flexibility of the TTM approach as one to be integrated into programs aimed at substance use disorders (Carroll, Sinha, Nich, Babuscio, & Rounsaville, 2002). This may be a significant factor for consideration when interpreting studies that have found little impact in deterring heavy alcohol use and attempting to decrease the incidence of sexual assault on college campuses as it relates to alcohol use. Knowing the stage of the individuals within the program audience is found to be a significant predictor for program success (Prengel, 2005; Prochaska, DiClemente, et al., 1992).

In 2001, a noteworthy study was conducted that supports the need for pre-program assessment of the intended audience concerning the impact of alcohol use on sexual assault. The study dealt with individuals who practiced high risk sexual activity and who also were intravenous drug users. Results of the research indicated that stage determination enhanced the success in deterring the intravenous drug and alcohol use which reduced the risk of sexual assault (Timpson, et al., 2001). The importance of stage determination to program success was reiterated in the research by Carroll et al. (2002) when exploring methods to deter opioid dependence. The Centers for Disease Control used the TTM to conduct a study with high-risk populations in New York, Seattle,
Denver, Dallas, and Long Beach titled the AIDS Community Demonstration Projects. The goal was to decrease HIV risk by promoting condom use and bleach use for hypodermic needles. The investigators used the stages of change to design interventions that were appropriate to the individuals’ stage of change. The results showed that there was an increase in the consistent use of condoms and condom carrying and bleach use (DiClemente, 2004). Motivational programs directed toward young adults with eating disorders found that pre-intervention measurement of the stage of change improved program success when compared with post-intervention measurement of the stage of change (Feld, Woodside, Kaplan, Olmsted, & Carter, 2001).

The success of sexual assault intervention programs would be evidenced by a decline in sexual assault occurrences on the college campuses. Thus far the incidence of sexual assault remains unchanged despite the multitude of intervention and awareness programs and research studies conducted since 1987 (Sampson, 2003; Statistics, 2007).

Prochaska, DiClemente, et al. (1992) concluded that success in self-change is dependent upon the individual following the correct processes that correspond to the individual’s present stage. Matching the individual’s present stage of change permits the inclusion of the processes essential to support the efforts needed to move to the next stage of change. Failure to achieve change or movement to the next stage is directly attributed to the omission of program designers to accurately assess the stage of the individuals within the program audience (Prochaska, DiClemente, et al., 1992).

The authors of the TTM have conducted over 50 different studies on thousands of individuals to discover how people overcome addictive behaviors such as smoking (their initial study), alcohol abuse, emotional distress, weight control, as well as others. This
model continues to be applied by many researchers to a wide range of health problems such as rehabilitation programs for delinquent adolescents, with cocaine and heroine addicts, with patients with brain trauma, patients with depression or alcoholism, behavior change from sedentary life styles, adolescent and adult smokers, and many others.

The University of Rhode Island Change Assessment (URICA) as a function of the Transtheoretical Model (TTM) measures intentional change from within the individual. The measurement relies on self-report. Change is seen to occur in a process involving a series of 5 stages: including precontemplation, contemplation, preparation, action, and maintenance. The TTM incorporates the pros and cons of change, the confidence in the individual’s ability to change, situational interveners that tempt the engagement of the problem behavior, and focus on specific behaviors as related to the problem.

2.12 Gaps in the Literature

Gaps in the literature concerning the topic of sexual assault on the college campus as it relates to alcohol use and rape myths include the following:

- There is a lack of research exploring specifically why there is no decline in the incidence of sexual assault on the college campuses despite over 20 years of problem recognition and a variety of awareness and intervention programs integrating alcohol and rape myths.
- There is a lack of research exploring the results of programs directed at men becoming allies in deterring sexual assault on the college campus.
- There is a lack of exploration of female cognitions and resistance responses to sexual assault with and without alcohol use in order to diminish projections of passivity and powerlessness.
• There is a gap in the literature concerning female athletes, alcohol use, and sexual assault incidence.

• There is a gap in the literature concerning the role of the RA in prevention and awareness programs concerning sexual assault including effectiveness of the programs to deter sexual assault as it relates to alcohol use and rape myths.

• There is a gap in the literature that explores the rationale for program participants to revert to pre-program attitudes concerning rape myth belief and sexual assault prevention awareness.

• There is a lack of exploration of program curriculum to identify effective curriculum that would lead to a measurable decline in the incidence of sexual assault on the college campus.

• There is a gap in the literature that evaluates the college student’s readiness to change alcohol use as it relates to the student’s perception of the effects of alcohol on sexual assault.

2.13 Summary

The review of literature demonstrated that programs designed to deter the incidence of sexual assault have been ineffective; the incidence of sexual assault on college campuses remains as initially documented in 1987. The negative effect of alcohol on the incidence of sexual assault also remains unchanged. Previous programs were designed for needs identified in the general population of college students without regard to individual needs, beliefs, and attitudes. Research of the programs reviewed indicates that change is more likely to occur if the stage of the individual matches the planned intervention. Change is an evolving process; set-backs are the norm and success is greater.
when set-backs are identified as part of the process which then allows the positive growth and change to continue and not lead to failure or stagnation.

Learning the strategies to support an individual or group to forge ahead to adopt a healthier lifetime goal is an important part of nursing. Although there are many strategies used to change behaviors, the TTM proposes a relatively easy to follow process that incorporates an understanding of the difficulty that the individual or group is experiencing. To help support the individual or group, essential processes of change are offered. The importance of matching the stage of the individual with the process is essential for success. This match includes matching the individual who wants therapeutic help from a nurse, psychologist, or psychotherapist, with the professional who is attune to helping that person at the stage at which he or she is presently.

From this review of the TTM, it is imperative that any researcher using the intervention strategy keeps in mind that gender, age, and culture are significant factors that modify the stage of change processes. According to Samuelson (1997), there are social, psychological, and physical factors that make the change experience different for men and women. He recommended that the wisdom of this stage theory definitely be applied, but to fine-tune the program that is offered by being sensitive to the unique characteristics of the audience. As noted by researchers evaluating the impact of previous sexual assault prevention programs, separating programs by gender may meet with higher success (Brecklin & Forde, 2001).

This study explores the requirements of successful intervention programs directed at deterring sexual assault on campus. Specifically, the importance of assessing the stage of readiness to change alcohol use behavior related to deterring the risk of sexual assault
was examined. The path to these essential changes in behavioral action required for any intervention program to be successful may occur if the population for whom the intervention is directed is first assessed for several key factors including (a) the student’s readiness to change a perception about the effect of alcohol use on sexual assault, (b) the student’s belief of the risk in sexual assault when alcohol is used, (c) the student’s definition and perception of what is sexual assault, and (d) the student’s readiness to change a behavior related to alcohol in order to decrease risk of sexual assault.
CHAPTER III

3 METHODS

3.1 Introduction

This chapter discusses the methods and design of the study. The discussion addresses the design, subject recruitment, instruments, data collection, ethical considerations, and analysis of data for the study.

The purpose of this quantitative study was to explore the results of participant assessment prior to program intervention directed at deterring sexual assault on college campuses. Specifically, readiness to change alcohol use behavior related to perceptions of alcohol effects on sexual assault was measured. The participants’ beliefs in rape myths and use of alcohol also were measured. The measurement was designed to include the impact of the parameters of the strength of rape myths held and alcohol use on behavior related to the perception of alcohol’s effect on sexual assault. It was proposed that the participants would vary in several key areas related to sexual assault awareness programming. Variance findings included belief in rape myths, alcohol use, and the stage of readiness to change alcohol use behavior related to the perception of the effects of alcohol on sexual assault. It was further hypothesized that the differences among and
between groups will reflect a measurable significance supporting the need for participant
assessment prior to program planning.

Prochaska, DiClemente, et al. (1992) found that intervention programs often fail
due to the treatment approach not matching the individual’s stage of change. The
knowledge of individual and group parameters such as belief in rape myths, alcohol use,
and readiness to change alcohol use behavior related to perceptions concerning the effect
of alcohol on sexual assault could then be used to plan specific program interventions. It
was anticipated that integration of the results of the audience assessment into the
intervention program would lead to greater and longer-term program success.

3.2 Research Design

The research design for this study was a cross-sectional, descriptive design using
a survey to obtain information from a sample of the population.

3.3 Variables

The dependent variable was:

1. Readiness to change alcohol use behavior related to the perception of the
effects of alcohol on sexual assault as measured by the University of Rhode
Island Change Assessment (URICA).

The independent variables were:

1. Belief in rape myths as measured by the Illinois Rape Myth Assessment
Survey (IRMA).

2. Alcohol use as measured by the Alcohol Use Disorders Identification Test
(AUDIT).
3.4 Setting

Participants included students attending two campuses from one Pennsylvania university system. The campuses chosen are referred to as Campus A and Campus B. Both campuses are similar in size, are located in a suburban setting, offer undergraduate and graduate degrees, and provide similar out of classroom activities including student clubs and organizations. The student enrollment at the campuses was similar. Fall 2007 enrollment was 4,042 at Campus A and 4,171 at Campus B. The percentage of male to female students was 51% male and 49% female at Campus A and 65% male to 35% female at Campus B. The method for data collection was a self-administered survey delivered exclusively through the Internet.

3.5 Sample

The participants for this study were generated from the Campus A and Campus B databases of email addresses for students registered at these two campuses. Using RaoSoft, Inc., a sample size of 349 participants from each campus generated a 95% confidence level with a 5% margin of error. Doubling the sample size to 698 reduced the sampling error by half (Dillman, 2007). As student responses to the Zoomerang survey format ranged from 30% to 50%, the actual sample was increased to 2,327 from each campus in order to reduce the sampling error.

Had there been an inadequate sample achieved with the initial survey attempt, a random sample of students previously not invited to participate would have been sent an email requesting their participation. This would have been accomplished by accessing the student database of emails from the campus or campuses where an insufficient response was received and randomly selecting a pool of email addresses not previously accessed.
The number of student email addresses needed to complete the sample number was calculated and generated through RaoSoft. The procedure for data collection was the same as outlined below in the Procedures for Data Collection section.

Both campuses have limited social fraternity and sorority membership, varsity athlete participation, and resident assistants. To obtain an adequate representation of members from these organizations from Campus A and Campus B the following took place:

- All members of the social fraternity and sorority organizations, all varsity athletes, and all resident assistants from each campus were included in the sample for each campus.
- After calculating the total number of students comprising the social fraternity and sorority membership, athletes, and resident assistants at Campus A and Campus B, the remaining number needed to attain the goal of 1,396 for each campus was randomly selected to be sent the survey.

Measuring college students’ readiness to change behavior related to perceptions held concerning the effects of alcohol on sexual assault was a unique approach. A cross-validation study of the Stages of Change was incorporated into the calculations for the power analysis (McConnaughy, DiClemente, Prochaska, & Velicer, 1989). These researchers reconfirmed the internal consistency reliability coefficients for use of the University of Rhode Island Change Assessment (URICA) to assess individuals’ readiness to change behavior using a sample size of 323. By conducting a power analysis for this study, a randomized-sample size of 349 participants from each campus achieved an effect size = 0.5, alpha = .05, and power = .80 for a one-way analysis of variance (ANOVA).
The calculations were based on Gravetter and Wallnau (1999) and Kraemer and Thiemann (1987).

3.6 Research Questions

The research questions were as follows:

1. What perceptions do college students have concerning the effects of alcohol on sexual assault?
2. Do students adhere to traditional rape myths?
3. What stage of readiness to change behavior are college students in with regard to their perception of the effect of alcohol use on the risk of sexual assault?

3.7 Measures

Demographics that were recorded coded responses according to specific campus, age, gender, and student affiliation with college-related organizations and activities. Gender responses contained male, female, and transgendered. The organization affiliations included social fraternity, social sorority, other social organization, academic-related organization, varsity athlete, and resident assistant. The participants belonging to a campus organization and activity were asked to identify how strongly the participant identified with the organization or activity on a scale from 1 to 5 with 1 being the least to 5 being the strongest affiliation, and 6 indicating that the particular organization or activity did not apply to the participant. This provided for students who belong to more than one organization to identify with which organization the participant most strongly identified in order for a clearer data analysis to be conducted. The “does not apply” choice provided for those who did not belong to the specific organization being queried.
Three well-established tools were used to measure the self-report of the participants. The Illinois Rape Myth Assessment Survey Short Form (IRMA-SF) was used to assess participant understanding of what is sexual assault (Appendix 1). This scale measured adherences to cultural rape myths. The Alcohol Use Disorders Identification Test (AUDIT) was used to determine alcohol use and problems associated with drinking (Appendix 2). This tool was designed to identify individuals for whom the use of alcohol places them at risk for alcohol-related problems. The University of Rhode Island Change Assessment (URICA) Long Form was used to measure readiness to change behavior (Appendix 3). This survey identified at what stage of change the students were in regards to their behavior related to the perception of the effect of alcohol on sexual assault and the rating of the importance of various alcohol-related consequences such as sexual assault.

Prior to dissemination of this survey to the sample, five student volunteers were asked to complete this survey on line in order to determine the amount of time required to complete the survey. The student volunteers were from Campus B. The consent was a replica of the consent planned for the original study with a notation that this preliminary assessment was designed to determine the time required to complete the survey and afford an area for any additional comments (Appendix 4).

3.7.1 Illinois Rape Myth Acceptance Scale

The short form of the IRMA was included in this study due to the ability of this tool to measure general rape myth acceptance (Payne, et al., 1999). The additional specifics in regards to rape myth components found in the longer version were more appropriate for studies intending to assess program impact. Permission for use of the
IRMA-SF was obtained from the author Dr. Diana Payne (Appendix 5). The IRMA-SF includes 20 items. Each item requires a response based on a 7-point Likert scale. Responses were measured from “not at all agree” to “very much agree.” A significant relationship between IRMA and IRMA-SF and $r = .97, p < .001$ was found which indicated that the shortened form was acceptable as a substitution for the 45-item questionnaire (Payne, et al., 1999, p. 50). The initial testing of the IRMA and IRMA-SF was conducted using female college students. The alpha for testing of the IRMA-SF among female college students in the original and subsequent research studies has been in the range of .85 to .88. This questionnaire took approximately 3 minutes to complete.

3.7.2 Alcohol Use Disorders Identification Test

The Alcohol Use Disorders Identification Test (AUDIT) was used to determine alcohol use and problems associated with drinking and this survey took approximately 2 minutes to complete. The AUDIT was a 10-item self report instrument scored on a 5-point Likert scale, designed to identify individuals for whom the use of alcohol places them at risk for alcohol problems or who were experiencing alcohol-related problems. The World Health Organization provided for public use of the AUDIT and the manual for use of the AUDIT (Babor, de la Fuente, Saunders, & Grant, 1992); Appendix 6). Research studies exploring alcohol use among the general population and among college students reported a Cronbach alpha of .86 to .89 for the AUDIT (Locke & Mahalik, 2005; Reinert & Allen, 2002). The reliability and validity were not compromised when the AUDIT was administered along with other screening questionnaires (Daeppen, Yersin, Landry, Pecoud, & Decrey, 2000).
3.7.3 University of Rhode Island Change Assessment

The University of Rhode Island Change Assessment Scale (URICA) was designed to assess 4 theoretical stages of change based on the Transtheoretical Model (TTM). The stages included precontemplation, contemplation, action, and maintenance. There were 8 questions for each of the stages. The measurement tool, URICA, provided a stage profile of the individual and took approximately 5 minutes to complete. Two word clarifications were made to the survey in order to assist the college students with correct interpretation of the directions for survey completion. The word “problem” as it appeared in the survey was changed to “issue.” Also, to clarify the original directions in the body of the survey, the word “here” was clarified to indicate “at this program” as the participants completing the survey were being asked to complete this section of the survey as if they were attending an on campus sexual assault prevention program. No other changes were made.

The precontemplation stage is the period of time when the individual does not acknowledge that a problem exists. Individuals in this stage tend to avoid information concerning the problem. Acknowledgement of the problem occurs in the contemplation stage. The individual is ready to explore solutions and demonstrates readiness to transition to the next stage when focus shifts to the solution. Action is associated with the preparation stage. The action usually occurs within the next 30 days and includes behavioral modification. The establishment of a detailed design for action transports the individual to the maintenance stage. Prevention of relapses from the maintenance stage is supported by the recognition of the gains achieved up to this point (Prochaska, et al., 1994).
The Cronbach alpha coefficients for the URICA subscales were evaluated through various research studies and findings have been relatively consistent. Findings for the Cronbach alpha coefficient for the precontemplation stage were .78, for the contemplation stage were .76, for the actions stage were .82, and for the maintenance stage were .83 (Pantaloni & Swanson, 2003). Hufford, Shields, Shiffman, Paty, and Balabanis (2002) found comparable results in their study which incorporated college students. These findings were consistent with the ranges for the 4 stages (McConnaughey, et al., 1989; , 1983).

As noted on the Cancer Prevention Research Center (CPRC) website, Dr. James O. Prochaska, Director of the CPRC, extended permission to use the Transtheoretical Model-based measure, URICA, available on the CPRC website for research purposes with the contingency that the appropriate citation was cited (Appendix 7).

3.8 Procedures for Data Collection

One week prior to the emailing of the survey, an announcement concerning the upcoming survey appeared in both campus newspapers (Appendix 8). During this one-week period, flyers were placed strategically throughout both campuses alerting students to the survey (Appendix 9). Additionally, an email was sent to the faculty at both colleges requesting assistance in promoting participation. Faculty were asked to announce in their classes that the survey was to be emailed within the week and to request students receiving the email to participate (Appendix 10). Additional academic credit for completing the survey was not offered. Contained within all disseminated requests for student participation was a brief summary of the purpose of the research, a notation that participation was voluntary, and that responses were anonymous. The intention of this
publicity also was to generate support and to promote trust in the researcher and the importance of the project. Promotion of trust was an important component to enhance response rates (Dillman, 2007).

Dissemination of the survey was exclusively through the Internet using the Dillman Method for Internet surveys (Dillman, 2007). An introductory email announcing the impending survey was sent to all the participants who were selected according to their membership in Social Fraternities, Social Sororities, Varsity Athletes, and Resident Assistants. The remaining number of participants projected to meet the sample size required for the power analysis was chosen by random selection from the email list serves of each campus (Appendix 11). The introductory email was sent concurrently with the dispersion of the flyers, newspaper advertisement, and request for support of the faculty at each campus. The following week an email was sent to the sample of participants that included the cover letter with consent to participate, outlining the voluntary and anonymous nature of the survey with a link to the survey (Appendix 12).

The consent to participate included the purpose of the study which was to determine college student’s readiness to change alcohol use behavior related to perceptions held concerning the effect of alcohol on sexual assault, rape myths held, and alcohol use. The consent explained the voluntary nature of participating and the anonymity of all responses. As this was an Internet-based survey, participants were advised that by clicking on the link within the email, consent was understood. Participants were directed to contact the researcher, the researcher’s advisor, Dr. Kathleen Sekula, Dr. Paul Richer, Chair of the Duquesne University Intuitional Review Board, or the university’s Office for Research Protections from where the sample was
obtained if there were any questions regarding the study, consent, or any other related questions.

The survey was designed based on the Zoomerang survey style (Appendix 13). Zoomerang is a secure Web-based survey-delivery instrument marketed by MarketTools, Inc., since 1999. The application allowed delivery of the instrument, tracked the number of responses and sent reminders, and downloaded and analyzed the descriptive results. As this was an anonymous survey, reminders were sent to the entire sample requesting those who had not completed the survey to do so. Gathering data over the Internet was advantageous over paper and pencil methods as Internet respondents were less inhibited in responding and surveys on the Internet have grown to be more socially inviting (Im & Chee, 2003). Kaplowitz, Hadlock, and Levine (Kaplowitz, Hadlock, & Levine, 2004) found that Internet methods for survey distribution achieved a comparable response rate to that of mailed surveys. This rate was achieved when the email survey and mailed questionnaire were preceded by a one-week prior notification.

Continuing with the Dillman (2007) method, one week after sending the survey, an email reminder was sent requesting those who had not responded to do so. Two weeks from the initial emailing of the survey, an email reminder with a link to the survey was sent to the entire sample. Responses were received for two weeks from the last reminder and then the link was no longer available for responses.

3.9 Procedures for Protection of Human Subjects

The rights of the participants in this study were protected in order to assure freedom from harm, assurance of respect for human dignity including the right to self-determination, and the right to privacy (Polit & Beck, 2004). Prior to data collection,
approval was obtained from the Duquesne University Institutional Review Board and the university’s Institutional Review Board (IRB) from where the sample derived (Appendices 14 and 15). Confidentiality was outlined in the Informed Consent (Appendix 16). The Informed Consent included an assurance that students’ participation was voluntary and choosing to participate or not to participate did not affect students’ academic standing or participation in campus opportunities.

3.9.1 Debriefing

Participants of Internet-based research may voluntarily or involuntarily end participation in the project. Involuntary causes may include computer or server disablement, lost Internet connection, power outage, or program error. Withdrawal from the research project at any time could hinder adequate debriefing that must be offered to participants (Nosek, Banaji, & Greenwald, 2002). To address this possibility, a process existing within the Zoomerang program was employed. The Zoomerang survey method was designed to send an email to each student regardless of the degree of participation in the study (Appendix 17).

Due to the nature of the questions contained in the survey addressing sexual assault, it was acknowledged that this could cause stress in some of the participants. The follow-up email was designed to assure that all students were provided with information to contact the counseling and psychological services available at each campus at no cost to the students. In addition, there was the possibility that some participants might self-identify a problem with alcohol, including an addiction. On campus referral to the counseling services were included within the follow-up email.
3.10 Procedures for Data Analysis

The first step was to describe the distribution of the data. The t test was selected in order to determine if there was a difference between the means of two groups, specifically between the two campuses concerning belief in rape myths, alcohol use, and readiness to change alcohol use behavior related to the perceptions of the effects of alcohol on sexual assault. The t test was also chosen for analyses of research question two which was to examine if college students believed in rape myths. The data appeared to be relatively normal and sample sizes were relatively large so assumptions of the test were satisfied.

The Linear by Linear Association test was chosen for the statistical ability of the calculations pertaining to research questions one and three to test a linear relationship between one ordered and one dichotomous variable. It is more powerful than the Pearson chi square. The linear by linear statistic indicates linear associations with one variable with linear increases in the other variable. (Agresti, 1996).

The research question focused on exploring the belief by college students in the rape myth that a woman is somewhat responsible if she is raped while drinking alcohol was analyzed by the Linear by Linear Association test. This statistical test was also used to examine if there was a relationship between a general belief in the rape myths as measured by the Illinois Rape Myth Assessment-Short Form survey and alcohol use as it correlates to readiness to change alcohol use behavior related to the perception of the effects of alcohol on sexual assault. This was examined between campuses and among the demographic groups of each campus. Specifically, measurement included statistical analyses observed between (a) Campus A and Campus B students, (b) among groups at
Campus A, (c) among groups at Campus B, and (d) between groups at Campus A and Campus B.

SPSS 16.0 Grad Pack was used to analyze the data. The data were examined separately between the 2 campuses as well as together as one database, observing for any differences. Data also were analyzed according to the discrete variables of involvement in a Social Fraternity or Social Sorority, Other Social Organization, Academic Organization, Varsity Athlete, and Resident Assistant. The demographics of age and gender were examined for each campus and between the 2 campuses. These analyses were used to measure the impact of the independent variables; strength of rape myths beliefs and alcohol use on the dependent variable; readiness to change behavior (alcohol use) related to the perception of the effects of alcohol on sexual assault. Exploration for any significant difference in readiness to change alcohol use behavior related to the perception of the effects of alcohol on sexual was conducted. Frequency tables, \( t \) tests, and the linear by linear association test were also conducted in the same manner as described for the previous objective.
CHAPTER IV

4 RESULTS

4.1 Introduction

The chapter begins with a discussion of the process of participant recruitment. A description of the demographic data describing the participants from the two college campuses separately and when combined follows. Analyses of the data relating to the three research questions are then presented.

4.2 Sample Demographics

The study was approved by the Duquesne University Institutional Review Board and the Institutional Review Board from the Pennsylvania university where this study was conducted. The students invited to participate in the survey were obtained by using the email list serves from two of the college campuses affiliated with the university. The campuses were similar in size, enrollment, degrees conferred, residential and non-residential living, clubs and organizations, and athletic participation. To maintain the confidentiality of this university, the campuses are referred to as Campus A and Campus B.

A minimum sample size of 349 participants from each campus or a total sample size of 368 combined from both campuses would generate a 95% confidence level with a 5% margin of error (Rao, 1996). A power analysis conducted for a randomized sample
size of 368 achieved an effect size = 0.5, alpha = .05, and power = .80 for a one-way analysis of variance (ANOVA).

A total of 2,792 surveys were sent by email to a sample drawn from the list serves of each campus (n = 1,396 to students on Campus A and n = 1,396 to students on Campus B). As Campus A was comprised of 49% female and 51% male students and Campus B had a student body consisting of 35% female and 65% male, a decision was made to invite 50% females and 50% males in the original sample. To achieve this, 698 females and 698 males were invited to participate in the survey from each campus. Due to the modest numbers of students reported to be registered in the Social Fraternities, Social Sororities, Varsity Athletes, and Resident Assistants at each campus, it was decided to invite the entire membership of each of these organizations from Campus A and Campus B. The number of females and males registered with these organizations were subtracted from the required 698 females and 698 males from each campus. The resulting number of females and males needed to complete the sample then was randomly selected from the list serves of each campus.

Table 1 demonstrates the reported memberships in the Social Fraternities, Social Sororities, Varsity Athletics, and Resident Assistants at Campus A and Campus B. The total combined enrollment for both campuses of registered Social Fraternity members was 119 (n = 80 at Campus A and n = 39 at Campus B). The total combined enrollment for both campuses of registered Social Sorority members was 139 (n = 95 at Campus A; n = 44 at Campus B). The total combined enrollment for both campuses of registered Varsity Athletes was 540. Of the total number of Varsity Athletes at both campuses, 210 were at Campus A (115 were male and 85 were female). At Campus B there were 317
Varsity Athletes (190 were male and 127 were female). The total combined enrollment for both campuses of Resident Assistants was 70. Of the total number of Resident Assistants at both campuses, 23 were at Campus A (9 were male and 14 were female). At Campus B there were 47 Resident Assistants (23 were male and 24 were female).

Table 1
Description of Participants Invited to Complete the Survey

<table>
<thead>
<tr>
<th></th>
<th>Campus A Male</th>
<th>Campus A Female</th>
<th>Campus B Male</th>
<th>Campus B Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Fraternity</td>
<td>80</td>
<td>39</td>
<td>95</td>
<td>44</td>
</tr>
<tr>
<td>Social Sorority</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varsity Athlete</td>
<td>115</td>
<td>85</td>
<td>190</td>
<td>127</td>
</tr>
<tr>
<td>Resident Assistant</td>
<td>9</td>
<td>14</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Randomized Sample</td>
<td>494</td>
<td>504</td>
<td>446</td>
<td>503</td>
</tr>
<tr>
<td>Total Invited</td>
<td>698</td>
<td>698</td>
<td>698</td>
<td>698</td>
</tr>
</tbody>
</table>

Note. The values represent a detailed description of the sample generated for the study.

Calculating that 204 males were in the sample pool for Campus A due to membership in a Social Fraternity, Varsity Athlete, or Resident Assistant, 494 males were additionally selected through random sampling. Calculating that 194 females were in the sample pool for Campus A due to membership in a Social Sorority, Varsity Athlete, or Resident Assistant, 504 females were additionally selected through random sampling. Calculating that 252 males were in the sample pool for Campus B due to membership in a Social Fraternity, Varsity Athlete, or Resident Assistant, 446 males were additionally
selected through random sampling. Calculating that 195 females were in the sample pool for Campus B due to membership in a Social Sorority, Varsity Athlete, or Resident Assistant, 503 females were additionally selected through random sampling.

Campus A generated 292 responses for a response rate of 21% and Campus B generated 416 responses for a response rate of 30%. The response rate for the total sample of 708 was 25%. Of the 708 responses, 612 completed surveys were used in the final data analyses which provided a final response rate of 22%.

4.3 Description of the Participants

Table 2 presents the demographic data for the participants from Campus A and Campus B separately and combined. The aggregate sample was comprised of 612 students attending the two campuses (n = 249 from Campus A, n = 359 from Campus B; 4 participants did not specify campus). The campuses were located in the western and central areas of the state. The demographic variables recorded for this study included age, gender, campus, and involvement in a student club or organization. The ages of the participants ranged from 18 to 68 years, with 97% (n = 587) of the aggregate sample between the ages of 18 and 30 years old (n = 248 for Campus A and n = 359 for Campus B). The mean age for participants from both campuses was 21.

Options for reporting gender within the survey included male, female, and transgender. The combined response rate by gender was 36% male (n = 217 for Campus A and B combined; n = 90 for Campus A and n = 127 for campus B), and 65% female (n = 390 for Campus A and B combined; n = 158 for Campus A and n = 232 for Campus B). The data of one participant who reported being transgender were excluded from the final data set because of missing data.
Table 2
Demographic Data

<table>
<thead>
<tr>
<th></th>
<th>Campus A</th>
<th>Campus B</th>
<th>Combined Campuses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 248)*</td>
<td>(n = 359)</td>
<td>(n = 612)**</td>
</tr>
<tr>
<td>Male</td>
<td>90 (36.1%)</td>
<td>127 (35.3%)</td>
<td>217 (35.5%)</td>
</tr>
<tr>
<td>Female</td>
<td>158 (63.4)</td>
<td>232 (64.6%)</td>
<td>390 (63.7%)</td>
</tr>
<tr>
<td>Social Fraternity</td>
<td>22 (8.8%)</td>
<td>28 (7.8%)</td>
<td>50 (8.2%)</td>
</tr>
<tr>
<td>Social Sorority</td>
<td>28 (7.2%)</td>
<td>25 (8.0%)</td>
<td>53 (8.6%)</td>
</tr>
<tr>
<td>Other Social Organization</td>
<td>88 (35.4)</td>
<td>155 (43.3%)</td>
<td>243 (38.0%)</td>
</tr>
<tr>
<td>Academic Organization</td>
<td>65 (26.1)</td>
<td>149 (42.5%)</td>
<td>214 (34.9%)</td>
</tr>
<tr>
<td>Varsity Athlete</td>
<td>28 (11.2)</td>
<td>68 (18.9%)</td>
<td>96 (15.7%)</td>
</tr>
<tr>
<td>Resident Assistant</td>
<td>18 (7.2)</td>
<td>25 (7.0%)</td>
<td>43 (7.0%)</td>
</tr>
</tbody>
</table>

*One participant from Campus A did not indicate gender.
**Four participants did not indicate the campus they were attending.

Note. Demographic data of aggregate sample is presented from the individual campuses and combined in number of actual responses and the corresponding percentage.

Participants were asked to indicate their level of involvement in specific clubs and organizations offered at each campus. Both Campus A and Campus B offered similar student club and organization options. In order to accommodate participants who were involved in more than one activity, a level of involvement scale from “not at all involved” to “most involved” was used. The club and organization choices included in the survey were Social Fraternity, Social Sorority, Other Social Organization, Academic Organization, Varsity Athlete, and Resident Assistant.

Of the entire 119 registered members of the Social Fraternities invited to participate on Campus A and Campus B, 42% responded to the survey \(n = 50\) of 119
members). Campus A, which reported a membership of 80 students, had an 18.5% response rate from participants involved with a Social Fraternity (n = 22). Campus B, which reported a membership of 39 students, had a 72% response rate from participants involved with Social Fraternities (n = 28). Of the entire aggregate sample, Social Fraternities represented an 8.2% overall response rate. Of the total 139 registered members of the Social Sororities invited to participate from both Campus A and Campus B, 38% responded to the survey (n = 53 of 139 members). Campus A, which reported a membership of 95 students, had a 29% response rate from participants involved with Social Sororities (n = 28). Campus B, which reported a membership of 44 students, had a 57% response rate from participants involved with Social Sororities (n = 25). Of the entire aggregate sample, Social Sororities had an 8.6% overall response rate.

Social organizations other than Greek life comprised over 60 clubs and organizations at each campus. Some of the clubs and organizations common among both campuses in this study included the Asian Student Organization, Cheerleader Club, Fantasy Game Club, and Ski and Board Club. For this study, these organizations were termed Other Social Organizations to indicate organizations that were non-Greek life organizations and non-academic organizations. Other Social Organization involvement accounted for the majority of participant involvement among the choices offered in the survey. Of the aggregate sample, 38% reported involvement in an Other Social Organization (n = 243; 88 from Campus A and 155 from Campus B). This represented a participant response rate of 35.4% from Campus A and a 43.3% response rate from Campus B for those noting involvement in an Other Social Organization.
Over 20 academically focused student clubs and organizations are offered at each of the campuses in this study. Academically related activities offered at both campuses include involvement with organizations such as the Accounting Club, Biology Club, Society of Physics, and Student Nurses Organization. Academic Organization involvement accounted for 34.9% of reported involvement by the aggregate sample ($n = 214$; 65 from Campus A and 149 from Campus B). This represented a 26.1% involvement in Academic Organizations from Campus A and a 42.5% involvement from Campus B.

Of the entire roster of Varsity Athletes sampled on both campuses, 30% responded to the survey. Of the aggregate sample, Varsity Athlete involvement was reported by 15.7% of the total participants ($n = 96$; 28 from Campus A and 68 from Campus B). This represented an 11% involvement as a Varsity Athlete from Campus A and 19% involvement from Campus B. Of the combined number of reported Resident Assistants from both campuses, 61% responded to the survey. Of the aggregate sample, Resident Assistant involvement accounted for 7% of the reported involvement by the responding participants ($n = 43$; 18 from Campus A and 25 from Campus B). This represented a 7% response rate by Resident Assistants from both Campus A and Campus B.

4.4 Results of the Findings

Three survey tools were combined to collect data concerning college students’ readiness to change alcohol use behavior related to perceptions of alcohol effects on sexual assault. The order of presentation of surveys emailed to the participants was the Illinois Rape Myth Assessment survey – Short Form (IRMA-SF), followed by the Alcohol Use Disorders Identification Test (AUDIT), and the University of Rhode Island
Change Assessment survey (URICA), respectively. The survey concluded with an assessment of the demographics of the participants.

Analysis by \( t \) test which determines if there are differences between means of two groups was utilized to determine if there was a significant difference between campuses in relation to the discrete variables; Social Fraternity, Social Sorority, Other Social Organization, Academic Organization, Varsity Athlete, and Resident Assistant. The analysis by \( t \) test revealed no significant differences between campuses among the discrete variables, thus data reported are for the results of the combined campuses unless otherwise stated.

The Linear by Linear Association test was chosen for the statistical ability of the calculations pertaining to research questions one and three to indicate a linear relationship between two ordered variables. When found significant, the Linear by Linear Association determines that the increase observed in one variable is associated with increases in the other variable, more so than would be expected by chance random sampling (Agresti, 1996). A trend in belief that a woman was somewhat responsible for the rape if she was drinking was explored. Also, a trend in the readiness of students to change alcohol use behavior to decrease risk of sexual assault was evaluated.

4.4.1 Research Question 1: What Perceptions do College Students Have Concerning the Effect of Alcohol on Sexual Assault?

To explore college students’ perceptions regarding the use of alcohol as it relates to sexual assault, the frequency of the participants’ responses to the initial question listed on the IRMA-SF was reviewed. Table 3 demonstrates the frequency of responses based on a 7 point Likert scale as to the agreement level with the statement, “If a woman is
raped while she is drunk, she is at least somewhat responsible for letting things get out of control.” Of those responding, 65.2% disagreed with this statement whereas 34.7% noted some level of agreement with the scenario that if a woman is raped while drinking alcohol, she is somewhat responsible for the rape.

Table 3

IRMA Question 1: Woman Is Somewhat Responsible for Rape if Drinking

<table>
<thead>
<tr>
<th>Likert Scale (1 – 7)</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at All Agree</td>
<td>189</td>
<td>30.9</td>
<td>30.9</td>
</tr>
<tr>
<td>2</td>
<td>139</td>
<td>22.7</td>
<td>53.6</td>
</tr>
<tr>
<td>3</td>
<td>71</td>
<td>11.6</td>
<td>65.2</td>
</tr>
<tr>
<td>Agree</td>
<td>70</td>
<td>11.4</td>
<td>76.6</td>
</tr>
<tr>
<td>5</td>
<td>81</td>
<td>13.2</td>
<td>89.9</td>
</tr>
<tr>
<td>6</td>
<td>33</td>
<td>5.4</td>
<td>95.3</td>
</tr>
<tr>
<td>Very much agree</td>
<td>29</td>
<td>4.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>612</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note. The frequency displayed indicates the number of respondents found within each Likert scale category along with a corresponding percentage.

The discrete variables, which included Gender, Campus A and Campus B, Social Fraternity, Social Sorority, Other Social Organization, Academic Organization, Varsity Athlete, and Resident Assistant, were explored in reference to the initial question on the IRMA-SF. The purpose was to determine if there was a trend to be found among the discrete variables and the belief in the rape myth concerning the use of alcohol by the victim rendering the victim at least somewhat responsible for the rape.
Table 4 demonstrates each discrete variable by response. A $p$ value was calculated by the Linear by Linear Association to determine if a trend toward belief in this rape myth existed among the discrete variables. The percentages of each column demonstrate the trend between the row totals. A significant linear association was found for those not involved as Resident Assistants and the trend to agree with the rape myth that if a woman is raped while consuming alcohol, she is somewhat responsible for the rape ($p = .002$).
Table 4

Trend of the Relationship of Gender, Campus, and Organizational Activity to Belief in IRMA Question 1; The Woman Is Somewhat Responsible for the Rape if She Is Drinking (N=612)

<table>
<thead>
<tr>
<th>Likert Scale</th>
<th>1 (N=391)</th>
<th>2 (N=217)</th>
<th>3 (N=249)</th>
<th>4 (N=358)</th>
<th>5 (N=583)</th>
<th>6 (N=242)</th>
<th>7 (N=213)</th>
<th>Total (N=457)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>120 (30.6%)</td>
<td>83 (21%)</td>
<td>43 (19.9%)</td>
<td>47 (12%)</td>
<td>57 (14.5%)</td>
<td>22 (5.6%)</td>
<td>19 (4.8%)</td>
<td>391</td>
<td>0.555</td>
</tr>
<tr>
<td>Male</td>
<td>69 (31.7%)</td>
<td>50 (23%)</td>
<td>19 (8.7%)</td>
<td>28 (12.9%)</td>
<td>32 (14.7%)</td>
<td>11 (5%)</td>
<td>8 (3.6%)</td>
<td>217</td>
<td>0.863</td>
</tr>
<tr>
<td><strong>Campus</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>79 (31.7%)</td>
<td>54 (21.6%)</td>
<td>26 (10.4%)</td>
<td>31 (12.4%)</td>
<td>36 (14.4%)</td>
<td>9 (3.6%)</td>
<td>14 (5.6%)</td>
<td>249</td>
<td>0.545</td>
</tr>
<tr>
<td>B</td>
<td>111 (31%)</td>
<td>78 (21.7%)</td>
<td>36 (10%)</td>
<td>44 (12.2%)</td>
<td>52 (14.5%)</td>
<td>24 (6.7%)</td>
<td>13 (3.6%)</td>
<td>358</td>
<td>0.239</td>
</tr>
<tr>
<td><strong>Social Fraternity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>179 (32%)</td>
<td>119 (21.3%)</td>
<td>57 (10.2%)</td>
<td>69 (12.3%)</td>
<td>78 (13.9%)</td>
<td>30 (5.3%)</td>
<td>26 (4.6%)</td>
<td>558</td>
<td>0.545</td>
</tr>
<tr>
<td>Involved</td>
<td>11 (22%)</td>
<td>14 (28%)</td>
<td>5 (1%)</td>
<td>6 (12%)</td>
<td>10 (2%)</td>
<td>3 (6%)</td>
<td>1 (2%)</td>
<td>50</td>
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<tr>
<td>Not Involved</td>
<td>175 (30.5%)</td>
<td>119 (20.4%)</td>
<td>60 (10.2%)</td>
<td>71 (12.1%)</td>
<td>82 (14%)</td>
<td>30 (5.1%)</td>
<td>26 (4.4%)</td>
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<td>15 (34%)</td>
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<td>2 (4.5%)</td>
<td>4 (9%)</td>
<td>6 (13.6%)</td>
<td>2 (4.5%)</td>
<td>1 (2.2%)</td>
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<tr>
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<td>120 (32.8%)</td>
<td>71 (19.4%)</td>
<td>36 (9.8%)</td>
<td>49 (13.4%)</td>
<td>54 (14.7%)</td>
<td>20 (5.4%)</td>
<td>15 (4.1%)</td>
<td>365</td>
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<td>68 (28%)</td>
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<td>26 (10.7%)</td>
<td>35 (14.4%)</td>
<td>13 (5.3%)</td>
<td>12 (4.9%)</td>
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<tr>
<td>Not Involved</td>
<td>129 (32.6%)</td>
<td>91 (23%)</td>
<td>34 (8.6%)</td>
<td>52 (13.1%)</td>
<td>52 (13.1%)</td>
<td>21 (5.3%)</td>
<td>16 (4%)</td>
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<td>61 (28.6%)</td>
<td>42 (19.7%)</td>
<td>28 (13%)</td>
<td>22 (10%)</td>
<td>37 (17.3%)</td>
<td>12 (5.6%)</td>
<td>11 (5%)</td>
<td>213</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>164 (31.9%)</td>
<td>105 (20.4%)</td>
<td>56 (10.9%)</td>
<td>62 (12%)</td>
<td>78 (15.2%)</td>
<td>26 (5%)</td>
<td>22 (4%)</td>
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<td>27 (28.4%)</td>
<td>6 (6.3%)</td>
<td>13 (13.6%)</td>
<td>11 (11.5%)</td>
<td>7 (7.3%)</td>
<td>5 (5.2%)</td>
<td>95</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>170 (26.5%)</td>
<td>120 (21.2%)</td>
<td>58 (10.2%)</td>
<td>71 (12.5%)</td>
<td>86 (15.2%)</td>
<td>33 (5.8%)</td>
<td>26 (4.6%)</td>
<td>564</td>
<td>0.002*</td>
</tr>
<tr>
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<td>20 (46.5%)</td>
<td>12 (27.9%)</td>
<td>4 (9.3%)</td>
<td>3 (6.9%)</td>
<td>3 (6.9%)</td>
<td>0 (0%)</td>
<td>1 (2.3%)</td>
<td></td>
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</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>--------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The Likert scale used a range from 1 to 7 where 1 indicates “no agreement” with the rape myth to 7 indicating a “strong agreement” with the rape myth.

* $p < .05$
4.4.2 Research Question 2: Do Students Adhere to Rape Myths?

The mean response of all participants (n = 612) according to beliefs in rape myths as determined by the responses generated from the completion of the IRMA-SF section of the survey was 2.55 with a standard deviation of .71. The percentiles for the mean responses at 25%, 50%, and 75% were 2.05, 2.45, and 2.95, respectively, with the total range of 1.0 to 7.0. The response demonstrates that over 95% of the participants have little to no belief in rape myths (see Figure 4).

Figure 4. Displayed on the horizontal axis is the range of “no belief” to “strong belief” in rape myths by frequency of the respondents on the vertical axis.
Table 5 records the tendency of the discrete variables, which included Gender, Campus A and Campus B, Social Fraternity, Social Sorority, Other Social Organization, Academic Organization, Varsity Athlete, and Resident Assistant, to demonstrate an association with belief in rape myths. An independent-samples t test comparing the scores of the discrete variables and the belief in rape myths was calculated. An association of significance was found between the means of those not involved in Varsity Athletics and those involved in Varsity Athletics ($t[584] = -1.942, p = .053$). The mean of those not involved in Varsity Athletics significantly differed from the mean of those involved in Varsity Athletics ($m = .2.59, sd = .713$).
Table 5

Summary Statistics of Participants’ Adherence to Rape Myths

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std.Dev.</th>
<th>Median (1-7)</th>
<th>Total</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>2.57</td>
<td>.689</td>
<td>2.45</td>
<td>377</td>
<td>.979</td>
</tr>
<tr>
<td>Male</td>
<td>2.57</td>
<td>.731</td>
<td>2.45</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>2.57</td>
<td>.720</td>
<td>2.45</td>
<td>239</td>
<td>.978</td>
</tr>
<tr>
<td>B</td>
<td>2.56</td>
<td>.694</td>
<td>2.45</td>
<td>346</td>
<td></td>
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<tr>
<td>Social Fraternity</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>2.55</td>
<td>.688</td>
<td>2.45</td>
<td>539</td>
<td>.160</td>
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<tr>
<td>Involved</td>
<td>2.70</td>
<td>.869</td>
<td>2.60</td>
<td>47</td>
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<tr>
<td>Social Sorority</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Not Involved</td>
<td>2.58</td>
<td>.715</td>
<td>2.45</td>
<td>542</td>
<td>.144</td>
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<td>2.41</td>
<td>.531</td>
<td>2.40</td>
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<td></td>
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<tr>
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<td>.736</td>
<td>2.50</td>
<td>252</td>
<td>.391</td>
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<tr>
<td>Involved</td>
<td>2.54</td>
<td>.653</td>
<td>2.40</td>
<td>233</td>
<td></td>
</tr>
<tr>
<td>Academic Organization</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>2.54</td>
<td>.709</td>
<td>2.40</td>
<td>380</td>
<td>.229</td>
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<tr>
<td>Involved</td>
<td>2.61</td>
<td>.695</td>
<td>2.50</td>
<td>206</td>
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</tr>
<tr>
<td>Varsity Athlete</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>2.59</td>
<td>.713</td>
<td>2.50</td>
<td>493</td>
<td>.053*</td>
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<tr>
<td>Involved</td>
<td>2.44</td>
<td>.644</td>
<td>2.30</td>
<td>93</td>
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</tr>
<tr>
<td>Resident Assistant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>2.58</td>
<td>.699</td>
<td>2.45</td>
<td>543</td>
<td>.114</td>
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<td>2.40</td>
<td>.747</td>
<td>2.10</td>
<td>42</td>
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</tr>
</tbody>
</table>

*N*ote. While significance is established at $p < .05$, a value of $p = .053$ does indicate an association of significance.
4.4.3 Research Question 3: What Stage of Readiness to Change Behavior are College Students in Regard to their Perception of the Effect of Alcohol on Sexual Assault?

Table 6 demonstrates the frequency of drinking alcohol as determined by the utilization of the Alcohol Use Disorders Test (AUDIT). It was found that 28% of the participants drank alcohol more than two times per week \((n = 143)\), with 5% of those drinking four or more times per week \((n = 32)\).

Table 6

<table>
<thead>
<tr>
<th>Frequency of Drinking ((N = 612))</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>65</td>
<td>10.6</td>
<td>10.7</td>
</tr>
<tr>
<td>Monthly</td>
<td>175</td>
<td>28.6</td>
<td>39.3</td>
</tr>
<tr>
<td>Two to four times a month</td>
<td>195</td>
<td>31.9</td>
<td>71.3</td>
</tr>
<tr>
<td>Two to three times a week</td>
<td>143</td>
<td>23.4</td>
<td>94.8</td>
</tr>
<tr>
<td>Four or more times a week</td>
<td>32</td>
<td>5.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>610</td>
<td>99.7</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>System</td>
<td>2</td>
<td>0.3</td>
</tr>
<tr>
<td>Total</td>
<td>612</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Intake of the frequency of alcohol intake was measured from never drinking to drinking 4 or more times per week.
Table 7 demonstrates the analyses of the trend between the variables with a $p$ value calculated using the Linear by Linear Association statistic. A significant linear association was found for participants involved in Social Fraternities to drink more often than those not involved in a Social Fraternity ($p = .000$). A significant linear trend also was found for those not involved as a Resident Assistant to drink more often than those involved as a Resident Assistant ($p = .032$).
Table 7

Trend Toward Frequency of Alcohol Use

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Monthly</th>
<th>2 – 4/ Month</th>
<th>2 – 3/ week</th>
<th>4 or more/ Week</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>35</td>
<td>123</td>
<td>136</td>
<td>81</td>
<td>15</td>
<td>.118</td>
</tr>
<tr>
<td>Male</td>
<td>30</td>
<td>50</td>
<td>59</td>
<td>61</td>
<td>17</td>
<td></td>
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<tr>
<td><strong>Campus</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>28</td>
<td>81</td>
<td>69</td>
<td>51</td>
<td>19</td>
<td>.520</td>
</tr>
<tr>
<td>B</td>
<td>37</td>
<td>92</td>
<td>125</td>
<td>91</td>
<td>13</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Not Involved</td>
<td>61</td>
<td>168</td>
<td>185</td>
<td>113</td>
<td>30</td>
<td>.000**</td>
</tr>
<tr>
<td>Involved</td>
<td>4</td>
<td>6</td>
<td>10</td>
<td>28</td>
<td>2</td>
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<tr>
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<td>161</td>
<td>182</td>
<td>127</td>
<td>31</td>
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<td>14</td>
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<tr>
<td>Not Involved</td>
<td>39</td>
<td>104</td>
<td>120</td>
<td>80</td>
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<td>.899</td>
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<tr>
<td>Involved</td>
<td>26</td>
<td>70</td>
<td>74</td>
<td>61</td>
<td>10</td>
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</tr>
<tr>
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<td>41</td>
<td>111</td>
<td>127</td>
<td>89</td>
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<td>62</td>
<td>68</td>
<td>53</td>
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<td><strong>Varsity Athlete</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>54</td>
<td>150</td>
<td>163</td>
<td>118</td>
<td>26</td>
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<td>24</td>
<td>31</td>
<td>24</td>
<td>6</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>58</td>
<td>158</td>
<td>181</td>
<td>136</td>
<td>31</td>
<td>.032*</td>
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<td>15</td>
<td>13</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$

** $p < .01$
Figure 5 graphically demonstrates the numerical assessment of alcohol consumption by the participants. For clarity of presentation, the number of drinks reported by the participants was converted from a numerical number of drinks consumed when drinking to a scale of low, moderate, and high. Low consumption represented one or two drinks, moderate consumption represented three to four drinks, and high or what could equate with binge drinking included over five drinks on a typical occasion when drinking. It is acknowledged that binge drinking for males equates with five or more drinks being consumed on one occasion and four or more drinks consumed at one time for a woman (Hingson, Heeren, Zahocs, Klopstein, & Wechsler, 2002; Wechsler & Nelson, 2008). The AUDIT survey combined three and four drinks as one choice when measuring the amount of alcohol intake on one occasion; with the next choice for amount to be five or six drinks on one occasion.
Table 8 indicates that approximately one third of the participants are low consumers of alcohol, one-third are moderate consumers of alcohol, and one-third are high consumers of alcohol.
Table 8

Typical Amount Drinking at One Time ($N = 612$)

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>low</td>
<td>195</td>
<td>31.9</td>
<td>33.1</td>
</tr>
<tr>
<td>moderate</td>
<td>172</td>
<td>28.1</td>
<td>62.3</td>
</tr>
<tr>
<td>High</td>
<td>222</td>
<td>36.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>589</td>
<td>96.2</td>
<td>100.0</td>
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<tr>
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<td>3.8</td>
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</tr>
<tr>
<td>Total</td>
<td>612</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Note. Low indicates 1 or 2 drinks; moderate indicates 3 or 4 drinks; and high indicates 5 or 6 drinks to more than 10 drinks per occasion when respondents are opting to drink.

Table 9 presents the analyses of trend toward the specific variables as they relate to amount of alcohol consumed. A $p$ value was calculated using the Linear by Linear association statistic. A significant trend was found in males consuming more alcohol than females ($p = .000$). Social Fraternities which are primarily male also were found to have a positive trend to consume more alcohol on a typical day when drinking than those not involved in a Social Fraternity ($p = .008$). Those not involved in an Academic Organization showed a trend toward significance for consuming more alcohol when opting to drink than those involved with an Academic Organization ($p = .02$).
Table 9

Trend Toward Amount of Alcohol Consumed

<table>
<thead>
<tr>
<th></th>
<th>Low (%)</th>
<th>Medium (%)</th>
<th>High (%)</th>
<th>Total</th>
<th>p Value</th>
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<tbody>
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<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>136 (35.6%)</td>
<td>134 (35%)</td>
<td>112 (29.3%)</td>
<td>382</td>
<td>.000**</td>
</tr>
<tr>
<td>Male</td>
<td>58 (28.4%)</td>
<td>37 (18%)</td>
<td>109 (53.4%)</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td><strong>Campus</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>83 (34%)</td>
<td>75 (30.8%)</td>
<td>85 (34.9%)</td>
<td>243</td>
<td>.336</td>
</tr>
<tr>
<td>B</td>
<td>110 (32.1%)</td>
<td>96 (28%)</td>
<td>136 (39.7%)</td>
<td>342</td>
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<tr>
<td><strong>Social Fraternity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>187 (34.8%)</td>
<td>155 (28.8%)</td>
<td>195 (36.3%)</td>
<td>537</td>
<td>.008**</td>
</tr>
<tr>
<td>Involved</td>
<td>8 (16.3%)</td>
<td>16 (32.6%)</td>
<td>25 (51%)</td>
<td>49</td>
<td></td>
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<tr>
<td><strong>Social Sorority</strong></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>183 (33.7%)</td>
<td>156 (28.7%)</td>
<td>204 (37.5%)</td>
<td>543</td>
<td>.808</td>
</tr>
<tr>
<td>Involved</td>
<td>12 (28.5%)</td>
<td>15 (35.7%)</td>
<td>15 (35.7%)</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td><strong>Social Organization</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>113 (32.3%)</td>
<td>105 (30%)</td>
<td>131 (37.5%)</td>
<td>349</td>
<td>.757</td>
</tr>
<tr>
<td>Involved</td>
<td>82 (34.7%)</td>
<td>65 (27.5%)</td>
<td>89 (37.7%)</td>
<td>236</td>
<td></td>
</tr>
<tr>
<td><strong>Academic Organization</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>116 (30.8%)</td>
<td>104 (27.6%)</td>
<td>156 (41.4%)</td>
<td>376</td>
<td>.02*</td>
</tr>
<tr>
<td>Involved</td>
<td>78 (37.1%)</td>
<td>67 (31.9%)</td>
<td>65 (30.9%)</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td><strong>Varsity Athlete</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>167 (33.8%)</td>
<td>149 (30.1%)</td>
<td>178 (36%)</td>
<td>494</td>
<td>.141</td>
</tr>
<tr>
<td>Involved</td>
<td>28 (30.4%)</td>
<td>21 (22.8%)</td>
<td>43 (46.7%)</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td><strong>Resident Assistant</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Involved</td>
<td>181 (33.3%)</td>
<td>160 (29.4%)</td>
<td>202 (37.2%)</td>
<td>543</td>
<td>.552</td>
</tr>
<tr>
<td>Involved</td>
<td>14 (33.3%)</td>
<td>9 (21.4%)</td>
<td>19 (45.2%)</td>
<td>42</td>
<td></td>
</tr>
</tbody>
</table>

Note. The test for linear trend found significance among male ** and Social Fraternities** to consume more alcohol than females and those not involved in Social Fraternities. A significant trend was also found for those not involved in Academic Organizations* to consume more alcohol than those involved in Academic Organizations. * p < .05** p < .01
The issue the aggregate sample was asked to reference when completing the University of Rhode Island Change Assessment (URICA) section of the survey was their alcohol use such as it related to what the participant believed about the effects of alcohol use on the risk of sexual assault. Review of the responses to the URICA survey found that 94% \((n = 576)\) of those responding to the survey were in the precontemplative stage (see Table 10). Individuals in the precomtemplative stage prefer to change those around them rather than work toward making any change within themselves. Those in this stage usually avoid information about the problem that is being discussed. The responses indicated that the respondents did not find their alcohol use an issue and in need of change in order to decrease the risk of sexual assault.

Table 10

Stages of Readiness to Change \((N = 612)\)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplative Stage</td>
<td>576</td>
<td>94.1</td>
<td>94.1</td>
</tr>
<tr>
<td>Contemplative Stage</td>
<td>32</td>
<td>5.2</td>
<td>99.3</td>
</tr>
<tr>
<td>Action Stage</td>
<td>4</td>
<td>.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>612</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The frequency of the respondents according to the stage of readiness to change is displayed with corresponding percentages.

Figure 6 illustrates the participants’ stages of readiness to change. Calculations of the responses to determine the stage of the participant found that 32 out of 612 were in
the contemplative stage. The contemplative stage indicates examination of the alcohol use behavior by the individual and the need to change the behavior. Of the 32 in the contemplative stage, 60% did not believe in rape myths \((n = 19)\) and 35% believed that if a woman is drunk when she is raped, she is somewhat responsible for the rape \((n = 11)\). The alcohol use during one sitting for those in the contemplative stage ranged from 40% drinking one to two drinks \((n = 12)\), 26% drinking three to four drinks \((n = 9)\) to 33% drinking more than five to six drinks to more than 10 drinks \((n = 11)\). The club and organization involvement for these 32 students was widely distributed, with no concentration with a specific group.

Four participants were calculated to be in the action stage; ready to make a change in their alcohol use behavior in order to decrease risk of sexual assault. Of these 4 participants in the action stage, 3 were involved in an academic organization, 1 did not indicate a response for any group involvement, 2 believed in rape myths, and the 4 participants did not agree with the statement that if a woman is drunk when she is raped, she is somewhat responsible for the rape. Alcohol consumption for the 4 participants in the action stage ranged from 2 having 1 to 2 drinks in one sitting, to 1 having 3 to 4 drinks, to 1 having more than 10 drinks at one sitting.
4.5 Summary of the Findings

The analyses of the data found that 66.3% of the aggregate sample disagreed with the statement that if a woman is raped while drunk, she is somewhat responsible. Results of a linear by linear association analysis found a significantly different trend between the discrete variables of those not involved and those involved in the Resident Assistant organization. Those not involved in the Resident Assistant organization had a positive trend in the belief that if a woman is raped while she is drunk, she is somewhat responsible for the rape. An independent-samples t test comparing the mean scores of
those involved with *Varsity Athletics* and those not involved with *Varsity Athletics* found a significant difference between the means of the two groups. The findings indicated that those not involved with *Varsity Athletics* demonstrated a belief in rape myths greater than those involved in *Varsity Athletics*. Analysis of the alcohol consumption among the aggregate sample found that 32% drank four or more times a week. A significant trend was found among *Social Fraternities* to consume alcohol at the more frequent rate of four or more times a week than those not involved in *Social Fraternities*. It was calculated that one third of the participants are low consumers of alcohol, one third are moderate consumers of alcohol, and one third are high consumers of alcohol, drinking 5 to 6 to more than 10 drinks at one occasion. A significant trend in higher alcohol consumption on a typical day of drinking was noted for *males*, those involved in a *Social Fraternity*, and those not involved in an *Academic Organization*.

Analyses of the stages of readiness to change alcohol use consumption to decrease risk of sexual assault found that 94% of the aggregate sample was in the precontemplative stage. Assessment of the alcohol use of those in the precontemplative stage indicates that the majority or over 68% have a tendency for binge drinking when opting to drink.
Chapter V

5 DISCUSSION

5.1 Introduction

The purpose of this study was to determine the readiness of college students to change alcohol use behavior in order to decrease risk of sexual assault. Analysis of the beliefs of college students that if a woman was sexually assaulted while drinking alcohol found that the majority of this sample of students do not believe in this rape myth. Additionally, an analysis as measured by the Illinois Rape Myth Assessment-Short Form (IRMA-SF) was conducted of the overall belief in rape myths by the college students and it was found that, again, the majority of these students in the aggregate sample did not believe in rape myths. The alcohol use behavior was also assessed and the findings indicated that there was a significant amount of high risk drinking among the responding students. When measuring the readiness of the students to change a behavior such as alcohol use to lessen risk of sexual assault, it was found that an overwhelming majority of students did not recognize a need to change their alcohol use behavior.

5.2 Results

The chapter will discuss the results of the three research questions based on the analyses of the data. Since there was no statistically significant difference between the campuses among the discrete variables of Gender, Social Fraternities, Social Sororities, Other Social Organizations, Academic Organizations, Varsity Athletes, and Resident
in response to the survey questions, results of the combined sample are
discussed unless otherwise stated. These findings are detailed in the following discussion.

5.2.1 Research Question 1: What Perceptions Do College Students Hold Concerning the Effects of Alcohol on Sexual Assault?

The findings from this study concerning college students’ belief in the rape myth that the woman is somewhat responsible for the rape if she is drinking alcohol found that the majority of the students responding to this survey did not believe in this myth. Of statistical significance, those who were not involved as Resident Assistants were found to have a trend toward belief in this myth. This result should be further explored. When administration was queried from each campus following this study, it was found that there is no consistency among the campuses in presenting information to the resident assistant students about the potential effects of the impact of alcohol on sexual assault. The specifics of what is being offered in these courses would be important to future studies.

Though the majority of those responding to the survey did not agree with the rape myth that the woman is somewhat responsible for the rape if she is drinking alcohol, one-third of the respondents do hold to some degree of belief in this rape myth. This one-third of the respondents holding some degree in belief in this rape myth are scattered among the discrete variables of Gender, Social Fraternity, Social Sorority, Other Social Organization, Academic Organization, Varsity Athlete, and Resident Assistant. This indicates that the programming directed at a specific organization should include discussion about this myth. Additionally, as noted by Fisher et al. (2003) and Koss et al. (2002), women who have been using alcohol and are raped tend not to report their rape
citing fear of not being believed that they were raped due to alcohol use. Further evaluation of women on these two campuses as to the incidence of rape and the comfort level of the women who were intoxicated when raped to come forward for assistance needs to be explored.

Reviewing the Clery Act report from Campus A and Campus B ("Policies, safety, & U", 2007-2008) indicated that the incidence of reported sexual assaults on both campuses was less than what has been reported in the literature. The literature reports that one in four college women will be raped some time during her four years of college (Fisher, et al., 2003; Karjane, et al., 2005). Campus A reported no rapes in 2004, 3 rapes in 2005, and 2 rapes in 2006; of these rapes only one individual went forward with a police investigation which occurred in 2006. Campus B reported no rapes in 2004, 3 rapes in 2005, and 7 rapes in 2006; of these only one individual went forward with a police investigation ("Policies, safety, & U", 2007-2008). Research indicates that the low incidence of victims reporting such as found within the reports of these two campuses is comparable to other campuses in the US (Karjane et al., 2002). In the literature, studies reported that victims’ tendency to not report being a victim of sexual assault is often linked to the victim’s use of alcohol and feeling of not being believed by the college community (Abbey et al., 2005, Karjane et al., 2005). With the findings of this study indicating that the majority of students do not believe that the woman is somewhat responsible for the rape if she was drinking, it would seem that more victims would come forward for help. This should be studied further to assess the climate on these campuses that may affect the support on each campus for the victim to report a sexual assault. Also,
further research needs to be conducted that assesses the incidence of sexual assault on these campuses.

The university policy for care of victims of sexual assault on these two campuses extends beyond the recommendations of the 1998 Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics, often referred to as the Clery Act (Pasky McMahon, 2008). The policy of the university of Campus A and Campus B includes the 9 parameters such as required by the Clery Act along with two additional parameters. In order to comply with the Clery Act, an institution of higher education must include the following parameters: (1) a definition of sexual assault, (2) specifics of the sexual assault policy, (3) who is trained to respond, (4) methods for students to report, (5) prevention efforts and victim resources, (6) methods and policies that prevent reporting, (7) methods and policies that encourage reporting, (8) information concerning the investigation and punishing of perpetrators, and (9) additional recommendations such as provisions for record keeping of the implementation of the policy. The two additional parameters provided include; (10) financial coverage for transportation to an off or on campus medical care facility, costs for the medical care, laboratory testing, and medications, and costs for the essential two week follow up care, and (11) an assigned university staff member, trained in issues facing victims of sexual assault, to accompany the victim as the advocate for the victim to the medical care facility as well as offer services of support to the victim if the victim chooses to pursue the legal arena on or off campus. The two additional parameters offered by this university are not dependent upon the victim pursuing legal avenues; the victim may opt to have a medical evaluation and treatment without any evidence collection. With the findings of this study indicating the lack of
rape myth adherence by the students in this study concerning the involvement of the victim with alcohol coupled with this expansive type of policy for victims of sexual assault, further evaluation is essential to determine the cause of such low reporting of sexual assault.

5.2.2 Research Question 2: Do Students Adhere to Rape Myths?

The findings from this study indicated that more than 95% of those responding to this survey do not believe in rape myths. There were no significant findings for belief in rape myths from those involved or not involved in Social Fraternities, Social Sororities, Other Social Organizations, Academic Organizations, and Resident Assistants. There were no significant differences in findings between gender and belief in rape myths. The study conducted by the National Institute of Justice (Karjane, et al., 2005) noted that the incidence of college students’ belief in rape myths was a significant factor linked to the incidence of sexual assault on college campuses. Both Campus A and Campus B report annual sexual assault prevention programs, but there are no definitive programming outlines on file for review ("Policies, safety, & U", 2007-2008). It would be of interest to investigate the specifics of the outreach programs being conducted on both campuses with focus on assessing baseline rape myth beliefs of the students at Campus A and Campus B prior to any programming. This would provide data that could be useful for other campuses if in fact it is the programming being conducted at Campus A and Campus B that has made the impact on the majority of the students. The programming impact could then be associated with these students’ non-belief in rape myths which could provide assistance to additional campuses as other research results of college students indicate that rape myth beliefs continue to be an issue (Karjane, et al., 2005).
The evaluation of the students on Campus A and Campus B prior to programming may also determine if in fact these students come to college already aware of rape myths.

Those students involved in varsity athletics scored lower at a significant level on the Illinois Rape Myth Assessment-Short Form than those not involved in Varsity Athletics. The lower scores indicate a lesser tendency to believe in rape myths. Chicorelli, Sawyer, and Thompson (2002) reported higher rates of rape myth acceptance among male varsity athletes who participated in team sports and among female athletes who played National Collegiate Athletic Association (NCAA) Division I sports than females playing NCAA Division II. The varsity athletic programs at Campus A and Campus B are NCAA Division III. Both Chicorelli et al. (2002) and the present study did not obtain the student athletes through random sample, thus limiting generalizability. The results of this study do indeed present an interesting finding that those not involved in Varsity Athletics hold a stronger tendency toward belief in rape myths than the Varsity Athletes from Campus A and Campus B which is contrary to Chicorelli et al.’s findings.

Further research is necessary in order to explore possible explanations which would elucidate the differences for the findings of this study as compared to Chicorelli, et al. (2002). Specifically, it would be of interest to determine if any mandatory programming that incorporates information about sexual assault on campus is required of the varsity athletes on the two campuses within this study. Parameters within the programming that may be significant to identify include specifics on the topics covered, presenter of the program such as a coach or an individual outside of the athletic arena, and measurement of the athletes prior to any programming as compared to after the program and at intervals over their four years at the colleges. It would also be of interest
to determine if any recent sexual assault prevention education programming was offered to the athletes prior to their participation in this survey. To date, research about program effectiveness concerning attitudes and beliefs about sexual assault declines over six months to nine months post intervention (Adair, 2006).

5.2.3 Research Question 3: At What Stage of Readiness to Change Behavior are College Students in Regard to Their Perception of the Effects of Alcohol on Sexual Assault?

Alcohol has been cited as a major link related to the incidence of rapes on college campuses (Abbey, Abbey, Clinton, et al., 2002; Abbey, Clinton et al., 2002; Mohler-Kuo, et al., 2004). Thirty two percent of the aggregate sample reported drinking four or more times a week, and of these, one-third consumed more than five drinks when choosing to drink. Drinking more than five drinks for men and four drinks for women at one occasion equates with binge drinking and a higher risk for negative consequences such as sexual assault (Hingson, Heeren, Zakocs, Kopstein, & Wechsler, 2002; Wechsler & Nelson, 2008). Reviewing the gender of those choosing to drink more than five drinks at one sitting found that while the majority was male, almost one-third were female. The percentage of women responding to this survey choosing to drink four drinks at one sitting was not able to be calculated due to the AUDIT combining three and four drinks as one choice within the survey when measuring the amount of alcohol intake at one sitting.

Heavy episodic drinking is the strongest risk predictor for being raped while intoxicated (Mohler-Kuo, et al., 2004). Sexual assault prevention programming should incorporate binge drinking and the risk factors associated with heavy alcohol use at all
related programming. The male and female respondents who were found to binge drink were not more involved in one particular organization. This indicated that programming directed at the potential effects of alcohol on sexual assault must be presented to all students and not just focused upon organizations that have been heralded in the literature to be affiliated with high risk drinking. The findings of this study indicate that individuals reporting high risk drinking or consuming more than five drinks on one occasion were found among all of the various organizations.

Males demonstrated a significant trend to consume more alcohol than females and those involved in a Social Fraternity also were found to drink more alcohol than those not involved in a Social Fraternity. Negative effects such as a greater incidence of violence including sexual violence have been well documented through the Harvard School of Public Health College Alcohol Survey (Wechsler & Nelson, 2008). The debate continues about alcohol use and sexual aggression. Lisak (2004) noted that, although the perpetrator may use alcohol himself, alcohol use is not necessarily a major factor in the determination of his aggression. Lisak’s research indicates that the aggressor is already a sexual predator and may only use alcohol as a means to incapacitate his victim.

Also those not involved in an Academic Organization, of which one third were female, had a significant trend to consume more alcohol on a typical occasion when drinking. Academic organization involvement appears to be one of the significant factors found among those opting to drink less alcohol at one time. Further exploration such as conducting focus groups is recommended to help determine possible explanations for those involved in Academic Organizations to consume less alcohol than those not involved in Academic Organizations.
An ongoing study by Rob Turrisi, PhD (2008) is based on the premise that parental communication with freshmen students prior to their entrance into the Fall semester is associated with these freshmen choosing to drink less than those who did not have conversations with their parents about alcohol use in the summer. Within his handbook, Turrisi cites sexual assault as one of the frequent negative consequences associated with heavy episodic drinking by the female college student. He further indicates that drinking such as binge drinking has not been effectively reduced on college campuses despite the many and varied efforts of institutions of higher education. These findings by Turrisi support the results reported by Karjane, Fisher, and Cullen (on page 28) (2002) in their study for the National Institutes of Health investigating how institutions of higher education are responding to sexual assault on college campuses.

Specifically, reviewing the analyses of trend toward alcohol use found that males and those involved in *Social Fraternities* have the greatest trend toward heavy episodic drinking or binge drinking. Two thirds of the females within the aggregate sample have a tendency to binge drink when opting to drink alcohol. As has been noted, alcohol is directly related to the risk for sexual assault (Abbey et al., 2001). Further exploration is needed to identify the reasons that these women to opt to binge drink. The College Alcohol Study (CAS) conducted by the Harvard School of Public Health (Wechsler & Nelson, 2008) noted that binge drinking constitutes a complex set of behaviors rooted in many factors. The CAS identified factors that may contribute to female college students drinking behavior that included genetic and familial issues, influences by peers, alcohol availability, and traditions within the institution. No single factor has been identified that
can account for students choosing to binge drink. Further evaluation of the rationale for women on these two campuses to binge drink is recommended.

When analyzing the stage of readiness to change the alcohol use behavior to decrease risk of sexual assault, the majority of the respondents were found to be in the precontemplative stage. In the precontemplative stage, individuals do not identify that the issue that they are being queried about is actually an issue that needs to be acted upon or is a behavior in need of change (Prochaska, DiClemente, et al., 1992). Though one-third of the respondents are low consumers of alcohol and would not see their use of alcohol as a risk in need of change, two thirds of the respondents are moderate to heavy users of alcohol which does increase their risk of sexual assault. As noted, the majority of those responding to this survey were in the precontemplative stage and would tend to avoid information about the issue of their alcohol use being a risk factor for negative consequences. This makes educational programming that focuses on the relationship of alcohol to sexual assault a challenge and thus far has been relatively ineffective on college campuses (Karjane, et al., 2005). The campuses report a new initiative by the University to deter alcohol abuse. Commencing in the Fall of 2008 a program entitled AlcoholEdu program (Outside the Classroom, 2007) will be mandatory for all incoming freshmen. Measurement of the impact of this program on binge drinking and the incidence of negative consequences of binge drinking as sexual assault should be undertaken.

Less than 7% of the females who opt to binge drink recognize a need to change their alcohol use in order to decrease their risk of sexual assault. The analysis of the stages of readiness to change indicated that 93% of the women who binge drink were in
the precontemplative stage. According to the Transtheoretical Model and stages of change (Prochaska et al., 1994), those found to be in the precontemplative stage do not identify the behavior of binge drinking to be an issue in need of change. Further, those in the precontemplative stage have a tendency to want to have others act or choose to act as the precontemplative individual does which in this case would be not to identify with moderate to heavy alcohol use as a potential threat to their safety and a risk factor for sexual assault. Methods need to be identified that will promote those in the precontemplative stage concerning the issue of the effects of alcohol use on sexual assault to move from this stage to the contemplative stage where the issue is identified. With the identification that the issue needs to be attended to, movement to take action can only then occur (Prochaska, et al., 1994).

The purpose of research question three as it relates to this research was to determine college students’ readiness to change alcohol use behavior in order to decrease risk of sexual assault. A gap in the literature was noted concerning the lack of proven effectiveness of programming directed at the issue of alcohol use and sexual assault. To fully address this issue an assessment was conducted to determine the incidence of beliefs in a rape myth concerning the responsibility of the woman for the rape if she was drinking as well as overall belief in rape myths. Measurement of alcohol use and involvement in campus organizations was obtained. Participants were then queried related to their readiness to change alcohol use behavior to lessen risks of negative consequences such as sexual assault. Through the analysis of the research questions it was found that the majority of students do not believe in rape myths. It was also found that those choosing to drink amounts of alcohol that could lead to risks such as sexual
assault do not see their alcohol use in need of change. Reviewing programs presented in other research studies, the format of many programs assumes that the students acknowledge their alcohol use is in need of change and that the students already connect their alcohol use as a risk factor for sexual assault (Anderson & Whiston, 2005). The results of this research may help explain the lack of long term results from the alcohol abuse and sexual assault awareness programs on college campuses. According to Prochaska, et al. (1994) for change to occur, the individual must first acknowledge that there is a problem or issue that exists and is in need of change before any movement will be made by the individual to change a behavior. The results of this study demonstrate that the students do not acknowledge that their alcohol use is in need of change which indicates that the format of alcohol and sexual assault awareness programs must take into consideration the stage of change of the audience.

5.3 Significance

The role of individuals charged with campus health and wellness programming is to focus on the reduction in the incidence of various health problems affecting college students. On some campuses, the majority of outreach education is the responsibility of the college health nurse (Fisher, et al., 2003; Von Ah, et al., 2004). According to the results of Karjane, et al. (2005), alcohol use and its relationship to sexual assault is a major health issue on college campuses and must be a priority in the prevention education programs presented by all those involved in campus health promotion. Prevention programming which focuses on alcohol and its relation to sexual assault thus far has not effectively deterred the amount of binge drinking on the college campus, nor has there been a significant decline in sexual assault on the college campus (Karjane, et al., 2005).
With the understanding that students within the audience do not identify a negative behavior such as the over use of alcohol as an issue leading to negative consequences including sexual assault may help the campus health educators to create campus-wide educational initiatives that will lead to lowered incidences of sexual assault.

Repetition of this study should explore the stage of readiness to change found among college students on other campuses. Previous programs directed at alcohol and sexual assault have been noted to be presented in a format assuming that the students are ready to change their behaviors by simply assimilating new information (Karjane, et al., 2005). With similar findings such as those found within the present study, new educational initiatives can be designed that incorporate methods to support the students who are in the precontemplative stage to move forward to the next stage. Supportive findings in subsequent research also would help to strengthen new initiatives that may lead to long-term impact by the intervention programs.

Included in the new program initiatives must be awareness by those charged with the campus health promotion that students in the precontemplative stage tend to avoid information about the problem. As the students begin to identify with the purpose of the program such as high risk drinking and the potential negative consequences of this behavior, feelings of being disheartened or demoralized may be experienced (Prochaska, et al., 1994). Individuals within the audience whose negative feelings are not addressed will move further away from the next stage, rendering a change in their behavior unlikely. Capitalizing on the knowledge that students may experience dubious feelings when confronting their alcohol use and a need to change this behavior; program planners
could design program strategies accordingly in order to support the move to the next stage.

Taking this information into account, a new level of programming will be essential. Campus health promoters may incorporate a variety of programming options such as identified by Turrisi (2008). These solutions or alternatives to alcohol use include campus involvement. This study found that those who are involved in campus Academic Organizations consumed significantly less alcohol. More research is needed to ascertain the types of campus activities that may be related to students opting to use less alcohol. Additional research should address students who already choose to not drink or to avoid binge drinking; focus groups may be helpful in this endeavor. Further study would need to be conducted to measure the effectiveness of this strategy, but if found effective; the results would render it imperative that program planners first assess the stage of readiness to change of the intended audience.

5.4 Limitations of the Study

The sample for this study is specific to college students and may not be generalizable to individuals of similar ages outside the college setting. As the sample was obtained from two small colleges, results may not be directly applicable to larger colleges and universities reporting larger memberships in organizations such as Social Fraternities, Social Sororities, Varsity Athletics, and Resident Assistants. Additionally, both campuses within this study are from one university system. Replication of this study should extend to similar size colleges that are not part of a large university system. Detail concerning the health education programming along with short and long-term effectiveness the programs at the campuses under study was not included. Knowledge of
these specifics may have impacted the findings concerning the lack of rape myth acceptance. This study is limited by the response rate, though more than the minimum number required for a power of .80 with an effect size of 0.5 and alpha of .05 was achieved; Campus A had a lower response rate than Campus B. Name recognition of the researcher may have impacted the response rate on campus B. Finally, this study is limited by the lack of inclusion of the Sexual Experience Survey (SES) designed by Koss, et al. (1987) which would have indicated the incidence of sexual victimization of females on Campus A and Campus B. The additional information obtained by the SES survey may have enhanced the interpretation of the results of the relationship of rape myth belief and the incidence of sexual assault on the two college campuses.

5.5 Recommendations

It is recommended that this study be replicated to investigate students attending other campuses outside this University system as to their readiness to change their behaviors due their perception of the effects of alcohol on sexual assault. It is further recommended that this research extend into assessing the incidence of sexual assault on these campuses. This information may have a significant impact on the type of planned intervention needed on these campuses. New programming initiatives could then incorporate the findings about the incidence of sexual assault, the degree of rape myths beliefs, the frequency of binge drinking, and the lack of recognition of the need to change the drinking behavior in order to decrease the incidence of sexual assault. Measurement of the effectiveness of this new programming initiative over time such as annually until graduation by the program attendees would be beneficial to future endeavors. It is further recommended that this survey be conducted at campuses that have had the opportunity to
be part of Turrisi’s parental alcohol intervention strategies to determine the effect of the parental involvement strategies on students’ perceived need to change their behaviors in order to decrease risk of sexual assault.

5.6 Summary

This study found that the majority of students surveyed do not believe in rape myths. The belief in rape myths has been recognized as a rationale for victims not to obtain care on campus. The lack of belief in rape myths should translate into an environment where individuals who are victims of sexual assault more readily access the available services. Making the assumption that the incidence of sexual assault on both campuses is similar to the national averages for college students, the Clery reports obtained from both campuses should at minimum indicate more than zero to six sexual assaults reported in an academic year over the past three years. This finding indicates that further research is needed to determine the incidence of sexual assault on these campuses as well as the reasons for victims to seek or not to seek assistance on campus.

The lack of programming effectiveness to deter the incidence of sexual assault related to alcohol use on college campuses continues to be a major issue across the nation. The majority of the students in this study were found to be in the precontemplative stage. Those in this stage who binge drink did not acknowledge that their alcohol use was in need of a change in order to decrease risk of sexual assault. The findings from this study indicate a need for a new direction in programming that begins with identifying the stage of change of the audience. If the audience is similar to the respondents in this study, stage assessment would be followed by supporting the students to transition from the precontemplative stage where no problem is identified, to the
recognition of the need for a change in the behavior. An innovative programming effort
designed to support students to acknowledge and act upon their high risk drinking in
order to lessen the risk of sexual assault may eventually lead to a decreased incidence of
sexual assault; a decrease that has not been evident since the incidence of sexual assault
on college campuses was first identified in 1987.


randomized clinical trial of reinforcement magnitude. *Experimental and Clinical Psychopharmacology, 10*(1), 54-63.

Carter, M., Ortman, S., Roe, K., Volk, E., & Alexander, W. (2004). *California Campus Blueprint to Address Sexual Assault*


APPENDIX 1

Illinois Rape Myth Assessment Survey-Short Form (IRMA-SF)

1. If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control.

   1  2  3  4  5  6  7
not at all agree very much agree

2. Although most women wouldn’t admit it, they generally find being physically forced into sex a real “turn-on.”

   1  2  3  4  5  6  7
not at all agree very much agree

3. If a woman is willing to “make out” with a guy, then it’s no big deal if he goes a little further and has sex.

   1  2  3  4  5  6  7
not at all agree very much agree

4. Many women secretly desire to be raped.

   1  2  3  4  5  6  7
not at all agree very much agree

5. Most rapists are not caught by the police.

   1  2  3  4  5  6  7
not at all agree very much agree

6. If a woman doesn’t physically fight back, you can’t really say that it was rape.

   1  2  3  4  5  6  7
not at all agree very much agree

7. Men from nice middle-class homes almost never rape.

   1  2  3  4  5  6  7
not at all agree very much agree

8. Rape accusations are often used as a way of getting back at men.

   1  2  3  4  5  6  7
not at all agree very much agree
9. All women should have access to self-defense classes.

1 2 3 4 5 6 7
not at all agree very much agree

10. It is usually only women who dress suggestively that are raped.

1 2 3 4 5 6 7
not at all agree very much agree

11. If the rapist doesn’t have a weapon, you really can’t call it a rape.

1 2 3 4 5 6 7
not at all agree very much agree

12. Rape is unlikely to happen in the woman’s own familiar neighborhood.

1 2 3 4 5 6 7
not at all agree very much agree

13. Women tend to exaggerate how rape affects them.

1 2 3 4 5 6 7
not at all agree very much agree

14. A lot of women lead a man on and then cry rape.

1 2 3 4 5 6 7
not at all agree very much agree

15. It is preferable that a female police officer conduct the questioning when a woman reports a rape.

1 2 3 4 5 6 7
not at all agree very much agree

16. A woman who “teases” men deserves anything that might happen.

1 2 3 4 5 6 7
not at all agree very much agree
17. When women are raped, it’s often because the way they said “no” was ambiguous.

1  2  3  4  5  6  7
not at all agree  very much agree

18. Men don’t usually intend to force sex on a woman, but sometimes they get too sexually carried away.

1  2  3  4  5  6  7
not at all agree  very much agree

19. A woman who dresses in skimpy clothes should not be surprised if a man tries to force her to have sex.

1  2  3  4  5  6  7
not at all agree  very much agree

20. Rape happens when a man’s sex drive gets out of control.

1  2  3  4  5  6  7
not at all agree  very much agree
APPENDIX 2

Alcohol Use Disorders Test (AUDIT)

Please circle your answer to each of the 10 questions.

1. How often do you have a drink containing alcohol?
   a. Never       b. Monthly or less       c. Two to four times a month  
   d. Two or three times a week  e. Four or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?
   a. 1 or 2       b. 3 or 4       c. 5 or 6       d. 7 to 9       e. 10 or more

3. How often do you have six or more drinks on one occasion?

4. How often during the past year have you found that you were not able to stop drinking once you had started?

5. How often during the past year have you failed to do what was normally expected of you because of drinking?

6. How often during the past year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

7. How often during the past year have you had a feeling of guilt or remorse after drinking?
8. How often during the past year have you been unable to remember what happened the night before because you had been drinking?


9. Have you or someone else been injured as a result of your drinking?

a. No       b. Yes, but not in the last year    c. Yes, during the past year

10. Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested you cut down?

a. No    b. Yes, but not in the last year    c. Yes, during the past year

© World Health Organization
Appendix 3

The remaining part of this survey is to help improve sexual assault prevention programming as it relates to the effects of alcohol use on sexual assault. Each statement describes how a person might feel when approaching the issue of the perception of alcohol use and its effect on the risk of sexual assault in their lives.

You are asked to respond as if you were filling this last section of the survey out prior to the start of a sexual assault prevention program you are attending on your campus.

For all the statements that refer to your “issue,” answer in terms of what is written on the “ISSUE” line below.

The **ISSUE** you are requested to focus on for the following statements is: My alcohol use as it relates to what I believe about the effects of alcohol use on the risk of sexual assault.

Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. Please remember to respond to these statements as if you were attending an on campus sexual assault prevention program.

There are FIVE possible responses to each of the items in the questionnaire:

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

1. As far as I’m concerned, I don’t have any issues that need changing.
2. I think I might be ready for some self-improvement.
3. I am doing something about the issue that had been bothering me.
4. It might be worthwhile to work on my issue.
5. I’m not the one with the issue. It doesn’t make much sense for me to be at this program.
6. It worries me that I might slip back on this issue. I have already changed, so I am here to seek help.
7. I am finally doing some work on my issue.
8. I’ve been thinking that I might want to change something about myself.
9. I have been successful in working on my issue but I’m not sure I can keep up the effort on my own.
10. At times my issue is difficult, but I’m working on it.
11. Being at this program is pretty much a waste of time for me because the issue doesn’t have to do with me.
12. I’m hoping this program will help me to better understand myself.
13. I guess I have faults, but there’s nothing that I really need to change.

14. I am really working hard to change.

15. I have an issue and I really think I should work at it.

16. I’m not following through with what I had already changed as well as I had hoped, and I’m at this program to prevent a relapse of the issue.

17. Even though I’m not always successful in changing, I am at least working on my issue.

18. I thought once I had resolved my issue I would be free of it, but sometimes I still find myself struggling with it.

19. I wish I had more ideas on how to solve the issue.

20. I have started working on my issue but I would like help.

21. Maybe this program will be able to help me.

22. I may need a boost right now to help me maintain the changes I’ve already made.

23. I may be part of the issue, but I don’t really think I am.

24. I hope that someone at this program will have some good advice for me.

25. Anyone can talk about changing; I’m actually doing something about it.

26. All this talk about psychology is boring. Why can’t people just forget about their issues?

27. I’m at this program to prevent myself from having a relapse of my issue.

28. It is frustrating, but I feel I might be having a recurrence of an issue I thought I had resolved.

29. I have worries but so does the next guy. Why spend time thinking about them?

30. I am actively working on my issue.

31. I would rather cope with my faults than try to change them.

32. After all I had done to try to change my issue, every now and again it comes back to haunt me.
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<td>Action items</td>
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<td>Maintenance items</td>
<td>6, 9, 16, 18, 22, 27, 28, 32</td>
</tr>
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Appendix 4

Consent to Participate in Preliminary Study and Survey

Dear Student,

You are invited to participate in a study for the purpose of determining the time needed to complete the following survey and welcomes other comments you may have about the structure of the survey. Following your participation in this preliminary study, the survey will be administered to a random sample of students attending XXXXXXX, XXXXXXXXXX and XXXXXXXXXXXX. The purpose of this research study is to determine college students’ readiness to change alcohol use behavior related to perceptions held concerning the effect of alcohol on sexual assault. Your participation is totally voluntary. Your responses are confidential and anonymous. Following is the detailed consent for participation. By clicking on the link provided, your consent is understood. If you have any questions concerning the research project or consent, you may contact me at pap1@psu.edu or at the Penn State Behrend Health and Wellness Center at 814-898-6217, Dr. Paul Richer, Chair of the Duquesne University Institutional Review Board at 412-396-6326, XXXX XXXX University’s Office for Research Protections at --- --- ----, or Dr. Kathleen Sekula, the principal researcher’s PhD Advisor at 412-396-4865.

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE: Assessing College Students Readiness to Change Alcohol Use Behavior Related to Perceptions of Alcohol Effects on Sexual Assault

INVESTIGATOR: Patricia Pasky McMahon
ADVISOR: Dr. Kathleen Sekula
Director, Forensic Graduate Programs
School of Nursing
SOURCE OF SUPPORT: This study is being performed as partial fulfillment of the requirements for the doctoral degree in Nursing at Duquesne University.

PURPOSE: The purpose of this study is to determine the time needed for survey completion and is open to any additional comments you may have regarding the structure of the survey you feel may benefit the survey. The purpose of the research study is to investigate college students’ readiness to change alcohol use behavior related to the perception of the effects of alcohol on sexual assault, rape myths held by college students, and alcohol use. The survey is being conducted through the Internet using the Zoomerang format rendering the survey responses confidential and anonymous. All results will be kept confidential. Completion of the survey is the only request that will be made of you.

RISKS AND BENEFITS: There are no known risks or direct benefits from participating in this study. As the topic of the survey will focus on sensitive topics as sexual assault and alcohol, some may feel uncomfortable with these topics due to past history or experiences related to these topics. The personal counseling services on your campus will be available to assist you with any of these or related issues. The success of this survey may support the need for future sexual assault prevention programs to assess the intended audience in order to design a program that is tailored to the intended audience. This may lead to programs that ultimately will make a long-term impact evidenced by a decline of sexual assault on the college campus.

COMPENSATION: There is no monetary compensation for your participation in this study; nor will there be a monetary cost to you for your participation.

CONFIDENTIALITY: Your name will never appear on any survey or research instruments. No identity will be made in the data analysis. All survey results will be stored in
a secured computer in the researcher’s home. Your responses will only appear in statistical data summaries. All materials will be destroyed at the completion of the research.

**RIGHT TO WITHDRAW:** You are under no obligation to participate in this study. You are free to withdraw your consent to participate at any time. There is no penalty for withdrawing.

**SUMMARY OF RESULTS:** A summary of the results of this research will be supplied to you, at no cost, upon request.

**VOLUNTARY CONSENT:** I have read the above statements and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw my consent at any time, for any reason. The principal researcher has offered to answer any questions I may have about the study and my participation. I understand there are no known risks involved in participating in this study. By clicking on the link to access the survey, I understand that I am agreeing to participate in the survey based on the information I have received. On these terms, I certify that I am willing to participate in this research project.

I understand that should I have any further questions about my participation in this study, I may call Dr. Paul Richer, Chair of the Duquesne University Institutional Review Board (412-396-6326), XXX XXXX University’s Office for Research Protections at --- ----, or Dr. Kathleen Sekula, the principal researcher’s PhD Advisor at 412-396-4865, and I will be given the opportunity to discuss in confidence, any questions with any member of the Institutional Review Board.

Clicking on the link provided implies that I have read the above information and consent to take part in the research.

Patty Pasky McMahon, PhD(c), MSN, CRNP

Researcher’s Signature

Duquesne University School of Nursing

Click here for Zoomerang link:

November ??, 2007

Date
Survey for the 5 students:

1. Please indicate the extent to which you tend to agree or disagree with each statement.

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<td>not at all agree</td>
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<td>very much agree</td>
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If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control.

Although most women wouldn’t admit it, they generally find being physically forced into sex a real “turn-on.”

If a woman is willing to “make out” with a guy, then it’s no big deal if he goes a little further and has sex.

Many women secretly desire to be raped.

Most rapists are not caught by the police.

If a woman doesn’t physically fight back, you can’t really say that it was rape.

Men from nice middle-class homes almost never rape.

Rape accusations are often used as a way of getting back at men.

All women should have access to self-defense classes.
2

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<td>A lot of women lead a man on and then cry rape.</td>
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</table>
A woman who dresses in skimpy clothes should not be surprised if a man tries to force her to have sex.

Rape happens when a man’s sex drive gets out of control.
3
How often do you have a drink containing alcohol?

- Never
- Monthly or less
- Two to four times a month
- Two to three times a week
- Four or more times a week

4
How many drinks containing alcohol do you have on a typical day when you are drinking?

- 1 or 2
- 3 or 4
- 5 or 6
- 7 to 9
- 10 or more

5
How often do you have six or more drinks on one occasion?

- Never
- Less than monthly
- Monthly
- Weekly
6. How often during the past year have you found that you were not able to stop drinking once you had started?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

7. How often during the past year have you failed to do what was normally expected of you because of drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

8. How often during the past year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

- Never
- Less than monthly
9. How often during the past year have you had a feeling of guilt or remorse after drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

10. How often during the past year have you been unable to remember what happened the night before because you had been drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

11. Have you or someone else been injured as a result of your drinking?
12
Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested you cut down?

No

Yes, but not in the last year

Yes, during the past year

13
The remaining part of this survey is to help improve sexual assault prevention programming as it relates to the effects of alcohol use on sexual assault. Each statement describes how a person might feel when approaching the issue of the perception of alcohol use and its effect on the risk of sexual assault in their lives.

You are asked to respond as if you were filling this last section of the survey out prior to the start of a sexual assault prevention program you are attending on your campus.

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There are FIVE possible responses to each of the items in the questionnaire:

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<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
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</table>
As far as I’m concerned, I don’t have any issues that need changing.

1 2 3 4 5

I think I might be ready for some self-improvement.

1 2 3 4 5

I am doing something about the issue that had been bothering me.

1 2 3 4 5

It might be worthwhile to work on my issue.

1 2 3 4 5

I’m not the one with the issue. It doesn’t make much sense for me to be at this program.

1 2 3 4 5

It worries me that I might slip back on this issue. I have already changed, so I am here to seek help.

1 2 3 4 5

I am finally doing some work on my issue.

1 2 3 4 5

I’ve been thinking that I might want to change something about myself.

1 2 3 4 5

I have been successful in working on my issue but I’m not sure I can keep up the effort on my own.

1 2 3 4 5

At times my issue is difficult, but I’m working on it.

1 2 3 4 5

Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel.
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<td><strong>5.</strong></td>
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</table>

1. Being at this program is pretty much a waste of time for me because the issue doesn't have to do with me.

2. I'm hoping that this program will help me to better understand myself.

3. I guess I have faults, but there's nothing that I really need to change.

4. I am really working hard to change.

5. I have an issue and I really think I should work at it.

6. I'm not following through with what I had already changed as well as I had hoped, and I'm at this program to prevent a relapse of the issue.

7. Even though I'm not always successful in changing, I am at least working on my issue.

8. I thought once I had resolved my issue I would be free of it, but sometimes I still find myself struggling with it.

9. I wish I had more ideas on how to solve the issue.

15

Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel.
1 Strongly Disagree  2 Disagree  3 Undecided  4 Agree  5 Strongly Agree

I have started working on my issue but I would like help.

1 2 3 4 5

Maybe this program will be able to help me.

1 2 3 4 5

I may need a boost right now to help me maintain the changes I've already made.

1 2 3 4 5

I may be part of the issue, but I don't really think I am.

1 2 3 4 5

I hope that someone at this program will have some good advice for me.

1 2 3 4 5

Anyone can talk about changing; I'm actually doing something about it.

1 2 3 4 5

All this talk about psychology is boring. Why can’t people just forget about their issues?

1 2 3 4 5

I'm at this program to prevent myself from having a relapse of my issue.

1 2 3 4 5

It is frustrating, but I feel I might be having a recurrence of an issue I thought I had resolved.

1 2 3 4 5

I have worries but so does the next guy. Why spend time thinking about them?

1 2 3 4 5

I am actively working on my issue.
I would rather cope with my faults than try to change them.

After all I had done to try to change my issue, every now and again it comes back to haunt me.

152
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<td>6</td>
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<tr>
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<td>Other Social Organization (as Outdoors Club, Ski &amp; Board Club, Hockey Club)</td>
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<td>3</td>
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<td>Academic Organization (as Biology Club, Alpha Phi Omega, Women in Engineering)</td>
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<td>3</td>
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<tr>
<td>Resident Assistant</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Please indicate the amount of time you needed to complete this survey.

Thank you for taking the time to complete this survey. Your opinion is important.
APPENDIX 5

Email Communication; Permission for Use of IRMA

Personal communication from Dr. Diana Payne providing permission for use of the

IRMA:

Subject: RE: Illinois Rape Myth Acceptance Scale
From: “Payne, Diana” <DPayne@mednet.ucla.edu>
Date: Sun, June 18, 2006 2:39 am
To: “mcmahonp@duq.edu” <mcmahonp@duq.edu>
Priority: Normal
Options: View Full Header | View Printable Version | Add to Addressbook

Patty -
You are certainly welcome to use the scale. It is published and all directions for administration and scoring are in the article. I imagine you will be able to obtain a copy of the article in your library or online, but if you have problems I can mail you a reprint.
Good luck with your research.
Diana Payne

-----Original Message-----
From: mcmahonp@duq.edu
To: dpayne@mednet.ucla.edu
Sent: 6/16/06 7:06 AM
Subject: Illinois Rape Myth Acceptance Scale

Dear Dr. Payne, I am a doctoral student in the nursing department at Duquesne University. Presently, I am taking a Measurement Issues course as the final in my sequence of research courses. Our assignment requires that we select an instrument that we will be using for our dissertation, contact the developer, and obtain a copy of the instrument, instructions for use, administration and scoring interpretation.
APPENDIX 6

Permission to Use the Alcohol Use Disorders Test

URL to pdf stating permission for use of AUDIT:

http://whqlibdoc.who.int/hq/2001/WHO_MSD_MSB_01.6a.pdf

World Health Organization statement on use of the Alcohol Use Disorders Identification Test: Guidelines for Primary Health Care:

“The document may, however, be freely reviewed, abstracted, reproduced, and translated, in part or in whole but not for sale nor for use in conjunction with commercial purposes.”
APPENDIX 7

Permission to Use the University of Rhode Island Assessment Tool

URL to locate Internet permission: http://www.uri.edu/research/cprc/measures.htm

Copy of Internet permission: Here you can find the psychological measures that have been developed at the CPRC. All measures are copyright Cancer Prevention Research Center, 1991. Dr. James O. Prochaska, Director of the CPRC, is pleased to extend his permission for you to use the Transtheoretical Model-based measures available on this website for research purposes only, provided that the appropriate citation is referenced.

Please Note: All assessment inventories are available for research purposes only and are not for clinical use.

- Smoking
- Alcohol
- Cocaine
- Mammography
- Exercise
- Sun Protection
- Coping & Stress
- Weight Control
- Psychotherapy
- HIV & Safer Sex
- Substance Abuse
- URICA
- Other
APPENDIX 8

(One Week Prior Newspaper Advertisement)

Attention Students! Help Needed!

Your help is requested to complete a survey assessing college students’ readiness to change alcohol use behavior concerning perceptions of the effects of alcohol on sexual assault.

Please watch your email for the title:

Effects of Alcohol on Sexual Assault.

Responses are confidential and anonymous!

The purpose of this research project is to determine if student belief parameters concerning alcohol, sexual assault, and behavior related to perceptions of the effects of alcohol on sexual assault differ therefore supporting the need for audience evaluation prior to program development.

Help make a difference!

For more information, please contact Patty Pasky McMahon PhD(c), MSN, CRNP
Director, Health and Wellness Center,
Penn State Behrend
Doctoral Student at Duquesne University School of Nursing
Office: 814-898-62127 or Email: pap1@psu.edu
Coming soon, an email survey:  
“Effects of Alcohol on Sexual Assault”

Requesting participation  
from randomly selected students!

PURPOSE: Investigate college students’ behavior related to the perception of the effects of alcohol on sexual assault, rape myths held by college students, and alcohol use.

Completely voluntary, confidential, and anonymous!

RISK/BENEFITS: There are no known risks or direct benefits from participating in this survey.  
Success of this research study may provide a new foundation for sexual assault prevention programs.

COMPENSATION: There is no monetary compensation for your participation in this study; nor will there be a monetary cost to you for your participation.

Right to Withdraw: You are under no obligation to participate in this study. You are free to withdraw your consent to participate at any time. There is no penalty for withdrawing.

For further information, please contact  
Patty Pasky McMahon, PhD(c), MSN, CRNP  
Director, Health and Wellness Center, Penn State Behrend  
Doctoral Student at Duquesne University School of Nursing  
@ 814-898-6217 or pap1@psu.edu
APPENDIX 10

Email Requesting Faculty Support in the Classroom

Dear Faculty of XXXX,

My name is Patty Pasky McMahon and I am the Director and Nurse Practitioner of the Penn State Behrend Health and Wellness Services. I am conducting a research study as part of the requirements for completion of my doctoral studies in nursing through Duquesne University. I have received the approval to conduct my study from the Duquesne University and XXXX University Institutional Review Boards. These approvals are on file for review at your request.

On November XX, 2007, some of the students at your campus will receive an email requesting they complete a Zoomerang styled survey to assess college students readiness to change alcohol use behavior related to perceptions of alcohol effects on sexual assault. Belief in rape myths and alcohol use also will be measured. I am requesting that you announce and encourage students receiving my email entitled, “Effects of Alcohol on Sexual Assault” to complete the anonymous survey.

It is my contention that the sexual assault prevention programs on U.S. college campuses have failed dismally since their initiation in the late 1980’s due to the lack of prior audience assessment. Research results indicate that the incidence of sexual assault on college campuses has not declined despite the years of prevention attempts. Thank you for considering my request.

Sincerely,

Patty Pasky McMahon, PhD(c), MSN, CRNP
Penn State Behrend Health and Wellness Center
Doctoral Student at Duquesne University School of Nursing
Office: 814-898-6217; Email pap1@psu.edu
Appendix 11

(Introductory Email Announcement)

Dear Student,

You have been selected as part of a randomized sample of students attending XXXXXXX or XXXXXXX to complete an online survey. In one-week an email with a link to the survey will be sent to you. The purpose of the survey is to explore college students’ readiness to change alcohol use behavior related to the perception of the effects of alcohol on sexual assault. Completion of the survey is completely voluntary. All responses are confidential and anonymous. This study is being performed as partial fulfillment of the requirements for my doctoral degree in Nursing at Duquesne University.

Thank you for considering my request for your participation.

Sincerely,

Patty Pasky McMahon, PhD(c),MSN, CRNP
Director, Health and Wellness Center
Penn State Behrend
Doctoral Student at Duquesne University School of Nursing
Appendix 12

(Cover Letter Email Introducing the Survey)

Dear Student,

You are invited to participate in a research study for the purpose of determining college students’ readiness to change alcohol use behavior related to perceptions held concerning the effect of alcohol on sexual assault. Your participation is totally voluntary. Your responses are anonymous. Following is the detailed consent for participation. By clicking on the link provided, your consent is understood. If you have any questions concerning the research project or consent, you may contact me at pap1@psu.edu or at the Penn State Behrend Health and Wellness Center at 814-898-6217, Dr. Paul Richer, Chair of the Duquesne University Institutional Review Board at 412-396-6326, XXX XXX University’s Office for Research Protections at xxx xxx xxxx, or Dr. Kathleen Sekula, the principal researcher’s PhD Advisor at 412-396-4865.

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE: Assessing College Students Readiness to Change Alcohol Use Behavior Related to Perceptions of Alcohol Effects on Sexual Assault

INVESTIGATOR: Patricia Pasky McMahon
ADVISOR: Dr. Kathleen Sekula
Director, Forensic Graduate Programs
School of Nursing
521 Fisher Hall
Pittsburgh, PA 15282
412-396-4865

SOURCE OF SUPPORT: This study is being performed as partial fulfillment of the requirements for the doctoral degree in Nursing at Duquesne University.
PURPOSE: The purpose of this research study is to investigate college students’ readiness to change alcohol use behavior related to the perception of the effects of alcohol on sexual assault, rape myths held by college students, and alcohol use. The survey is being conducted through the Internet using the Zoomerang format rendering the survey responses confidential and anonymous. All results will be kept confidential. Completion of the survey is the only request that will be made of you.

RISKS AND BENEFITS: There are no known risks or direct benefits from participating in this study. As the topic of the survey will focus on sensitive topics as sexual assault and alcohol, some may feel uncomfortable with these topics due to past history or experiences related to these topics. The personal counseling services on your campus will be available to assist you with any of these or related issues. The success of this survey may support the need for future sexual assault prevention programs to assess the intended audience in order to design a program that is tailored to the intended audience. This may lead to programs that ultimately will make a long-term impact evidenced by a decline of sexual assault on the college campus.

COMPENSATION: There is no monetary compensation for your participation in this study; nor will there be a monetary cost to you for your participation.

CONFIDENTIALITY: Your name will never appear on any survey or research instruments. No identity will be made in the data analysis. All survey results will be stored in a secured computer in the researcher’s home. Your responses will only appear in statistical data summaries. All materials will be destroyed at the completion of the research.

RIGHT TO WITHDRAW: You are under no obligation to participate in this study. You are free to withdraw your consent to participate at any time. There is no penalty for withdrawing.

SUMMARY OF RESULTS: A summary of the results of this research will be supplied to you, at no cost, upon request.
VOLUNTARY CONSENT:  

I have read the above statements and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw my consent at any time, for any reason. The principal researcher has offered to answer any questions I may have about the study and my participation. I understand there are no known risks involved in participating in this study. By clicking on the link to access the survey, I understand that I am agreeing to participate in the survey based on the information I have received. On these terms, I certify that I am willing to participate in this research project.

I understand that should I have any further questions about my participation in this study, I may call Dr. Paul Richer, Chair of the Duquesne University Institutional Review Board (412-396-6326), XXXX University’s Office for Research Protections at xxx xxx xxxx, or Dr. Kathleen Sekula, the principal researcher’s PhD Advisor at 412-396-4865, and I will be given the opportunity to discuss in confidence, any questions with any member of the Institutional Review Board.

Clicking on the link provided implies that I have read the above information and consent to take part in the research.

Patty Pasky McMahon, PhD(c), MSN, CRNP
Researcher’s Signature
Duquesne University School of Nursing

Click here for Zoomerang link:
Appendix 13
Effects of Alcohol on Sexual Assault Zoomerang Survey

Please indicate the extent to which you tend to agree or disagree with each statement.

1 not at all agree 2 3 4 5 6 7 very much agree

If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control.

Although most women wouldn’t admit it, they generally find being physically forced into sex a real “turn-on.”

If a woman is willing to “make out” with a guy, then it’s no big deal if he goes a little further and has sex.

Many women secretly desire to be raped.

Most rapists are not caught by the police.

If a woman doesn’t physically fight back, you can’t really say that it was rape.

Men from nice middle-class homes almost never rape.

Rape accusations are often used as a way of getting back at men.
All women should have access to self-defense classes.

1 2 3 4 5 6 7

It is usually only women who dress suggestively that are raped.

1 2 3 4 5 6 7

2

Please indicate the extent to which you tend to agree or disagree with each statement.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all agree</td>
<td>very much agree</td>
<td></td>
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</tbody>
</table>

If the rapist doesn’t have a weapon, you really can’t call it a rape.

1 2 3 4 5 6 7

Rape is unlikely to happen in the woman’s own familiar neighborhood.

1 2 3 4 5 6 7

Women tend to exaggerate how rape affects them.

1 2 3 4 5 6 7

A lot of women lead a man on and then cry rape.

1 2 3 4 5 6 7

It is preferable that a female police officer conduct the questioning when a woman reports a rape.

1 2 3 4 5 6 7

A woman who “teases” men deserves anything that might happen.

1 2 3 4 5 6 7

When women are raped, it’s often because the way they said “no” was ambiguous.

1 2 3 4 5 6 7

Men don’t usually intend to force sex on a woman, but sometimes they get too sexually carried away.
A woman who dresses in skimpy clothes should not be surprised if a man tries to force her to have sex.

Rape happens when a man’s sex drive gets out of control.
3

How often do you have a drink containing alcohol?

- Never
- Monthly or less
- Two to four times a month
- Two to three times a week
- Four or more times a week

4

How many drinks containing alcohol do you have on a typical day when you are drinking?

- 1 or 2
- 3 or 4
- 5 or 6
- 7 to 9
- 10 or more

5

How often do you have six or more drinks on one occasion?

- Never
- Less than monthly
- Monthly
- Weekly
6 How often during the past year have you found that you were not able to stop drinking once you had started?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

7 How often during the past year have you failed to do what was normally expected of you because of drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

8 How often during the past year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

- Never
- Less than monthly
9. How often during the past year have you had a feeling of guilt or remorse after drinking?
- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

10. How often during the past year have you been unable to remember what happened the night before because you had been drinking?
- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

11. Have you or someone else been injured as a result of your drinking?
Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested you cut down?

No
Yes, but not in the last year
Yes, during the past year

12

The remaining part of this survey is to help improve sexual assault prevention programming as it relates to the effects of alcohol use on sexual assault. Each statement describes how a person might feel when approaching the issue of the perception of alcohol use and its effect on the risk of sexual assault in their lives.

You are asked to respond as if you were filling this last section of the survey out prior to the start of a sexual assault prevention program you are attending on your campus.

For all the statements that refer to your “issue,” answer in terms of what is written on the “ISSUE” line below.

The ISSUE you are requested to focus on for the following statements is: My alcohol use as it relates to what I believe about the effects of alcohol use on the risk of sexual assault.

Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. Please remember to respond to these statements as if you were attending an on campus sexual assault prevention program.

There are FIVE possible responses to each of the items in the questionnaire:

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<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Undecided</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>
As far as I’m concerned, I don’t have any issues that need changing.

I think I might be ready for some self-improvement.

I am doing something about the issue that had been bothering me.

It might be worthwhile to work on my issue.

I’m not the one with the issue. It doesn’t make much sense for me to be at this program.

It worries me that I might slip back on this issue. I have already changed, so I am here to seek help.

I am finally doing some work on my issue.

I’ve been thinking that I might want to change something about myself.

I have been successful in working on my issue but I’m not sure I can keep up the effort on my own.

At times my issue is difficult, but I’m working on it.
<table>
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<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</table>

Being at this program is pretty much a waste of time for me because the issue doesn't have to do with me.

| 1 | 2 | 3 | 4 | 5 |

I'm hoping that this program will help me to better understand myself.

| 1 | 2 | 3 | 4 | 5 |

I guess I have faults, but there's nothing that I really need to change.

| 1 | 2 | 3 | 4 | 5 |

I am really working hard to change.

| 1 | 2 | 3 | 4 | 5 |

I have an issue and I really think I should work at it.

| 1 | 2 | 3 | 4 | 5 |

I’m not following through with what I had already changed as well as I had hoped, and I’m at this program to prevent a relapse of the issue.

| 1 | 2 | 3 | 4 | 5 |

Even though I’m not always successful in changing, I am at least working on my issue.

| 1 | 2 | 3 | 4 | 5 |

I thought once I had resolved my issue I would be free of it, but sometimes I still find myself struggling with it.

| 1 | 2 | 3 | 4 | 5 |

I wish I had more ideas on how to solve the issue.

| 1 | 2 | 3 | 4 | 5 |

Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel.
<table>
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<tr>
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<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
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I have started working on my issue but I would like help.

Maybe this program will be able to help me.

I may need a boost right now to help me maintain the changes I've already made.

I may be part of the issue, but I don't really think I am.

I hope that someone at this program will have some good advice for me.

Anyone can talk about changing; I'm actually doing something about it.

All this talk about psychology is boring. Why can't people just forget about their issues?

I'm at this program to prevent myself from having a relapse of my issue.

It is frustrating, but I feel I might be having a recurrence of an issue I thought I had resolved.

I have worries but so does the next guy. Why spend time thinking about them?

I am actively working on my issue.
I would rather cope with my faults than try to change them.

After all I had done to try to change my issue, every now and again it comes back to haunt me.
APPENDIX 14

Institutional Review Board Permission from Duquesne

DUQUESNE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

December 17, 2007

Ms. Patricia McMahon
699 Harbortowne Road
Erie PA 16510

Re: Assessing college students’ readiness to change alcohol use behavior related to perceptions of alcohol effects on sexual assault (Protocol # 07-116)

Dear Ms. McMahon:

Thank you for submitting your research proposal to the IRB.

Based upon the recommendation of IRB member, Dr. Linda Goodfellow, along with my own review, I have determined that your research proposal is consistent with the requirements of the appropriate sections of the 45-CFR of Federal Regulations-46, known as the federal Common Rule. The intended research poses no greater than minimal risk to human subjects. Consequently, the research is approved under 45CFR46.101 and 46.111 on an expedited basis under 45CFR46.110.

IRB approval will need to be renewed in one year as part of continuing review. You will submit a progress report to the IRB in response to a questionnaire that we will send. In addition, if you are still using the consent form you will need to re-submit it to receive another one year approval. In correspondence please refer to the protocol number shown after the title above.

If, prior to the annual review, you propose any changes in your procedure or consent process, you must inform the IRB of those changes and wait for approval before implementing them. In addition, if any unforeseen problems, procedural complications or adverse effects on subjects are discovered before the annual review, they must be reported to the IRB Chair before proceeding with the study.

When the study is complete, please provide us with a summary, approximately one page. Often the completed study’s Abstract suffices. You should retain a copy of your research records, other than
those you have agreed to destroy for confidentiality, over a period of five years after the study’s completion.

Thank you for contributing to Duquesne’s research endeavors.

If you have any questions, feel free to contact me at any time.

Sincerely yours,

[Signature]

Paul Richer, Ph.D.

C:
Dr. Linda Goodfellow
Dr. Kathleen Sekula
IRB Records
Institutional Review Board Approval: The XXXX University

Date: December 14, 2007

From: XXXXXXX, IRB Administrator

To: Patricia A. McMahon

Subject: Results of Review of Proposal - Expedited (IRB #27109)

Approval Expiration Date: December 5, 2008

“Assessing College Students Readiness to Change Alcohol Use Behavior Related to Perceptions of Alcohol Effects on Sexual Assault”

The Social Science Institutional Review Board (IRB) has reviewed and approved your proposal for use of human participants in your research. By accepting this decision, you agree to obtain prior approval from the IRB for any changes to your study. Unanticipated participant events that are encountered during the conduct of this research must be reported in a timely fashion.

Enclosed is/are the dated, IRB-approved informed consent(s) to be used when recruiting participants for this research. Participants must receive a copy of the approved informed consent form to keep for their records.

If signed consent is obtained, the principal investigator is expected to maintain the original signed consent forms along with the IRB research records for this research at least three (3) years after termination of IRB approval. For projects that involve protected health information (PHI) and are regulated by HIPAA, records are to be maintained for six (6) years. The principal investigator must determine and adhere to additional requirements established by the FDA and any outside sponsors.

If this study will extend beyond the above noted approval expiration date, the principal investigator must submit a completed Continuing Progress Report to the Office for Research Protections (ORP) to request renewed approval for this research.

On behalf of the IRB and the University, thank you for your efforts to conduct your research in compliance with the federal regulations that have been established for the protection of human participants.

Please Note: The ORP encourages you to subscribe to the ORP listserv for protocol and research-related information. Send a blank email to: L-ORP-Research-L-subscribe-request@lists.psu.edu

DWM/dwm
Enclosure
cc: Kathleen Sekula
APPENDIX 16

The XXXXXXXX University
and

DUQUESNE UNIVERSITY

Informed Consent Form for Social Science Research

**TITLE:**
Assessing College Students Readiness to Change Alcohol Use Behavior Related to Perceptions of Alcohol Effects on Sexual Assault

**INVESTIGATOR:**
Patricia Pasky McMahon

**ADVISOR:**
Dr. Kathleen Sekula
Director, Graduate Forensic Programs
School of Nursing
521 Fisher Hall
Pittsburgh, PA 15282
412-396-4865

**SOURCE OF SUPPORT:**
This study is being performed as partial fulfillment of the requirements for the doctoral degree in Nursing at Duquesne University.

**PURPOSE:**
The purpose of this research study is to investigate college students’ readiness to change alcohol use behavior related to the perception of the effects of alcohol on sexual assault, rape myths held by college students, and alcohol use. The survey is being conducted through the Internet using the Zoomerang format rendering the survey responses confidential and anonymous. All results will be kept confidential. Completion of the survey is the only request that will be made of you.

**RISKS AND BENEFITS:**
There are no known risks or direct benefits from participating in this study. As the topic of the survey will focus on sensitive topics as sexual assault and alcohol, some may feel uncomfortable with these topics due to past history or experiences related to these topics. The personal counseling services on your campus will be available to assist you with any of these or related issues. The success of this survey
may support the need for future sexual assault prevention programs to assess the intended audience in order to design a program that is tailored to the intended audience. This may lead to programs that ultimately will make a long-term impact evidenced by a decline of sexual assault on the college campus.

COMPENSATION: There is no monetary compensation for your participation in this study; nor will there be a monetary cost to you for your participation.

CONFIDENTIALITY: Your name will never appear on any survey or research instruments. No identity will be made in the data analysis. All survey results will be stored in a secured computer in the researcher’s home. Your responses will only appear in statistical data summaries. All materials will be destroyed at the completion of the research.

RIGHT TO WITHDRAW: You are under no obligation to participate in this study. You are free to withdraw your consent to participate at any time. There is no penalty for withdrawing.

SUMMARY OF RESULTS: A summary of the results of this research will be supplied to you, at no cost, upon request.

VOLUNTARY CONSENT: I have read the above statements and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw my consent at any time, for any reason. The principal researcher has offered to answer any questions I may have about the study and my participation. I understand there are no known risks involved in participating in this study. By clicking on the link to access the survey, I understand that I am agreeing to participate in the survey based on the information I have received. On these terms, I certify that I am willing to participate in this research project.

I understand that should I have any further questions about my participation in this study, I may call Dr. Paul Richer, Chair of the Duquesne University Institutional Review Board (412-396-
6326), XXXXX University’s Office for Research Protections at xxx xxx xxxx, or Dr. Kathleen Sekula, the principal researcher’s PhD Advisor at 412-396-4865, and I will be given the opportunity to discuss in confidence, any questions with any member of the Institutional Review Board.

Clicking on the link provided implies that I have read the above information and consent to take part in the research.

Patty Pasky McMahon, PhD(c), MSN, CRNP
Researcher’s Signature
Duquesne University School of Nursing

November ??, 2007
Date
Attention students,

This email is being sent to all students who on November XX, 2007 were emailed the survey entitled, “Effects of Alcohol on Sexual Assault”. Thank you for participating; if you chose not to participate, thank you for reviewing my request to participate.

As mentioned in the “Consent to Participate,” section of the survey, the topic of the survey focused on the sensitive topics of sexual assault and alcohol. If you felt uncomfortable with these topics due to past history or experiences related to these topics; the personal counseling services on your campus are available to assist you with any of these or related issues. XXXXXX students may reach their on campus personal counseling services located in XXXXXXX at XXX-XXX-XXXX. XXXXXX students may reach their on campus personal counseling services located in the XXXXXXXX at XXX-XXX-XXXX.

Again, thank you for your time. If you would like a copy of the results of the survey, please email me at pap1@psu.edu.

Sincerely,

Patty McMahon PhD(c), MSN, CRNP  
Director, Health and Wellness Services  
Penn State Behrend  
Doctoral Student at Duquesne University School of Nursing