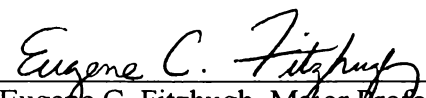
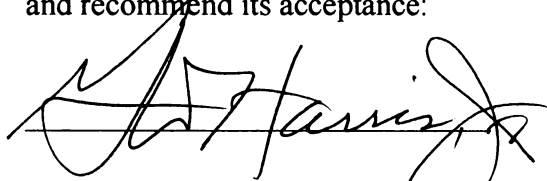


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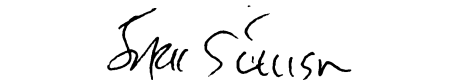
I am submitting herewith a dissertation written by Gayle Maddox Wells entitled "The Effect of Religiosity and Campus Alcohol Culture on Collegiate Alcohol Consumption." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Human Ecology.


Eugene C. Fitzhugh, Major Professor

We have read this dissertation
and recommend its acceptance:







Accepted for the Council:



Interim Vice Provost and
Dean of The Graduate School

THE EFFECT OF RELIGIOSITY AND CAMPUS ALCOHOL CULTURE ON
COLLEGIATE ALCOHOL CONSUMPTION

A Dissertation
Presented for the
Doctor of Philosophy
Degree
University of Tennessee, Knoxville

Gayle Maddox Wells
May 2001

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DEDICATION

This dissertation is dedicated to my parents, **Cordell and Brona Maddox**, who taught me the value of learning, and to my son **John Garland Wells** in the hope that he, too, will always value learning.

ACKNOWLEDGEMENTS

There have been many people who have aided me in this journey. First and foremost, I would like to thank Dr. Eugene Fitzhugh, who has encouraged me throughout this experience. His expertise has taught me a great deal, and I know that I will be a better health professional because of him. I would also like to thank the other members of my doctoral committee. Dr. Jack Ellison has been a mentor and a friend to me since I began graduate school, and I appreciate his support and kindness. Dr. Bill Wallace has also assisted me with his time and knowledge in the last several years. Dr. George Harris brought a non-health related focus into my work, and I am grateful for his expertise.

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Finally, I would like to thank my husband, John, whose encouragement and confidence in me never wavered, and who always made me laugh.

ABSTRACT

The purpose of this study was to assess the interactive relationship of college environment and religiosity on the college alcohol experience of students attending two institutions, one secular and one a religious college. Reference group theory was the theoretical foundation utilized in this study. The data for this research was gathered from two college samples, one a secular university and one a religious liberal arts college. Five hundred and twenty-nine students participated in the project.

The data was based on student responses to two survey instruments. The Religiosity Measure is an eight-item survey that assesses religiosity, and the College Alcohol Survey is a twenty-page survey that investigates collegiate alcohol use. A pilot study was carried out using twenty-one college students to assess the survey instruments. A variety of statistical procedures were used, including Mann-Whitney U tests, Spearman Rho correlations, chi-square, and multinomial logistic regression.

Alcohol consumption was significantly different at the two schools with secular university students consuming 26.9 alcoholic drinks in a thirty day period as opposed to 11.9 drinks consumed by students at the religious college in the same time period. Moreover, there was a strong negative correlation (-0.51) between alcohol consumption and religiosity among both student samples.

Analysis of the data showed that religiosity was a significant predictor of moderate and heavy alcohol use in college. Students with the lowest level of religiosity were twenty-six times more likely to be heavy drinkers and nine times more likely to be

moderate alcohol drinkers. Furthermore, college environment was a significant predictor of collegiate alcohol consumption. Regardless of religiosity, students who attended the secular university were four times more likely to be moderate or heavy drinkers than those students who attended a religious college.

In conclusion, within the limitations of this study, religiosity and college environment were both significant predictors of collegiate alcohol consumption. Colleges and universities can serve as reference groups for behavior, including alcohol consumption. Discussion evolved around the need to consider personal religiosity as well as religious environment as possible factors in decreasing alcohol consumption among college students. Future studies should utilize these factors in assessing alcohol use.

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CHAPTER ONE

INTRODUCTION

Alcohol use and abuse on college campuses across the country is well documented. The problem of collegiate alcohol abuse is so great that Gordon (1995) states that alcohol ranked number one on the American College Health Association task force list of health concerns for college campuses. In a 1999 issue of College Health Report, alcohol was ranked the number one college health problem in the country (Federal Reports, 1999).

In the nationwide College Alcohol Study conducted by Harvard University, Wechsler, Lee, Kuo, and Lee (2000) found that 82% of college students had consumed alcohol, and 44% of students had binged on alcohol. Furthermore, he found that 23% of the drinkers are frequent binge drinkers. Another disturbing finding from the study stated that 47% of the drinkers drink on an occasion for the purpose of intoxication.

This recent study corroborates other studies conducted in the last decade. Wechsler, Davenport, Dowdall, Moeykens, and Castillo (1994) found that 84% of college students surveyed at 148 colleges and universities across the country reported drinking some alcohol during the college year. In the 1997 version of the College Alcohol Study, Wechsler, Dowdall, Maenner, Gledhill-Hoyt, and Lee (1998) found that 43% of the students who consume alcohol could be classified as binge drinkers.

According to the National College Health Risk Behavior Survey (Centers for Disease Control, 1995), 68.2% of college students nationwide had consumed at least one

drink in the thirty days prior to the survey. Moreover, 34.5% of the students had consumed five or more drinks on one occasion at least once in the thirty days prior to the survey. The Core Alcohol and Drug Survey, a nationwide survey of 105 colleges, found that 10% of students consumed more than 15 drinks per week (Meilman, Presley, & Cashin 1997).

Such extensive alcohol use is a serious issue for college administrators because of the myriad of problems that students can experience as a result of alcohol consumption. For example, as alcohol use increases, academic achievement decreases (Hanson and Engs, 1992; Presley, 1992; Haberman, 1994; Petroff & Broeck, 1990; Presley, Meilman, & Lyster, 1994; Core Institute, 1993).

The use of alcohol on college campuses also poses a physical risk for students. The Office of Substance Abuse Prevention (1991) estimates that 2-3% of current undergraduates will eventually die from alcohol-related causes in their lifetime. One example of such a tragedy would be drinking and driving. In a study conducted with students at a large mid-western university, 57% admitted they had driven drunk at least once, and 21% surveyed said they had driven drunk seven or more times (Canterbury, 1992).

Another area of risk for students using alcohol is impaired judgment in the area of sexual behavior (Douglas, Collins, & Warren, 1997; Abbey, 1991). Under the influence of alcohol, perception is altered, and some students use poor judgment in dealing with members of the opposite sex.

Because of the seriousness of the problems related to alcohol consumption among college students, it is imperative that health educators understand the factors that are associated with alcohol use and abuse. One of those factors is religiosity (Dudley, Mutch, & Cruise, 1987).

The connection between religiosity and a decrease in deviant behavior, including alcohol use, has been of interest to social scientists for some time. Initially, early research conducted by Hirshi and Stark (1969) found that religiosity and deviance were not related, but since that time their work has been disputed by countless studies that have focused on adolescents (Stark, Kent, & Doyle, 1982; Bock, Cochran, & Beeghley, 1987; Burkett, 1993; Francis & Mullen, 1993; Amey, Albrecht, & Miller, 1996), college students (Perkins, 1987; Slicker, 1991; Carlucci, Genova, Rubackin, Rubackin, & Kayson, 1993; Herd, 1996; Poulson, Eppler, Satterwhite, Wuensch, & Bass, 1998;) and adults (Perkins, 1985; Cosper, Ishmail, & Neumann, 1987; Cochran, Beeghley, & Bock, 1988; Clarke, Beeghley, & Cochran, 1990).

This latter research is numerous, and it has clearly shown that increased religiosity has an inverse relationship to alcohol use (Cochran, Beeghley, & Bock, 1988; Perkins, 1991; Francis, 1997; Hadaway, Elifson, & Peterson, 1984). It is theorized that this inverse relationship is due to the fact that religious groups form reference groups that constrain certain behaviors, such as drinking alcohol (Bock, Cochran, & Beeghley, 1987; Burkett, 1993; Herd, 1996).

Rohrbaugh and Jessor (1975) state that an orientation toward religious beliefs

offers a set of standards that provide social controls for individuals. A teaching against alcohol use by a religious group is one way to combat the pro-alcohol messages of alcohol advertisers. Moreover, studies have shown that religious groups that are the most proscriptive on alcohol issues had the lowest rate of alcohol use (Aamoateng & Bahr, 1986). This idea relates to reference group theory, which is the theoretical foundation of this study.

This idea of religious social control has its roots in psychological and sociological theory. In his work The Elementary Forms of Religious Life, sociologist Emile Durkheim, (1912) wrote about religion as a strong reference group or a “moral community” for moderating behavior. By providing moral instruction, religion encourages conformity to the group while also controlling deviance.

The idea of social control disseminating from social reference groups traces back to Merton and Rossi (1968) in their work “Contributions to a Theory of Reference Group Behavior”. Since human beings are social creatures, they are constantly interacting with others. Human beings form groups, and these groups have social norms that members of the group adhere to. The social groups of which he/she is a part shape a person’s attitudes and behaviors to some degree. Furthermore, Merton and Rossi state that members of a group compare themselves to others in the group as opposed to outside groups.

Within the above context, religious groups can be considered to be reference groups for the purpose of this study. Churches, an outlet for religious groups, provide a

definite theology with associated values. Members of a religious group are exposed to these religious ideas and values from religious leaders, and they are usually exposed to other people who share these same values (Clarke, Beeghley, & Cochran, 1990).

Specific to alcohol consumption, religious teachings can be strong predictors of behavior. For example, Hilton (1986) collected general population data to discover the reasons people abstain from alcohol use. Of the 1772 adults in the study, 33% were abstainers. Among the abstainers, 59% said their religious beliefs forbade drinking. More importantly, 76% of the abstainers said that drinking seemed morally wrong to them. These two reasons were in the top three reasons for abstaining from alcohol.

Although the relationship between religiosity and alcohol has been studied among a variety of groups including college students, very few of these studies have focused solely on religiously proscriptive colleges. McCoy, Metch, & Inciardi, (1996) study focused on students attending colleges run by the Church of Jesus Christ of Latter Day Saints, which is also known as the Mormon church. The study examined the reasons why students abstain from alcohol use. Seventy-three percent of the 1865 students surveyed listed religious commitment as an influence over the decision not to consume alcohol.

A study by Wells (1997) looked at alcohol consumption at one religiously proscriptive institution. The data showed that 38% of the sample consumed alcohol, while 62% of the students abstained from alcohol use. This is compared to national data that shows that 81.8% of students consume alcohol while 19.2% abstain (Wechsler, Lee, Kuo, & Lee, 2000).

Although these studies focused on the religiously proscriptive college population, one limitation of the studies is that they fail to include comparison data from a secular college in the same geographical area. This type of comparison data is important because it would examine the potential influence of individual college environments on alcohol behavior.

Religiously proscriptive colleges meet the definition of a religiously affiliated reference group because they serve as extensions of a particular religious denomination. Therefore, the study of the interactive effect of religiosity and the religious affiliation of a college on alcohol consumption would add to the literature on religiosity and alcohol. Since research data shows an association between religiosity and alcohol use, it is important to determine if a student attending a religiously proscriptive college is less likely to consume and abuse alcohol compared to a similar student attending a secular university. Using reference group theory as a guide, this study will seek to determine the relationship between the college alcohol experience, including consumption, and religiosity within a religious college campus compared to a secular university campus.

This study will utilize two research instruments previously used with college students. The first instrument is the Religiosity Measures Questionnaire developed by Rohrbaugh (1973). This instrument is designed to assess the impact of religion on everyday life as well as involvement in ritual religious practices. Rohrbaugh based his instrument on the work of Glock and Stark (1965) who defined religiosity in terms of four dimensions. These include experiential, ritualistic, ideological, and consequential.

The second instrument is the College Alcohol Survey, (Wechsler & McFadden, 1977) which was developed at the Harvard School of Public Health. The instrument has been used in national studies on collegiate alcohol use and behaviors related to alcohol use. Most recently, this instrument has been used in a 1999 survey of college students on 119 college campuses (Wechsler, Lee, Kuo, & Lee, 2000). These two instruments will be used on two college campuses, one a secular university and one a religiously proscriptive college.

Purpose Of The Study

The primary purpose of this study was to assess the interactive relationship of college environment and personal religiosity with the college alcohol experience of college students attending two institutions, one secular and one a religiously proscriptive college. Using reference group theory as a guide, this study will also attempt to determine if there is a relationship between religiosity and the college alcohol experience with special attention focused on consumption. Furthermore, it will attempt to determine if attendance at a religiously proscriptive college is related to the college alcohol experience.

This purpose can be accomplished by answering the following research questions:

1. Is there a difference in the level of alcohol consumption among college students attending a religiously affiliated college versus students attending a secular university?
2. Is there a difference between the campus alcohol cultures of students attending a religiously affiliated college versus students attending a secular university?

3. Is there a difference in religiosity between students attending a religiously affiliated college versus students attending a secular university?
4. What is the relationship between religiosity and collegiate alcohol consumption?
5. What is the role of a religiously affiliated college environment on the relationship between religiosity and collegiate alcohol consumption?

Need For The Study

Alcohol consumption characteristics of college students have been examined in countless numbers of research studies on national and regional levels. Furthermore, a number of studies have examined the factor of religiosity as it relates to alcohol consumption. However, there has been little research that focuses on college alcohol consumption among students attending religiously affiliated colleges and the potential influence of religiosity and the religiously affiliated college environment on that consumption.

For many campuses, alcohol is part of the tradition of the college experience (Jones & Kern, 1999). For some college students alcohol use is considered to be a rite of passage. (Prendergast, 1994). Peers represent a powerful influence over each other when it comes to alcohol use in the college environment (Wiggins & Wiggins, 1986), but religiosity and the religiously affiliated college environment may serve as counter-influence to this behavior.

Religiously affiliated college environments are unique in many ways. The campuses are religiously affiliated with specific denominations, and many of the students attending these institutions are members of mainline churches. The student body of such an institution has a different complexion than that of a public university or even a large private secular college (Astin, 1968; Fouts & Hales, 1985; Astin & Lee, 1972, Kuh, 1993).

Because the campus environment of religiously affiliated colleges and universities is different from secular institutions, it is important to study the relationship between religiosity and college alcohol consumption between two different college environments. Since each college environment provides a reference group for students attending the institution, it is important to understand the connection between reference group theory as it relates to religiosity and alcohol consumption on the college campus.

Assumptions

The following assumptions were established for this study:

1. The survey instruments used are valid and reliable instruments for determining collegiate alcohol use and religiosity among college students.
2. Students will understand and be able to complete the survey.
3. Students will answer honestly and accurately regarding their use of beverage alcohol.

Delimitations

The following delimitations were set for this research:

1. This research was delimited to college students who were enrolled in academic courses at two colleges in Tennessee during the academic year 2000-2001.
2. This research was delimited to the study of the use of one drug, ethyl alcohol and to the study of only two variables that affect alcohol consumption: religiosity and college environment.

Limitations

The following limitations exist for this investigation:

1. There was no control over the drinking characteristics of those in the sample prior to completion of the instrument, nor was there any control over religiosity.
2. Because participation was voluntary, students could refuse to answer certain questions on the instrument.
3. This study utilized a sample of convenience, not a random sample.

Definition Of Terms

For the purpose of this study, the following definitions were employed:

1. Abstainer--An individual who drinks less than once a year or not at all.
2. Alcohol Consumption--Self-reported quantity of alcohol consumed based on the calculation of number of drinking occasions multiplied by the number of alcoholic

drinks consumed on each occasion (Wechsler, Molnar, Davenport, & Baer, 1999).

3. Beverage Alcohol -- A beverage that contains ethyl alcohol, a chemical that produces an intoxicating effect on the human body.
4. Binge drinking—Consumption of five or more alcoholic drinks in a sitting for males and consumption of four or more drinks in a sitting for females (Wechsler, Lee, Kuo, & Lee, 2000).
5. College Alcohol Culture -- An indication of college policies toward alcohol, educational services concerning alcohol, and student perceptions of punishments related to alcohol use on campus. (Wechsler, 1997).
6. Consequential Religiosity--How religious ideas, practice, and experience affect an individual's everyday activities (Glock & Stark, 1965).
7. Experiential Religiosity--Feelings, perceptions or communications an individual has with a divine essence (Glock & Stark, 1965).
8. Ideological Religiosity--Religious beliefs and ideas embraced by an individual (Glock & Stark, 1965).
9. Religiosity-- Religious beliefs that encompass four dimensions: ritual, consequential, ideological, and experiential (Glock & Stark, 1965; Rohrbaugh & Jessor, 1975) based on self-reported survey responses that were added together to create a scale from 0-32 (0=no religiosity and 32=greatest religiosity).
10. Reference Group Theory--Psychological theory that states that an individual incorporates the values and standards of other individuals and groups as a

comparative frame of reference for his/her behavior (Merton & Rossi, 1968).

11. Religiously Affiliated College--An institution of higher education that is associated with a religious tradition through their institutional Statement of Purpose.
12. Ritual Religiosity--Specific religious practices that an individual participates in (Glock & Stark, 1965).
13. Secular College -- An institution of higher education that is not affiliated with religious traditions.

Summary

This study assessed the relationship between religiosity, college environment, and college alcohol consumption among college students attending a religiously affiliated college versus a secular university in the Tennessee. This information was analyzed in an effort to better understand the impact of reference group theory as it relates to beverage alcohol use and religiosity within two different college environments.

Chapter One has provided a framework for how this research problem was formulated and defined. It has established the purpose of the study, and it has clarified the need for the study. Furthermore, this chapter has outlined the delimitations, limitations, assumptions, and definition of terms for this study.

Finally, the remainder of this study is arranged as follows:

Chapter Two: Review of Literature

Chapter Three: Methods and Procedures

Chapter Four: Results

Chapter Five: Findings, Conclusions, and Discussion

CHAPTER TWO

REVIEW OF LITERATURE

This study sought to assess the interactive relationship of college environment and personal religiosity on the college alcohol experience within the context of reference group theory applied to two college environments, one secular and one religiously affiliated. This chapter will review relevant research and literature pertaining to the following areas: beverage alcohol use on college campuses, religiosity and alcohol use, religiosity, reference group theory, religious colleges and universities, and studies related to content and methodology.

The Beverage Alcohol Experience On American College And University Campuses

The use of beverage alcohol among college students is a serious public health issue on many fronts. In fact, it has been suggested that the college environment actually promotes alcohol use. In his work “The Counselor’s Dilemma: Treating Chemical Dependence at College” Dupont (1988) states, “If I were going to create an environment that encourages chemical dependence I could hardly improve on the contemporary American college.” (p.41).

The Harvard College Alcohol Study (CAS) found that 80 % of college students drink alcoholic beverages, and 23% are frequent binge drinkers. The study also found that 26% of the male and 20% of the female underage students were frequent binge drinkers (Wechsler, Lee, Kuo, & Lee, 2000).

Alcohol use can lead to a myriad of problems including health risks, unwanted sexual activity, and academic failures. For many students, the college culture includes alcohol use and abuse in the form of dangerous levels of binge drinking Newman, Crawford, and Nellis, 1991; Wechsler, Dowdall, Maenner, Gledhill-Hoyt, and Lee, 1997; Wechsler, Davenport, Dowdall, Grossman, & Zanakos, 1997; Wechsler, 2000).

Alcohol consumption by college students is not a recent phenomenon. College life has often been seen as a time to experiment with alcohol. One of the first definitive works on this topic was Strauss and Bacon's 1953 work entitled Drinking in College. The researchers looked at data from 15,747 students attending 27 colleges between 1949 and 1951.

Strauss and Bacon (1953) found that drinking alcohol was a common occurrence at all different types of colleges. Males and females, alike, consumed alcohol in college, and all ethnicities consumed alcohol. The study showed that 74% of the students had consumed some alcohol. The remaining 26% stated that they were total abstainers.

Unfortunately, this high rate of alcohol consumption by the college population has not declined since this early study was conducted fifty years ago. In the Monitoring the Future Study, a national study of teenagers and young adults in 400 schools, Johnston, O'Malley, and Bachman (1994) found that postsecondary students report using alcohol more frequently than any other drug. Alcohol use increases during adolescence and then peaks in early adulthood, the years when traditional aged students are attending college.

In the nationwide Harvard College Alcohol Study of 119 colleges and universities Wechsler (2000) found that 44% of college students surveyed were binge drinkers. Of this group of drinkers, 23% of the students were frequent binge drinkers.

Data from an earlier version of Harvard's College Alcohol Study (CAS), found that 42.7% of the students surveyed were considered "binge drinkers", and 20.7% of the students were frequent binge drinkers (Wechsler, Dowdall, Maenner, Gledhill-Hoyt, and Lee 1998). The 1997 study updated research on alcohol use completed in 1993 by Wechsler, Davenport, Dowdall, Moeykens, and Castillo (1994). Both studies examined randomized national data from 140 colleges and universities around the country.

Looking at national data from university students at 168 colleges and universities, Engs, Diebold and Hanson (1995) found that 72% of students consumed alcohol at least once a year. Furthermore, they found that 27.4% of the students were heavy drinkers (drinking 5 or more drinks on a single occasion once a week or more). The mean number of drinks consumed by the drinkers per week was 10.9.

Data from the Core Alcohol Study, another large national survey that included 105 colleges and universities, showed that 49% of the students surveyed drank 2 or more drinks per week. Of the findings, the most significant data concluded that 10% of the students consumed 15 or more drinks per week. (Meilman, Presley, and Cashin, 1997).

It is not surprising that many college students consume alcohol, sometimes even in dangerous quantities, during the college years. Attending college is a period when many students experience living away from family for the first time. It is also a time of

experimentation with new ideas, behaviors, and attitudes (Maggs, 1996). Added to this is the fact that college students experience peer pressure and the desire for social acceptance in the college environment. Students may use alcohol as a way to handle stress, increase sociability, or to compensate for a feeling of inferiority around other students (Prendergast, 1994).

For many college students, drinking alcohol has become a rite of passage--a tradition of the college experience (Strauss & Bacon, 1953; Prendergast, 1994; Maggs, 1997). Spurred on by the myths and legends about alcohol parties, pranks, and celebrations that are passed down from class to class, college students see alcohol use as just another part of their college experience. Even those students who did not consume alcohol in their high school years may begin drinking once they get into college.

Oftentimes, this collegiate drinking leads to drunkenness. According to Gose (1995), freshmen, especially, drink excessively, even though many of them do not plan to become drunk. In a 1993 survey of 720 freshmen attending 13 colleges across the United States, only 6% of freshmen had actually intended to get drunk at a party, yet over 50% stated that they had been intoxicated at least once during the month prior to the survey. Furthermore, more than two thirds of the respondents had binged on alcohol during their first semester in college. In a study conducted by Haberman (1994), 35% of 1000 randomly selected students at a mid-Atlantic university reported they had often consumed more alcohol at an event than they had intended.

As the frequency and the amount of alcohol increases, the risk of alcohol-related problems also increases. Carey (1995) conducted a study of 139 undergraduate volunteers at a large university in the East. According to this data, students who were the heaviest drinkers suffered the greatest number of alcohol-related problems.

Midanik and Clark (1995) looked at data from two national studies of adults aged 18 and over. Their data showed that problems associated with drinking did not change from 1984 to 1990. Through personal interviews with 2,058 adults, they found that alcohol dependence rates and social consequence rates remained unchanged from 1984 to 1990. Social consequences included events such as driving while intoxicated, violence while drinking, loss of a job, and others.

Binge Drinking

Another serious problem associated with alcohol use on a college campus is binge drinking, often associated with chug-a-lug contests and other drinking games (Wechsler, 2000). From their work using the College Alcohol Study conducted at Harvard University, Wechsler, Davenport, Dowdall, Moeykens, & Castillo (1994) define a binge for males as drinking five or more drinks in one sitting. For women it is defined as drinking four or more drinks at one sitting. In their study of over 17,500 students at 140 colleges, Wechsler, et al. (1994) found that 84% of the students surveyed had consumed alcohol in the past year. Furthermore, 44% of the students qualified as binge drinkers.

In 1997 Wechsler, Dowdall, Maenner, Gledhill-Hoyt, and Lee surveyed 116 of the same colleges surveyed in the 1993 CAS. The updated research showed little change in binge drinking with 44.7% of students classified as binge drinkers. Despite the fact that the first set of results from 1993 stimulated a great deal of media attention and attempts to address the problem of binge drinking on college campuses, there was little change in binge drinking rates in the four years between research projects.

The same CAS study showed that more than half the students surveyed had participated in binge drinking during the two weeks prior to the survey. Furthermore, they reported that 87% of the non-binge drinkers had experienced secondary effects as a result of other student's binge drinking (Wechsler, Austin, DeJong, 1996).

Gfroerer, Greenblatt, and Wright (1997) corroborated the Harvard findings in their study. They found that 12.4% of college respondents between the ages of 17 and 22 were heavy drinkers, which was defined as having five or more drinks on at least five different occasions within a month. Their study examined responses from 12,000 young adults who were interviewed during 1991, 1992, and 1993.

Results from the 1995 National College Health Risk Behavior Survey confirm the prevalence of binge drinking. During the month before the survey, 34% of 4,838 students at 136 institutions had binged on alcohol at least once (Centers for Disease Control, 1997).

The Monitoring the Future Study also found binge drinking among 40.2% of college students. This study has been conducted regularly with high school students since

1975, and, for this study, a subset of high school participants (N=1400) was followed through the college years (Johnston, L.D., O'Malley, P., & Bachman, J., 1996).

The attention given to alcohol consumption and binge drinking on college campuses is warranted because alcohol use and abuse can lead to a myriad of problems for students, administrators, and the campus environment.

For example, there are a number of health and safety risks connected with alcohol use. Driving an automobile while intoxicated is one of the most serious threats to safety for college students (Burnet, 1988; Little & Clontz, 1993; Miringoff and Miringoff, 1999). Despite the dangers of drinking and driving, a number of studies have shown that some college students drive while intoxicated (Lammers and Ness, 1990; Canterbury, Gressard & Viewig 1992; Haberman, 1994)

Another health risk for college students involves risky sexual behavior. Beverage alcohol can impair the ability to make safer decisions concerning sexual activity (Strunin & Hingson, 1992; Presley & Meilman, 1994; Ginn, Walker, Poulson, Singletary, Cyrus & Picarelli, 1998; O'Hare, 1998; Poulson, Eppler, Satterwhite, Wuensch, and Bass, 1998). When a student becomes intoxicated, he/she may engage in unprotected sexual contact or be at risk for sexual assault and rape (Nicholson, et al 1998).

Sexual assault and rape are also risk factors when alcohol is involved (Muehlenhard and Linton 1987; Ginn, Walker, Poulson, Singletary, Cyrus, and Picarelli, 1998). National surveys indicate that 25% of acquaintance rape in college involves the use of alcohol by one or both of the parties involved (Prendergast, 1994).

Aside from the health risks, alcohol also has academic consequences for students (Hannon, Day, Butler, Larson, and Casey, 1983; Anderson and Gadaletto, 1991; OSAP, 1991; Grenier, 1993; Core Institute, 1993; Presley, Meilman, & Lysterla, 1994) Use and misuse of alcohol is also related to missed classes, loss of study time, and failure to complete class assignments (Noah, 1988; Petroff & Broeck, 1990; Haberman, 1994).

Furthermore, alcohol use can be a factor in violence, vandalism, and crime on college campuses (Haberman, 1994; Presley, et. al, 1994). These events place an economic burden on the college budgets. According to the Higher Education Center for Alcohol and Other Drug Prevention (1997) between 50-80% of violence on campus is alcohol related. Alcohol use and abuse in the form of binge drinking can be dangerous for college students. Therefore, it is important to more fully understand the role that religiosity and college environment can play in influencing alcohol-related decisions.

Religiosity And Beverage Alcohol

Religiosity is an important area of study for behavioral research because approximately 50% of youth are exposed to some type of religious training (Wallace & Williams, 1997). Data indicates that religiosity is fairly common among young Americans. For example, Gallop and Bezilla (1992) found that 76% of teens between the ages of 13-17 believe in a personal God, and 48% reported church attendance in the seven days prior

to the poll. The data also show that 80% of American teenagers state that religion is fairly important to them, and 40% seriously follow the teachings of their religion.

The influence of religiosity and behavior has been a popular area of research. Religion can serve many functions such as providing meaning to life, personal fulfillment, and a social network (Durkheim, 1912). Religious teachings also provide a standard of behavior that an individual can use to measure his own behavior.

The relationship between deviant behavior and religiosity has also been explored by researchers. Within this context, alcohol use and abuse has been studied. Of particular interest to researchers have been adolescents and young adults since alcohol use often begins in this age group. There is evidence that people who are involved in religion and spirituality are less likely to be involved in alcohol use, dependence on alcohol, and alcohol-related problems (Jolly & Orford, 1983; Cosper, Ishmael, & Neumann, 1987; Gorsuch, 1995; Miller, 1998; Larson, 1998).

In regard to alcohol use, many religious groups have teachings against casual and heavy alcohol use. More conservative churches such as the Baptists and the Mormons prohibit any use of alcohol, while other more liberal denominations such as the Catholics allow social drinking. The norms of the church are important in determining alcohol use. Spilka, Hood, and Gorsuch (1985) report that the stronger the religious norm against alcohol, the less likely that church members will be heavy drinkers.

Stark, Kent, and Doyle (1982) examined religiosity as it related to communities where religion was a group norm. Using a national sample of high school boys, they

interviewed and surveyed students to assess their religiousness as well as their delinquency, including alcohol use. The data showed that religion constrains delinquency but only in communities where the individual's beliefs are reinforced by the religious views of the community.

Likewise, Nelson and Rooney (1982) found that church attendance in proscriptive denominations has a clear relationship to lowered alcohol use. Those classified as sect like, Baptist, and Methodist (proscriptive denominations) had lower rates of use of beer and hard liquor. Data from the study came from 4,491 high school seniors from six states in the northeast.

In 1981 Nusbaumer published an article detailing the changes in religious affiliation and abstinence. Looking at data from US population surveys from 1963 and 1978, he found that although proscriptive denominations had experienced a decline in the number of abstainers, these religious groups still had a higher proportion of alcohol abstainers than the non-prescriptive religious groups.

Herd (1996) found that religious affiliation has some effect on drinking patterns because it affects variables such as social networks, attitudes toward drinking, and drinking norms. Her data came from a nationwide survey of 5,221 adult men and women. The study shows that a higher degree of religiosity decreases alcohol consumption among those affiliated with denominations that support a strong stand against alcohol use. The study further concludes that affiliation with the Baptist denomination reduced the

likelihood of participating in social drinking networks as well as attendance at bars and taverns.

In 1997 Wallace & Williams found that religious groups that are more proscriptive in their theology of alcohol use have a different effect on individual behavior than religious groups that are less proscriptive. These proscriptive groups influence alcohol behavior through explicit teachings against the drug as well as the expectations of the group.

Numerous studies have examined the factor of religiosity as it relates to alcohol related behavior as well as other types of behavior. Many of these studies have focused on adolescents.

Adolescents

One of the first major studies on this topic was conducted in the 1960's by Hirschi and Stark (1969). Hirschi and Stark surprised the social science academic community by stating that religiosity had no bearing on the commission of deviant acts. Although this study was conducted only in one county of California, it quickly became the standard research on this topic.

Later studies would contradict this finding and state that religiosity has an inverse relationship with certain kinds of deviant behavior, mainly alcohol and drug use (Burkett and White, 1974). Since these early studies, the effect of religiosity on alcohol and drug use has been the subject of a variety of research.

Several of the studies show that religious teens were more likely to abstain from alcohol than nonreligious teens (Burkett, 1980; Hadaway, Elifson, & Peterson, 1984; Amey, Albrecht, & Miller, 1996; Cook, Goddard & Westall, 1997). Other studies have shown a definite relationship between personal religiosity and decreased delinquency, including alcohol use (Linden & Currie, 1977; Schlegel & Sanborn, 1979; Sloane & Potvin, 1986; Akers, 1989; Francis & Mullen, 1995; Francis, 1996; O'Malley & Johnston, 1999).

The connection between proscriptive religious affiliation and reduced alcohol use has also been shown. Those adolescents who were classified as being part of a proscriptive religions, such as Baptist, Mormon, and Methodist, were less likely to consume alcohol than non-proscriptive church members (Nelson & Rooney, 1982; Amoateng & Bahr, 1986; Dudley, Mutch and Cruise, 1987; Kutter & McDermott, 1997).

In a truly experimental study, Mitchel, Hu, McDonnell, and Swisher (1984) found that ninth grade students assigned to an experimental religion course reported less substance use. Two hundred and nine students in a parochial high school were assigned to a structured curriculum through three separate courses--health, religion, and social studies. Those students in the religion course consume 15.6 fewer bottles of beer and 9.9 fewer glasses of wine than students in the other courses.

College Students

All of the studies cited thus far have used teenagers as a sample group. This age group is a valid one because it is during the early teen years that many young people begin experiencing with alcohol. Furthermore, when traditional aged students enter college, they are still in the teen years. College students have also been studied, but to a lesser degree. This is also an important age group to study in regards to religion and alcohol consumption because alcohol is so much a part of the college tradition. The following studies have examined the relationship between religiosity and alcohol use among college students.

Using data drawn from a survey conducted in 1984, Perkins (1987) sampled first and second year students at a Northeastern liberal arts college. A total of 860 students responded to the survey. Students were asked to respond to questions about religion, student drinking problems and parental alcohol problems. The study showed that strength of religiosity has a negative effect on problem drinking. Furthermore, students were at greatest risk for alcohol-related problems if they were not strongly attached to a particular faith.

Noah (1988) surveyed 454 students at a small private college in Tennessee and found that as the importance of religion decreased for the students, drinking alcohol increased. Several years later Perkins (1991) looked again at religiosity and young adults. He surveyed 860 recent college graduates from a liberal-arts college in the Northeast from

the years 1979, 1982, and 1985. His data showed that young adults with greater religious commitment reported less problematic alcohol use.

Looking solely at women, religion and deviance, Humphrey, Leslie, and Britain (1989) sampled 1,097 women attending two different state-supported universities. They found that college women who regularly attend religious services are more likely to abstain from alcohol use. Moreover, women who participated in religious services once a month or more were 66% more likely to be abstainers than those who did not attend services regularly.

In a 1990 study Engs, Diebold, Hanson, Gliksman, and Smythe examined the drinking characteristics of college students in the United States and in Canada. Their study examined survey responses from 4,911 Canadian students attending four universities in Ontario and 1,687 American students attending 15 universities in the Midwest. The data showed that religious norms have a greater influence on students in cohesive religious communities such as proscriptive Protestant groups; whereas, cultural norms are stronger among less cohesive religious groups such as Catholics.

In 1993 Carlucci, Genova, Rubackin, Rubackin, and Kayson published research on 331 college students from 3 Eastern college campuses. They examined the relationship between sex, religion, and amount of alcohol consumed on alcohol-related problems. Students were asked to complete a 17-item questionnaire concerning drinking related problems. The data showed that Protestants and Jews consumed less alcohol than Catholics did, and, as a result, Protestants and Jews had fewer alcohol-related problems.

Slicker (1994) examined the reasons that college students choose not to drink. She surveyed 403 students attending a state university in the mid-South. Students in psychology courses completed an anonymous survey about their various reasons for choosing not to drink. Her research showed that one-half (n=79) of the abstainers and 14% (n=159) of the light drinkers cited religious-moral reasons for not drinking.

McBride, Mutch, and Chitwood (1996) also examined reasons for abstinence. Their work showed that 73% of the 1,865 college students surveyed reported that basic religious commitment influenced their decision not to drink.

In their study of 12,081 students from 168 colleges and universities, Engs, Diebold, and Hanson (1995) found that almost half of the Protestants whose denominations did not allow alcohol (Mormon, Baptist, etc.) were abstainers. Moreover, among the drinkers, those who did not consider religion to be important in their lives were more likely to be heavier drinkers.

McCoy, Metsch, and Inciardi (1996) surveyed 1,965 college students at two Seventh Day Adventist Church operated colleges. The survey sought to understand the reasons students have for not consuming alcohol. Out of the eleven variables presented, religious commitment ranked third, with 73% of the respondents indicating that their religious commitment influenced their alcohol decisions.

Patock-Peckham, Hutchinson, Cheong, and Nagoshi (1997) examined the data from 263 college students who completed an in-depth questionnaire concerning levels of alcohol abuse, problems associated with alcohol use, reasons for drinking, religiosity and a

variety of other personal characteristics. The research showed significant differences between the group that stated they had “no religion” and the Catholic and Protestant religious groups. The religious students had lower levels of alcohol use, fewer alcohol-related problems and voiced different reasons for drinking. Furthermore, the particular religious group affiliation and the social norms attached to that group were predictive of alcohol use. Protestants who had a high level of intrinsic religiosity, which is defined as a high degree of ego involvement with particular religious principles, were negatively correlated with drinking quantity and drunkenness. Catholics, on the other hand, did not show this effect of intrinsic religiosity.

Another study examined religiosity and gender among college women. Poulson, et.al. (1998) found that women with strong religious beliefs consumed less alcohol than women who had weaker attachments to religion. Furthermore, they found that alcohol consumption was negatively correlated with religiosity.

Religiosity

Religiosity has been defined in a number of ways. Some researchers choose to define it in terms of religious content or ideas. Others choose to define it with a functional approach. One of the difficulties in defining religiosity is that religion is a complex phenomenon (Spilka, Hood, & Gorsuch, 1985). Secondly, since religion has no specific definition, researchers define it in their own terms. Because religion is based on philosophy and theology, one single definition of religiosity is difficult.

However, one definition of religiosity that is frequently used in research is given by Glock and Stark (1965). Although there have been a number of definitions proposed, Glock and Stark's work has been considered prominent in the field because their approach is a multi-dimensional one which defines religiosity in terms of various dimensions. (Spilka, Hood, & Gorsuch, 1985).

There are five dimensions of religiosity: *experiential*, *ritualistic*, *ideological*, *intellectual*, and *consequential* (Glock and Stark, 1965; Rohrbaugh and Jessor, 1975). The *experiential* dimension recognizes that the religious person will at some time experience knowledge of the divine or religious emotion. Feelings, perceptions, or communication with a "divine essence" are all part of the experiential realm.

The *ideological* dimension involves the individual holding certain beliefs and ideas. These ideas differ among various religious groups, and within denominations, yet all religious groups set forth religious ideas that the individual is expected to embrace (Glock and Stark, 1965).

The third dimension is that of the *ritualistic*. Specific religious practices are part of this dimension. Actions such as prayer, church attendance, and participation in sacraments are all rituals within religious groups (Glock & Stark, 1965).

The *intellectual* is the fourth dimension. This dimension involves the expectation that a person will be knowledgeable about the basis beliefs of his faith. This dimension is closely related to the ideological dimension, which focuses on the tenets of the faith (Glock & Stark, 1965).

The *consequential* dimension looks at the secular effects of religious belief. In essence, it examines how religious ideas, practice, and experience carry over into everyday life with other people. Religious views on how an individual acts within society are included in this dimension (Glock & Stark, 1965).

One of the strengths of these dimensions is that they form a framework for assessing individual religiosity within any religion. Unlike many religiosity scales that assess one particular religious faith, the work of Glock and Stark (1965) is applicable to all major world faiths (Spilka, Hood, & Gorsuch, 1985).

In their adaptation of these dimensions, Rohrbaugh and Jessor (1975) used four of the five, excluding the intellectual dimension. Their work examined religiosity as a personal control against transgression, social problem behavior, and deviance. They discuss their adaptation of the work of Glock and Stark (1965).

First, emotional religious experience creates a reverence for the faith, which creates obedience. Secondly, participation in religious rituals is significant because it firmly establishes an individual in the social network of the faith. Third, religious teachings help socialize an individual and help make him aware of moral issues and standards of conduct. Furthermore, religious ideology is an important aspect of social control because there is the expectation of punishment or benefit from certain behaviors (Rohrbaugh and Jessor, 1975).

Another important aspect of religiosity is regular attendance of church services (Stark and Glock, 1968). They suggest that people seek out other people who share their

beliefs and experiences; therefore, they attend religious services for this reason. In this way, church members can express their religious beliefs while they demonstrate their membership in a group of believers. This idea is closely related to reference group theory.

Reference Group Theory And The Moral Community

Religion is an individual experience, yet it also is a group phenomenon (Durkheim, 1912). Since it is a social experience, it can be viewed, in part, within the context of social psychology. There are a variety of psychological theories that attempt to explain individual behavior within a social context. One of these theories is reference group theory (Merton & Rossi, 1968). Groups to which a person belongs can serve as reference points for attitudes and behaviors. These groups can form small communities that reinforce group norms. The phenomena of group norms impacting individual attitudes and behaviors has been discussed in the context of reference group theory in psychology as well as the theory of the moral community in sociology.

Religious groups can serve as communities within themselves, and within these groups certain values and ideas are reinforced (Johnstone, 1992). In sociology, these groups are often referred to as “moral communities”. Moreover, Reference Group Theory attempts to explain the role of a group in shaping individual behavior. Churches and religiously affiliated institutions, including religiously affiliated colleges, can serve as a reference group and a “moral community”, thus merging these two ideas.

The field of Social Psychology is the area where reference group theory finds its roots. This theory stems from the work of Merton and Rossi (1968). These theorists used the American soldier in World War II to illustrate the power of social groups that serve as references for behavior. They suggested that the soldiers in a group compared themselves to others in the group as opposed to similar soldiers in other groups. In today's society an individual has a plethora of groups in which to affiliate. The groups that a person associates with can influence his behavior.

Individual attitudes oftentimes derive from group norms because attitudes are found in a social framework or reference (Carrier, 1967; Watson, 1966). The family, peers, fellow workers, clubs, and college organizations are all examples of groups that serve as reference points (Watson, 1966). It is further believed that while reference groups form and sustain attitudes, attitudes help form the choices for membership in a group. Watson (1966) states that the relationship between the groups chosen and the individual is circular. Furthermore, the best way to alter attitudes is to change reference groups.

Merton and Rossi (1968) stated that reference group theory "aims to systemize the determinants and consequences of those processes of evaluation and self-appraisal in which the individual takes the values or standards of other individuals and groups as a comparative frame of reference." (p. 288). In other words, a person's behavior and attitudes are directly shaped by the groups in which they participate.

Although the concept of reference group theory has a fairly long history, it has been neglected in research in recent years. The primary reason for this is that the term “group” is vague and hard to define. An important distinction between the term “groups” and “collectivities” was made by Clarke, Beeghley and Cochran (1990). They state that groups are made up of persons who have sustained interaction with each other in accord with the standards of the group. The family is an example. A “collectivity”, on the other hand, is comprised up of people who share broad norms and “diffuse solidarity”. Citizens of a country would be an example.

In order for a person to utilize his group as a reference point for his attitudes and behavior, several things must take place. Bock, Beeghley, and Mixon (1983) developed the following statements on how a person identifies a group as a reference point:

- (1) He/She must perceive similarity in his status attributes with the status of the rest of the group.
- (2) His/Her values and beliefs must correspond to those of other group members.
- (3) There must be clarity in the group’s values.
- (4) He/She must sustain interaction with the members of the group.
- (5) He/She must define other members of the group as significant.

Once a reference group has been established, it serves two functions. The first is known as the *normative function* (Bock, Cochran, & Beeghley, 1987). This normative function refers to the role that groups play in enforcing the standards of behavior and attitude of group members. This occurs as a result of frequent contact with the group. Further, this occurs when the group has the ability to sanction the individual if he fails to follow the standard of the group (Shaw & Constanzo, 1970).

The second function of the reference group is the *comparative function* (Brock, Cochran, & Beeghley, 1987). This function involves the person's use of a group as an index of self-evaluation of his attitudes and behaviors. Essentially, the person compares himself to other members of the group. In the comparative function, the group does not serve as a sanctioning body (Kelley, 1952).

Reference group theory also refers to the idea that individuals can resist joining certain groups. A person may observe a group and choose not to participate. Perhaps the group has values that conflict with other reference points for the individual (Watson, 1966). Because individuals usually belong to more than one group, conflict between groups can arise.

In his work Watson (1966) states that the most effective method of altering attitudes is to change reference groups. As an example, he uses Alcoholics Anonymous. This group alters drinking behavior by providing a support network where the individual becomes integrated into the group. He is assigned friends to encourage him not to drink, and he is asked to attend regular meetings where group loyalty is a necessity.

One example of reference group theory that is quoted in the literature involves changes in attitude regarding race. Southern students attending northern colleges, and northern students attending southern colleges altered their attitudes on race after assimilating into the new culture (Sims and Patrick, 1936; Eddy, 1964).

This type of influence on racial views illustrates the importance group opinions play in shaping individual ideas. Batson, Schoenrade, and Ventis (1993) describe

reference groups as any group whose judgment a person values. The group defines appropriate social roles and norms for individuals. For example, a child is influenced by the reference group of his immediate family, and he will adapt his behavior to fit the expectations of the group because he desires the approval of the family.

Furthermore, Batson, Schoenrade, and Ventis (1993) state that an individual can have overlapping reference groups. For example, a person may have a family group, a peer group, a religious group, and a social group. All of these groups will exert some influence on an individual depending on how much he values the judgment of the particular group. Reference groups are influential in a group setting, yet the norms established by the group are also in effect in private. A person's choices can be influenced by the reference group even when members of the group are not present.

It is further stated by these authors that religious groups are reference groups. As religious beliefs escalate, the dependence by the individual on the reference group also escalates. One theory explaining this phenomena is that knowledge of others with the same ideas allows the individual to resist competing reference groups and ideas (Batson, Schoenrade, Ventis, 1993).

Religious denominations meet the criteria for a reference group (Cochran, Beeghley, and Bock, 1988). First, people who share a denomination are, generally, in the same social status within the community. Secondly, values are similar since denominational affiliation is based on adherence to certain values and principles. Third, values are clear since they are included in denominational literature, and they are promoted

through sermons from the pulpit. Fourth, the individual has sustained exposure to the group through regular church services held every week. Finally, members of the clergy are revered and listened to during regular services. Furthermore, clergy are often turned to in times of tragedy or need (Cochran, Beeghley, and Bock, 1988).

Johnstone (1992) writes about religion as a group phenomena. The religious group shares common goals and values, and it functions collectively. Every member of the group has a certain role, and members feel and express an identification with group. Furthermore, a group desires to socialize new members. They teach the norms of the group through formal and informal interaction.

The connection between religious reference groups and alcohol use has been studied. Gorsuch (1976) states that religious groups have an indirect relationship to alcohol use in that people of the same religious group associate together and form mutually supportive groups. This group pressure reinforces particular types of behavior such as alcohol use and abstinence.

A number of studies examining the relationship between behavior and reference group theory have used data from the General Social Survey (GSS), which is a national study conducted by the National Opinion Research Center each year since 1972. The GSS uses a national probability sample of adults aged 18 and over who live in the continental United States.

Bock, Cochran, and Beeghley (1987) used reference group theory to explain variances in alcohol consumption among religious people. Using national data from the

General Social Surveys, their research looked at the relationship between religiosity and alcohol. Their data showed that the impact of religiosity was greatest among religious groups that take a strong stand against alcohol consumption. Churches that prohibited alcohol use had a higher rate of abstinence from alcohol than other less proscriptive churches. They concluded that this impact is due to the fact that the denomination serves as a reference group for the behavior of the church members.

Cochran, Beeghley and Bock (1988) released another study that showed that denominational affiliation predicts the likelihood of alcohol consumption. They examined data from the General Social Survey, an annual national survey. Looking at data from five different years, they concluded that certain denominations that are proscriptive against alcohol use, such as Baptists, display the lowest probability of alcohol use. These conclusions are supported by reference group theory in their work.

Another study published in 1990 by Clarke, Beeghley, and Cochran examined the relationship between alcohol use and religiosity in the context of reference group theory. Using data from the General Social Surveys from 1972-1986, they studied responses from adults. The total for the sample was 7,326. Alcohol use was negatively correlated with all of the measures of religiosity. The measures included frequency of attendance, strength of religious identification, membership in church groups, and belief in life after death.

In another examination of the effect of religious reference groups on everyday behavior, Beeghley, Bock, and Cochran (1990) found that individuals who change religious affiliations in adulthood alter their behavior to fit the new group norms. For

example, an individual who changes from a proscriptive religion to a non-proscriptive group increase their use of alcohol once in the new group norm. Their data was derived from the General Social Surveys from 1972-1986.

In 1992 Cochran, Beeghley, and Bock again looked at reference group theory and alcohol use in terms of the effect of religious stability for an individual. Data from 13 General Social Surveys between 1972 and 1989 was analyzed. The final sample included 3,772 responses. The data showed that religion in childhood extends into adult behavior. Moreover, they found that a spouse's religious beliefs had a significant impact on a person's everyday behavior.

Reference Group Theory is a psychosocial theory that is closely related to research conducted in the field of sociology. Religious groups are often viewed in sociological terms as a "moral community". The relationship between deviant behaviors, such as alcohol use, and the idea of a moral community has also been examined.

The classic sociologist Emile Durkheim wrote extensively about religion and society. In his work The Elementary Forms of Religious Life (1912) he described religion as a form of social control within a group. He believed that even though individuals make personal religious decisions about faith, those decisions are made within a social framework that reflects the norm for the group. Religion is a dynamic feature of the group, and it binds its adherents into a moral community because it provides ideas, rituals, and sentiments that guide everyday life. Durkheim defines religion as the following:

“A religion is a unified system of beliefs and practices relative to sacred things, that is to say, things set apart and forbidden--beliefs and practices which unite into one single moral community called a Church, all those who adhere to them.” (p. 44).

The sociologist Max Weber (1996) also described religious groups as moral communities that provide group members with guidelines for daily living. Religion acts as a social control mechanism by teaching members group beliefs and norms. This is related to alcohol use in the teachings of many churches that the body is the temple of God; therefore, the body is not to be abused with alcohol (McBride, Mutch, & Chitwood, 1996).

According to Stark, Kent and Doyle (1982) the religious ecology of a community is an important element to be studied when looking at religiosity and deviance. They suggest that in communities where religious commitment is the norm, individuals will be more religious and less deviant. In social groups where a religious system is strong and permeates the culture, deviations from the social norm will be related to an individual's commitment to the religion. On the other hand, in communities that are secular and have no binding to religious sanctioning, religiosity will be highly individualistic (Durkheim, 1912).

Stark, Kent, and Doyle (1982) further state that moral communities are made by a person's immediate social settings or surroundings. A moral community exists when the majority professes religious faith. A church, school, or social club would be possible

examples of moral communities. In their study of a national sample of 16-year-old boys, they found that in communities where religion was the norm, there was an inverse relationship between personal religiosity and deviant behavior.

This finding was contradicted by the work of Tittle and Welch (1983). They found that religiosity had a greater effect on deviant behavior in secular communities as opposed to religious areas. This conclusion was drawn from 1,993 interviews of people over 15 years old in Iowa, New Jersey, and Oregon. The interviews were conducted in 1972.

Given these two opposing ideas, Cochran and Akers (1989) looked at moral communities in their study of 3,065 students between the seventh and twelfth grades. Their data showed modest support for the argument that aggregate religiosity does increase personal religiosity; however, they also found that highly religious teens living in areas with low community religiosity were less likely to drink alcohol than those highly religious students living in areas of high religiosity. Therefore, they could not make a definitive statement about the validity of moral communities.

In 1991 Welch, Tittle and Petee studied 2,667 adult Catholics in order to assess the validity of the moral community. Looking at aggregate religiosity and deviant behavior, they found that community religiosity is a factor affecting individual deviance. The researchers further state that when studying aggregate religiosity, it is necessary to look at units smaller than an entire city as had been done in previous research (Tittle and Welch, 1983).

One important aspect of moral communities is the influence of peers. Religious attitudes are reinforced through peers (McBride, Mutch, & Chitwood, 1996; Cochran, Beeghley & Bock, 1992). Using a three-year longitudinal study of high school students, Burkett (1993) found that parental influence on religiosity fades over time, which leaves direct pressure from friends as the significant influence. Religiosity, however, deters intense involvement with friends who drink alcohol, so the religious factor is important for discouraging alcohol use.

When students leave home to attend college, the college becomes their new community, and their fellow students become peers. Spilka, Hood, and Gorsuch (1985) note that the influence of peers does not end with adolescence. Early adulthood is the most peer-dominated time of life. Having a spouse or set of friends that is involved in religious activities increases the likelihood that the individual will be involved in religion. Likewise, peers who are part of the community are leading contributors in decisions to use alcohol (Khavari, 1993). Newcomb and Bentler (1986) found that peers had more influence than parents on older teenagers concerning alcohol use.

In the context of resistance to peer pressure, environmental variables were examined by Shore, Rivers, and Berman (1983). They found that variables in the college environment such as year in school and social ease were correlated with resistance to peer pressure among college students. They collected their data from a survey mailed to students at two colleges in Nebraska. A total of 688 students responded. The researchers

also concluded that the present college environment had more impact than background variables, such as religious upbringing, on the resistance to peer pressure.

College environment was also a factor in research conducted by Warren (1979). She examined alcohol consumption patterns among women attending four different types of colleges and universities. Warren surveyed 161 never married women taking personal health and physical education courses at the four institutions. She found that women attending “College A”, a conservative church-supported college in Tennessee, were more likely to be abstainers of alcohol than students attending the other three types of colleges. Furthermore, her data showed that the women who did consume alcohol in this particular college environment consumed less than women attending other type of schools.

Religiously Proscriptive Colleges/Churches

The college campus is a small community within itself, and communities, especially religious ones, influence the religiosity of those in the community (Higgins & Albrecht, 1977). Religious colleges that maintain a close relationship to their sponsoring denomination are offshoots of the church and its beliefs. For example, the religious college chosen for this study states in its institutional catalog that it is a “church-related, liberal arts college”. Furthermore, the catalog says that the institution “...believes that commitment to Jesus Christ as historically understood by Baptists includes community and individual pursuit of academic excellence...”.

Holmes (1975) discusses the significance of the Christian college in higher education. He states that a Christian college or university is distinctive because of its integration of faith and learning. First and foremost, the Christian college is an academic community, but it must also be a community of faith. Such institutions differ from Bible colleges as well as secular colleges and universities in their mission statements. He points out that the Christian college should be a teaching and research institution that incorporates the liberal arts as well as vocational training. Furthermore, it is not to be a church, although it is appropriate for members of the community to worship together.

Fouts and Hales (1985) found that religious colleges, especially conservative religious schools, are more restrictive with behavior than secular colleges. This finding supports studies by Astin (1968) that specifically stated that Protestant colleges are very restrictive. In a study by Pace (1972), he noted that Protestant colleges scored high on measures of concern for rules and social structure.

Shaver (1987) showed that even among Christian schools, there is a difference among campus environments. His research was based on students attending either a Christian liberal arts college or a Bible college. Students were tested when they entered college and then retested four years later. The moral development of these groups of students was different after four years at a specific institution.

Since religious colleges are extensions of different denominations, individual campuses are variable in culture, lifestyle, and religious practice (Duckro & Magaletta,

1997). Individual colleges and churches vary within the broader context of the denomination.

Spilka, Hood, and Gorsuch (1985) suggest that religious organizations sponsor colleges and universities because the college years can influence religious beliefs. Churches hope to provide an opportunity for religious growth at their institutions of higher learning. They note that the type of college and its emphasis influences students who attend. For example, religious schools attract more religious students than do other colleges.

In 1968 Bowers studied the alcohol behavior of students attending several religious colleges. The data showed that anti-drinking values inhibited alcohol use. Moreover, he found that even students with no anti-alcohol sentiments who attended colleges where the majority of students opposed alcohol use were less likely to drink alcohol than similar students at other colleges. This shows the importance of a group normative effect.

In a study conducted at one religiously proscriptive college, Wells (1997) found that only 38% of the student body consumed alcohol. This percentage is considerably lower than the alcohol consumption figures for all college students. For example, Wechsler (1996) found that 84% of college students consume alcohol. Wells (1997) surveyed 204 students at a small, liberal arts college with a population of 2200.

In the study cited previously by Clarke, Beeghley, and Cochran (1990) found that adults 18 and over who were members of non-prescriptive churches were five times more

likely to drink alcohol than members of proscriptive religions. More specifically, they found that strongly religious Baptists were less likely to drink than strongly religious members of any other denomination studied.

Since religious colleges oftentimes serve as extensions of denominational belief, such campuses can serve as “moral communities”. Moreover, the campus population serves as reference group.

Studies Related In Content And Methodology

There are hundreds of studies related to alcohol use and college students. Many of these studies collect data with survey instruments. The following studies provide some sample research that is similar in content and methodology.

Humphrey and Friedman (1986) used an anonymous, self-administered questionnaire with 856 unmarried college students to assess predictors of undergraduate intoxication, such as age of onset of drinking, race, and sex. Two colleges were selected for the study, and ten percent of each school population was surveyed.

A study conducted at Rutgers University by O'Hare (1990) used a survey questionnaire that was sent to 800 randomly selected students. For his study he chose the “Rutgers Student Alcohol and Drug Survey.” The study looked at demographic variables in drinking habits. Specifically, he sought information on differences in consumption based on race, sex, age, and living arrangements. A typology of drinkers was established

to delineate between abstainers, light drinkers, moderate drinkers, moderate to heavy drinkers, and heavy drinkers.

Isralowitz and Teck-Hong (1990) used the Student Alcohol Questionnaire to assess the relationship between religious values as a factor in the decision to drink alcohol. Chi-square analysis was utilized to determine if statistically significant differences existed among the nondrinkers and the drinkers.

The Student Health Service of a large mid-Atlantic university conducted an alcohol survey of 1000 full-time students. The students were randomly selected from a computer-generated list of full-time students. A final sample size of 440 students was utilized. The survey contained 48 questions dealing with demographic characteristics of the respondents, alcohol and drug use patterns, and personal beliefs regarding alcohol and other drug use (Haberman, 1994).

In another survey, Wechsler, Davenport, Dowdall, Moeykents, and Castillo (2000) examined the extent of binge drinking in college, and they assessed the consequences of such binge drinking. The instrument used was the College Alcohol Study. Survey questions concerned recent alcohol use, adverse consequences related to alcohol use, and frequency of binge drinking on campus. Chi square analysis was utilized to compare non-binge drinkers to binge drinkers, and regression analyses were used to predict alcohol-related problems affecting binge drinkers as opposed to non-binge drinkers.

Engs, Diebold, and Hanson (1996) conducted an alcohol study during the 1993-94 school year. Over 12,000 university students from every state were administered the

“Student Alcohol Questionnaire” (SAQ). Students at each institution were sampled in general elective courses, so all academic years would be included.

Summary

Chapter II presented a review of literature that provides a supporting framework for this study. This chapter examined literature related to alcohol use on contemporary college campuses, including the many different problems associated with alcohol consumption. The chapter also examined personal religiosity as a factor in the decision to use alcohol and other drugs. Furthermore, studies related to reference group theory as it relates to religious groups was discussed. Finally, this chapter reviewed studies related in content and methodology.

CHAPTER THREE

METHODS AND PROCEDURES

The purpose of this study was to assess the interactive relationship of religiosity, and college environment on the college alcohol experience of college students attending two institutions, one secular and one a religious college. The procedures used in this study will be explained in the following sections: sample selection, data measurement, instrumentation, data collection, and data analysis.

Sample Selection

The sample chosen for this study included both undergraduate students enrolled at a religiously affiliated college and students enrolled at a large secular university. The schools are within 30 miles of each other, and both draw students from the same geographical area. The religious institution had a student body of 2230, 60% of which was female. Primarily, it is an undergraduate institution, but it does offer master's degrees in three programs. The secular university chosen for the study is a state-supported school with a student population of 25,474 that grants a variety of undergraduate and graduate degrees. Fifty-eight percent of the students at the university were female. Over ninety percent of both schools were Anglo-American. The largest minority group at both schools was African-American. Both schools are accredited institutions of higher education through the Southern Association of Colleges and Schools.

The sample size identified for this study was 530 students, 250 undergraduates at the religious college and 280 at the university. One university student refused to complete the survey, so only 529 surveys were usable. Given the different sizes of the two schools, it was difficult to obtain a proportionate sample from both groups. Therefore, due to limitations of time and classroom access at the university, this sample is non-proportional. Instead, this is a purposive sample where elements judged to be typical of the whole were chosen from the population (Ary, Jacobs, & Razavieh, 1990).

In an effort to include all student classifications (freshmen, sophomores, juniors, and seniors) as well as many different academic majors, students in a wide variety of general education classes were included in the study population at the religious college. These courses were selected because of their ability to attract a large number of students of all student classifications and of many different majors. Classes included Wellness As A Lifetime Objective, First Aid and Safety, Introduction to Politics, American Literature, Human Behavior, and Calculus. At the secular university, First Aid and Safety classes were chosen through the department of Health and Safety Sciences.

This study adhered to the university policy for research involving human subjects. Before any research was conducted, an approved Form B for human subjects was obtained (see Appendix A) . Furthermore, the religious college chosen for the study was contacted through a written letter, and permission to conduct the study on that campus was granted. A copy of the survey instrument as well as a rationale for the study was provided with the letter. Moreover, administrators were assured that college names would

not be included in the study, and only group data would be used. After being granted the support of the two institutions, particular faculty members were contacted in order to gain permission to survey their classes.

Instrumentation

This section provides information about the instrumentation used in the study, the pilot study, the administration of the instrument, and the data tabulation. A discussion of the reliability and the validity of the instruments will also be included in this presentation. Both instruments are located in the appendix.

The College Alcohol Survey

The alcohol survey instrument chosen for this study was the College Alcohol Survey (CAS) developed by Wechsler and McFadden (1977). This survey instrument is unique in two ways. First, it focuses exclusively on alcohol use on college campuses. Secondly, it offers gender-specific definitions for excessive drinking or “binge drinking” (Wechsler, Dowdall, Davenport, & Rimm, 1995; Wechsler, Kuh, & Davenport, 1996; Wechsler & Austin, 1998).

This instrument has been used in numerous studies related to alcohol use among college students (Wechsler & McFadden, 1977; Harford, Wechsler, & Rohman, 1982; Wechsler & Isaac, 1992; Wechsler, Isaac, Grodstein, & Sellers, 1993; Chaloupka & Wechsler, 1996; Perkins & Wechsler, 1996; Wechsler, Fulop, Padilla, Lee & Patrick,

1997; Wechsler, Dowdall, Maenner, Gledhill-Hoyt, & Lee, 1998; Wechsler, Molnar, Davenport & Baer, 1999). Most recently the instrument has been used in a study by Wechsler (2000). The instrument is also supported by the Higher Education Center for Alcohol and Other Drug Prevention, which is an agency of the U.S. Department of Education (U.S. Department of Education, 1998). The instrument has also been used to examine violence among college students (Miller, Hemenway, & Wechsler, 1999), tobacco use (Wechsler, Rigotti, Gledhill-Hoyt, & Lee, 1998; Emmons, Wechsler, Dowdall, & Abraham, 1998; Chaloupka & Wechsler, 1997), and illicit drug use (Wechsler, Davenport, Dowdall, Grossman, & Zanakos, 1997; Bell, Wechsler, & Johnston, 1997).

The 20-page instrument contains seven different sections, which are student life, alcohol policies, personal alcohol use, views about student alcohol use, other personal behaviors, student activities, and background information. The instrument examines several important alcohol issues for college students including athletics, Greek life, and the special transition for freshmen.

The Religiosity Measure

The Religiosity Measure was developed by Rohrbaugh (1973). This instrument attempts to evaluate the impact of religion on everyday secular life as well as religious participation (Boivin, 1999). It is useful with all religious affiliations because no denominational creed is assumed.

The instrument is based on Glock and Stark's (1965) four dimensions of religiosity, which include ritual, consequential, ideological, and experiential religion. These four dimensions were operationalized into four subgroups of two questions each. The survey has been used in a variety of studies (Rohrbaugh, 1973; Rohrbaugh & Jessor, 1975; Heintzelman, 1976; Friedberg & Friedberg, 1985; Demaria & Cassanova, 1988).

Reliability of the instrument has been determined by Cronbach coefficient alphas that were over .90, which indicate high internal consistency (Boivin, 1999). Validity has also been established in which internal validity has been indicated by an alpha coefficient of .90 (Demaria & Cassanova, 1988). Previous studies using the instrument have been consistent with other religiosity measures, which is an indicator of construct validity. Demaria and Cassanova (1988) state that external validity was shown by a correlation ($r = .80$) with a self-report of religious involvement. Moreover, strong internal validity was reported for the four subscales, with an overall average correlation matrix coefficient value of 0.69 (Boivin, 1999).

The Religiosity Measure consists of 8 items. The items correspond to the four dimensions of religiosity outlined by Glock and Stark (1965). Each item is scored from 0 (least religiosity) to 4 (greatest religiosity), with the exception of question one. The maximum score for each of the four subscales is 8 with a total score of 32 possible (Boivin, 1999). Some of the items are reverse worded to prevent a systematic structure.

The Pilot Study

The instrument was piloted with 21 students in a first year health course at a religiously affiliated college. The students were asked to anonymously complete the instruments. Furthermore, each student was asked to respond to the instrument. Participants could respond verbally to the instrument, or students could write their comments about the instrument on plain white paper that was attached to the instrument. The length of time required for administering the two instruments was found to be 35-45 minutes.

Following this administration of the instrument, the subject's comments were evaluated. The pilot study yielded only minor changes in the presentation of the instrument.

Data Collection

This study was conducted during the fall semester of the 2000-2001 academic year. Data for this project were collected from undergraduate students in selected general education courses at a religious college and health courses at the university. All students in these courses were asked to participate regardless of their age.

Cooperation of course instructors was secured before the date the survey was to be given. The data was collected at the beginning of each class. Before the instruments were distributed, a statement explaining the purpose of the study and the structure of the instruments was read to the class.

Then, students were told that completed surveys would remain confidential and anonymous. Assurance was also given that all data collected would be subjected to group analysis only. No individual surveys would be singled out for study.

Furthermore, the completion of the survey was voluntary, and at any time, a student could decide not to complete the instrument. The students were then asked to carefully read each question and to answer them as honestly as possible. Completion of the instrument served as the consent form for use of their data in the research project. Any subject could have discontinued completion of the instrument at any time. Any student who chose not to participate was distributed a survey and was asked to put the blank instrument in the stack with completed instruments.

When a student completed the survey, he/she was asked to place it in a large manila envelope at the front of the class. Only students and their instructor were in the room while the surveys were being completed and turned in. This precaution was taken to assure students that they were not being observed while completing the document. When all surveys were completed, the manila envelope was sealed by the instructor and removed from the classroom. The surveys were then hand delivered for analysis.

Data Measurement

A number of demographic variables were identified in this study. These included gender, ethnicity, age, class in school, type of residence, and religious affiliation. These variables were calculated with frequency counts and percentages. In this study, alcohol

consumption was the dependent variable. Religiosity and religious college environment were the independent variables.

The assessment of alcohol use was calculated as a continuous variable based on the work of Wechsler, Molnar, Davenport, and Baer (1999). The measure looked at alcohol consumption within the 30 days prior to the survey. One drink of alcohol was defined by the previous study as either one 12-ounce container of beer or wine cooler, 4 ounces of wine, or a 1.25 shot or liquor. The alcohol score was defined by responses to questions C11 and C12 of the College Alcohol Study. Question C11 asks “On how many occasions have you had a drink of alcohol in the past 30 days?” There were 7 possible responses, which are outlined below in Table 3.1:

TABLE 3.1
Responses and Midpoints for Alcohol Consumption in Last 30 Days

Response	Midpoint
Did not drink in the last 30 days	0.0
1 to 2 occasions	1.5
3-5 occasions	4.0
6-9 occasions	7.5
10-19 occasions	14.5
20-39 occasions	29.5
40 or more occasions	40.0

For analysis, the midpoint of each category was used to determine student drinking. The “did not drink” category was calculated as a zero, and the 40 or more category was listed as a 40.

Question C12 asks, “In the past 30 days, on those occasions when you drank alcohol, how many drinks did you usually have?” Answers were single numbers ranging from “did not drink” to 9 or more drinks. To determine the total amount of alcohol consumed by a student in one month, the midpoint of the category chosen in question C11 was multiplied by the response chosen in question C12. The scores ranged from 0 (abstainer) to 360.

Binge drinking was calculated with question C12. Males who had five or more drinks on at least one occasion in the thirty days prior to the survey were calculated as binge drinkers. Females who had four or more alcoholic drinks in the same period were also calculated as binge drinkers.

Scores on eight questions that were combined into four subscales determined the religiosity measure. The first item, which indicates frequency of church attendance, was an open-ended question. Two of the remaining seven items were scored between 1 (indicating the least religiosity) and 4 (greatest religiosity), and the other five items were scored between 0 (indicating least religiosity) and 4 (greatest religiosity). Students scored a maximum number of 8 for each subscale, and a student could have a total score up to 32 (Rohrbaugh & Jessor, 1975). The first question related to church attendance was categorized according to four meaningful breaks in the responses (Boivin, 1999).

Religious college environment was coded either 0 for “no” or 1 for “yes” depending on which institution a student attended.

Campus alcohol culture was based on responses to twenty questions that were combined into six survey questions concerning alcohol education on campus, perceived likelihood of being caught drinking alcohol, and school policies related to alcohol. These questions included B1, B2, B3, B6, B7, B8, and B9, which are all part of “Section B: Alcohol Policies and Programs” on the College Alcohol Survey. Questions B1, B2, and B3 examine the campus policies concerning alcohol on a particular campus. Question B6 examines the possible measures an institution may take to prevent alcohol use. Question B7a-e seeks information on alcohol information that is provided to students. Students are asked if they received information on the college rules for drinking, the penalties for breaking the rules, where to seek help for alcohol-related problems, how to recognize someone has a drinking problem, the long term health effects of heavy drinking, and the dangers of alcohol overdose.

Question B8 asks the format (lectures, posters, articles, etc.) of information received related to alcohol. Question B9 looks at the perception of the risk of getting caught breaking rules concerning alcohol. Various campus events are listed, and students are asked to select how likely it is someone would get caught with alcohol at those events.

Data Analysis

The first stage of analysis examined demographic data. Variables of gender, race, age, class in school, campus resident/non-resident status, and religious affiliation were cross-tabulated by type of school in order to assess variations in alcohol consumption between the two schools.

Research question one sought information on alcohol consumption by school. Using responses from questions C11 and C12 from the College Alcohol Study, the number of drinks per month was calculated for each student. As stated in the data measurement section, scores for alcohol consumption ranged from 0-360. To answer research question one, a Mann Whitney U test was used to calculate the difference between two means (Ary, Jacobs, & Razavieh, 1990). The Mann-Whitney U test shows that two independent samples are equivalent in location. Observations from both groups are combined and ranked. If the two groups are equal, then the ranks should be randomly distributed through the two samples. This non-parametric test was chosen because there was such a high number of abstainers in the group that the data was not normally distributed. Since the data was not normally distributed, a non-parametric test was conducted to determine differences in alcohol consumption between the two populations.

For research question two, alcohol culture was calculated with the chi square test for questions B1, B2, and B3. These questions related to campus alcohol policies. Question B6 sought information on five actions that an institution might take in response to alcohol use by a student. Responses varied from “not at all” to “4 or more times”. If a

student responded “not at all”, he/she was given a 0 for that question. If a student responded to any of the other choices, he/she was given a 1. Each student was then given a total score for the entire question. Scores ranged from 0-5. A mean was calculated for each school, and means were compared using the Mann-Whitney U test. Questions B7 and B8 provide “yes/no” responses which created a scale. A “No” response was coded as a “0”, and a “Yes” was a “1”. Each student received a score from the scales, and means were calculated for the two groups. A Student’s t-test was then used to compare the means. Likewise, question B9 produced a scale with four possible answers ranging from 1-4. Each student received a score for the question, and means were calculated for the samples. A Student’s t-test compared the means. A level of significance was set at $p < .05$.

For research question three, a Mann-Whitney U test was conducted to assess the difference between levels of religiosity within two different college environment. Based on responses to the eight items on the religiosity instrument, each student had a religiosity score. Means were calculated for each student population.

For research question four the Spearman Rho test was used to assess correlation between alcohol and religiosity. This non-parametric test was chosen because the alcohol scores were not normally distributed, which is a requirement of parametric statistics. Correlation procedures measure the extent of change in one variable that can be attributed to the extent of change in the second variable (Ary, Jacobs, & Razavieh, 1990). The

relationship between religiosity and alcohol consumption can be assessed with this statistical technique.

Multinomial logistic regression was the statistical technique used to analyze the data for research question five. Regression tests whether or not religiosity is a significant predictor of alcohol use and if the prediction equation differs between environments (Reed, 2000). Alcohol use was regressed against religiosity and college environment in the model. Alcohol consumption was the dependent variable, and religiosity and environment were factors in the model. Multinomial logistic regression creates an odds ratio of the level of alcohol use given the effect of religiosity and college environment.

In order to ensure a goodness of fit for the model, both alcohol and religiosity were recoded. Since continuous variable do not compute in multinomial logistic regression, both variables were grouped into ordinal categories. Alcohol use was recoded into three levels: abstainer (0 alcohol consumption), moderate drinkers (1-16 alcohol score), and high (>16 alcohol score). These categories are comparable to those designated by Wang, Eddy and Fitzhugh (1992).

Religiosity was recoded into four groups: group 1 (≤ 22), group 2 ($>22-\leq 25$), group 3 ($>25-\leq 29$) and group 4 (≥ 30). This breakdown of religiosity scores was based on quartile distribution. Environment was coded either 0 or 1 depending on which school a student attended. The three variables were then entered into the model. A level of significance was set at $p < .05$.

Summary

Chapter three describes the methodology used in this study. The sample included students from both a secular and a religiously affiliated college in the state of Tennessee. The instruments used were the College Alcohol Survey and The Religiosity Measure. A pilot study was conducted at one religiously affiliated college, so problems with the instrument could be eradicated. Data collection, data measurement and data analysis was also discussed in this chapter.

CHAPTER FOUR

RESULTS

The purpose of this study was to assess the interactive relationship of college religious environment and religiosity with the college alcohol experience of college students attending two institutions, one secular and one a religiously affiliated college. Five research questions were proposed and were answered by the use of two survey instruments, the Religiosity Measure (Rohrbaugh & Jessor, 1975), and the College Alcohol Survey (Wechsler & McFadden, 1979).

This chapter presents the results from the data analysis. The following sections are included: a sample description, alcohol use profiles of students from both institutions, the college alcohol experience of students at each campus, religiosity characteristics of the two student samples, and the relationship between religiosity, college alcohol consumption and environment.

Sample Description

Data was gathered from two student populations, one a secular university and the other a religiously affiliated college. The demographic characteristics of the sample are described in this section. Demographic characteristics include gender, ethnicity, age, class in school, type of residence, and religious affiliation. Table 4.1 describes the sample demographics.

Table 4.1.
Sample Demographics By School

Demographic	Religious College		University		Total	
Category	%	(N)	%	(N)	%	(N)
<u>Gender</u>						
Male	49.6	(124)	35.0	(98)	42.0	(222)
Female	50.4	(126)	64.0	(179)	58.0	(305)
<u>Ethnicity</u>						
Anglo-American	90.7	(207)	89.0	(238)	84.3	(445)
African-American	5.7	(13)	5.6	(15)	5.3	(28)
Other	3.4	(8)	4.9	(13)	3.9	(21)
<u>Age</u>						
≤ 18	17.6	(44)	3.2	(9)	10.0	(53)
19	25.6	(64)	15.8	(44)	20.4	(108)
20	24.0	(60)	26.5	(74)	25.3	(134)
21	19.2	(48)	19.0	(53)	19.1	(101)
22	6.0	(15)	15.8	(44)	11.1	(59)
23	2.0	(5)	8.3	(25)	5.5	(29)
24	1.6	(4)	3.9	(11)	2.8	(15)
>25	3.6	(9)	6.5	(18)	5.1	(27)
<u>Class in school</u>						
Freshmen	20.8	(52)	3.2	(9)	11.5	(61)
Sophomore	26.5	(66)	22.3	(62)	24.2	(128)
Junior	29.3	(73)	31.7	(88)	30.4	(161)
Senior	20.4	(51)	27.7	(77)	24.2	(128)
5 th year	2.4	(6)	14.0	(39)	8.7	(45)
Graduate	0.4	(1)	0.7	(2)	0.6	(3)
Other	0.8	(2)	0.0	(0)	0.4	(2)
<u>Residence</u>						
On-campus	62.0	(155)	29.4	(82)	44.8	(237)
Off-campus	36.8	(92)	69.5	(194)	54.1	(286)
<u>Religious affiliation</u>						
None	4.0	(10)	3.6	(10)	3.8	(20)
Catholic	6.4	(16)	13.3	(37)	10.0	(53)
Judaism	1.2	(3)	2.2	(6)	1.7	(9)
Protestant	73.6	(184)	67.0	(187)	70.1	(371)
Other	2.0	(5)	5.0	(14)	3.6	(19)

The gender profile was equal at the religious school (49.6% males vs. 50.4% females), while at the secular university, males were underrepresented when compared to females (35.0% vs. 63.0% respectively). The ethnicity profile found that 87% of the total respondents were Anglo-American, and 13% were minority. African Americans accounted for 5% of the sample at both schools, which was the largest minority group represented.

Distribution by class in school was fairly equal at the religious college, but at the university freshmen appeared to be underrepresented. Likewise, there were differences among the two samples concerning living arrangements. At the religious school, 61.5% of the students lived on campus; whereas, at the university only 31.0% of the students lived on campus. Age was fairly evenly distributed among those 18-21 years of age.

The mean age at the religious school was 20.0 ($SD=1.67$) which was less than the mean age of 21.0 ($SD=1.76$) at the university. Religious affiliation was overwhelmingly Protestant for both samples (73.6% at religious school and 67.0% at university) with Catholics comprising the second largest religious group at both schools.

The College Alcohol Experience

This section addresses research questions one and two, which concern differences in alcohol consumption and differences among college alcohol environments for students attending a religiously-affiliated college versus students attending a secular university.

Research Question One

Research question one seeks to determine if there is a difference in the level of alcohol consumption among college students attending a religiously affiliated college versus students attending a secular university. The mean alcohol consumption for the students at the religious institution was 11.9 (SD=27.6) drinks in the 30 days prior to the survey, which was significantly lower than the 26.9 (SD=53.1) drinks per 30 days for students attending the university (Mann-Whitney $U = -7.55$, $p < .05$). For further detail, table 4.2 shows the mean alcohol consumption broken down by sample demographics.

Males reported significantly higher alcohol consumption than females (30.1 vs. 12.3, respectively). This finding was true for both institutions. Specific to ethnicity, Anglo-Americans at the religious school had the highest alcohol consumption (M = 13.5, SD = 29.7), yet at the university the “other” ethnicity group, which was comprised of Hispanics, Asians, and other races, had the highest consumption (M=48.1, SD=49.3). Alcohol consumption was found to increase as age increased, especially after students turned the legal drinking age of 21. The year for peak alcohol consumption for both schools was 23 (Religious M=29.2 drinks in a 30 day period, SD=49.4; University M=54.9 drinks in a 30 day period, SD=100.0). In looking at student residence, students who lived on campus had the lowest alcohol consumption at both schools (M=9.0, SD=20.4). Students at both schools who lived off campus had the highest alcohol consumption (M=27.8, SD=52.8) At the religious school Protestants had the lowest

Table 4.2
Mean Alcohol Drinks Consumed in Last 30 Days by Categorical Variables

Variable	Religious College		University		Total	
	M	(SD)	M	(SD)	M	(SD)
<u>Gender</u>						
Male	17.8	(35.2)	45.3	(78.9)	30.1	(60.3)
Female	6.2	(15.5)	16.6	(24.9)	12.3	(43.5)
<u>Race</u>						
Anglo-American	13.5	(29.7)	25.1	(50.0)	19.7	(42.1)
African American	2.2	(3.9)	31.7	(92.4)	18.0	(68.2)
Other	6.5	(9.6)	48.1	(57.3)	32.2	(49.3)
<u>Age</u>						
≤ 18	6.9	(19.2)	17.1	(29.1)	8.7	(21.3)
19	9.4	(19.4)	16.7	(32.5)	12.4	(25.6)
20	9.2	(28.2)	26.1	(53.1)	18.5	(44.3)
21	18.6	(32.2)	26.5	(31.1)	22.7	(31.6)
22	22.3	(40.1)	29.7	(43.0)	27.8	(42.0)
23	29.2	(49.4)	54.9	(100.0)	52.4	(94.5)
24	32.6	(65.3)	39.5	(106.6)	37.7	(95.1)
>24	3.4	(9.6)	7.8	(9.0)	6.4	(9.3)
<u>Class in School</u>						
Freshmen	8.1	(20.0)	18.3	(28.9)	9.6	(21.6)
Sophomore	9.7	(22.4)	25.6	(55.1)	17.4	(42.2)
Junior	10.7	(28.1)	19.4	(33.0)	15.4	(31.1)
Senior	21.6	(38.2)	32.2	(52.8)	27.9	(47.6)
5 th year	2.6	(3.5)	38.0	(82.2)	33.4	(77.5)
Graduate	22.5	(---)	7.5	(6.4)	12.5	(9.8)
<u>Residence</u>						
On-campus	6.3	(19.5)	14.3	(21.21)	9.0	(20.4)
Off-campus	20.6	(34.6)	31.3	(59.39)	27.8	(52.8)
<u>Religious affiliation</u>						
None	3.8	(5.9)	36.3	(55.4)	20.0	(41.8)
Catholic	33.0	(42.5)	52.5	(85.9)	46.5	(75.4)
Judaism	30.0	(37.5)	11.7	(13.8)	17.8	(23.5)
Protestant	10.2	(25.3)	22.6	(48.0)	16.4	(38.9)
Other	32.5	(55.7)	19.6	(23.9)	22.2	(33.7)

alcohol use ($\underline{M}=10.2$, $\underline{SD}=25.3$). while at the university Jewish students had the lowest alcohol consumption ($\underline{M}=11.7$, $\underline{SD}=13.8$). Catholics had the highest alcohol consumption at both schools ($\underline{M}=46.5$, $\underline{SD}=75.4$).

Of particular importance in understanding alcohol consumption is the assessment of binge drinking. Binge drinking rates were different for the two student populations. At the religious school 21% of the students reported binge drinking at least once in the 30-day period compared to 34% of the university students. Males at both schools participated in binge drinking more than women, and Anglo-Americans were more likely to binge drink than any other race represented.

Research Question Two

This question attempted to determine if there are differences between the campus alcohol culture of students attending a religiously affiliated college versus students attending a secular university. Six items concerning student perceptions of alcohol use on campus were analyzed in order to answer this question. Five of the items examined proved to show significant alcohol cultural differences between the two schools.

The first item addressed the question of student perceptions of how the school deals with alcohol use. There was a statistical significance between the responses of students attending the two institutions with 94.8% of the students at the religious college responding that student drinking is discouraged at their campus, while only 42.3% of university students responding in this manner [$\chi^2(2, N = 523) = 163.1$, $p < .05$].

The second item used to assess potential campus alcohol culture differences examined student perceptions of the actual school policy for students, faculty, and staff. Again, the difference of the responses was significant for the two school populations [$\chi^2(4, N = 526) = 18.55, p < .05$]. While a fairly equal majority of students at both institutions felt that alcohol was prohibited for everyone (74% at the religious school vs. 71% at the university), there were some differences in the other possible responses. For example, less than 1% of the religious sample believed that alcohol was prohibited just for those under age 21, yet 7% believed this to be true at the university.

The third item asked the students what they think the alcohol policy should be at their school. There was a significant difference [$\chi^2(3, N = 508) = 18.55, p < .05$] in the student opinions with over half of students at the religious school favoring the current restrictive alcohol policy (53.0%) as opposed to one third of the students at the university (39.0%). Responses of chi square results for the first three items are shown in Table 4.3

The fourth item inquired about how frequently students are investigated concerning possible alcohol use. Students could select up to five different types of potential alcohol-related investigations that they felt they might experience on campus. Student responses were summed to create a scale ranging from 1-5. The mean alcohol investigation score for the religious school was 0.4 ($SD = 0.8$) compared to the mean score for the university which was 1.1 ($SD = 1.1$). This finding is significant (Mann-Whitney $U = -7.853$) and shows that a student at the university was more likely to believe that they might be investigated concerning personal alcohol consumption.

Table 4.3.
Student Perceptions of Campus Alcohol Policy

Campus Environment Questions and Responses	Religious		University		χ^2
	%	(N)	%	(N)	
What does your school do about student drinking?					$\chi^2=163.1^*$
Discourages all student drinking	94.8	(236)	42.3	(116)	
Tolerates drinking but tries to keep students from becoming drunk	3.2	(8)	39.1	(107)	
Does little to discourage alcohol use or abuse	2.0	(5)	18.6	(51)	
What is your school's policy about alcohol use on campus?					$\chi^2=18.55^*$
Alcohol prohibited for everyone	74.0	(185)	71.0	(196)	
Alcohol prohibited for all students	11.2	(28)	6.2	(17)	
Alcohol prohibited for everyone under 21	0.8	(2)	7.2	(20)	
No school policy	0.4	(1)	0.0	(0)	
Don't know school's policy	13.6	(34)	15.6	(43)	
Which of the following do you think should be your school policy about student drinking?					$\chi^2=12.87^*$
The current alcohol policy	52.7	(127)	39.0	(104)	
Greater restrictions on alcohol use	7.5	(18)	15.0	(40)	
Fewer restrictions on alcohol use	27.4	(66)	33.0	(88)	
Don't know the school's policy.	12.4	(30)	13.1	(35)	

Note. * = $p < .05$

Alcohol education and awareness was the next cultural component examined for potential differences between schools. The means for the two schools were not significant which means that students reported similar exposure to alcohol education programs and materials at both schools. The last environmental item looked at student perceptions of being caught consuming alcohol. Students responded to seven possible situations for both on and off campus settings. Students at the religious school ($M=2.4$, $SD=0.6$) perceived a greater likelihood that they would be caught with alcohol than the

university students ($M=2.1$, $SD=0.7$). The means were statistically significant for this set of questions ($t = 4.7$, $p. < .05$). Results of the testing on the three scaled items are shown in Table 4. 4.

The campus alcohol culture of the two schools is significantly different in every area examined with the exception of the item concerning alcohol awareness and education for the campus. Students at the religious school were more conservative in their views on alcohol policy, and they believed that they were more likely to be caught with alcohol in both on and off campus settings.

Student Religiosity

Research Question Three

The third research question attempted to determine if there was a difference in religiosity between students attending a religiously affiliated college versus students attending a

Table 4.4
Scores of Student Perceptions of the Campus Alcohol Environment

Campus Environment Questions and Responses	Religious College		University		Min	Max
	<u>M</u>	(<u>SD</u>)	<u>M</u>	(<u>SD</u>)		
Likelihood of college investigation of alcohol	0.45*	(0.83)	1.05*	(1.05)	0	5
Alcohol awareness and education	3.59	(2.66)	3.80	(3.13)	0	11
Likelihood of being caught with alcohol	2.40*	(0.61)	2.12*	(0.72)	1	28

Note. * = $p. < .05$

secular university. There was a significant difference in the mean religiosity scores for the two schools (Mann-Whitney $U = -5.77$, $p < .05$). The comparison of religiosity scores by school, gender, ethnicity, age, class in school, and religious denomination is presented in Table 4.5.

Overall, the mean religiosity score for the religious school was 26.5 ($SD = 5.46$), and the mean score for the university was 23.8 ($SD = 6.16$). Both schools exhibited high levels of religiosity, yet students at the religious college had a significantly higher score than students at the secular university. Concerning gender, females had a significantly higher religiosity score than males at the religious school, but not at the university ($T = -4.35$ and -1.7 respectively, $p < .05$).

Related to age, religiosity remained fairly stable until the students in both samples reached the age of 21 ($M = 25.44$, $SD = 5.54$). At that time, the mean religiosity scores dropped slightly. The students that were age 24 had the lowest religiosity score ($M = 18.7$, $SD = 10.58$). Likewise, religiosity remained fairly constant through the first four years of college, but it dropped with the fifth year and the graduate population (see Table 4.5)

Religious denomination was also compared for religiosity. The lowest religiosity score for the entire sample was the group that had no religious affiliation ($M = 18.3$, $SD = 8.06$). The highest score for the entire sample was in the Protestant group ($M = 26.0$, $SD = 5.37$).

Table 4.5.
Demographic Profile of Religiosity Scores

Variable	Religious		University		Total	
	M	(SD)	M	(SD)	M	(SD)
<u>Gender</u>						
Male	22.9	(6.1)	22.6	(7.1)	23.9	(6.7)
Female	28.0	(4.2)	24.4	(5.4)	25.9	(5.2)
<u>Race</u>						
Anglo-Am	26.5	(5.6)	24.2	(5.9)	25.3	(5.9)
African Am	24.9	(3.4)	21.4	(5.7)	23.0	(5.0)
Other	25.6	(4.8)	20.1	(7.7)	22.3	(7.1)
<u>Age</u>						
≤18	26.8	(4.6)	26.8	(2.0)	26.7	(4.2)
19	26.9	(4.9)	23.3	(6.8)	25.4	(6.0)
20	27.2	(5.2)	25.6	(4.5)	26.4	(4.9)
21	26.3	(5.3)	24.7	(5.7)	25.4	(5.5)
22	25.0	(5.8)	22.3	(5.7)	22.5	(5.7)
23	21.5	(10.7)	23.0	(6.6)	23.1	(7.4)
24	25.1	(12.1)	17.7	(10.4)	18.7	(10.6)
>24	25.1	(6.8)	22.3	(6.5)	23.2	(6.6)
<u>Class</u>						
Freshmen	26.6	(4.9)	26.9	(2.0)	26.6	(4.6)
Soph	26.6	(5.3)	23.7	(6.4)	25.2	(6.0)
Junior	27.0	(4.9)	25.1	(5.4)	26.0	(5.2)
Senior	25.6	(7.0)	23.7	(6.2)	24.4	(6.6)
5 th year	23.7	(3.6)	21.1	(6.5)	21.5	(6.3)
Grad	30.0	(- --)	12.0	(2.8)	18.0	(10.6)
<u>Residence</u>						
On-campus	27.5	(4.3)	25.4	(5.4)	26.8	(4.8)
Off-campus	24.9	(6.4)	23.1	(6.3)	23.7	(6.4)
<u>Religious Affiliation</u>						
None	24.4	(5.6)	12.8	(5.5)	18.3	(8.1)
Catholic	20.8	(8.0)	23.1	(5.2)	22.4	(6.2)
Judaism	27.3	(1.2)	19.3	(7.0)	22.0	(6.9)
Protestant	27.0	(5.0)	25.0	(5.6)	26.0	(5.4)
Other	24.2	(5.5)	23.9	(6.0)	22.5	(4.7)

Note. Religiosity scores were based on the religiosity measure (Rohrbaugh & Jessor, 1975). Scores ranged from 0 (least religiosity) to 32 (greatest religiosity).

Religiosity, Alcohol Consumption, And College Environment

Research Question Four

This question examined the relationship between religiosity and alcohol consumption among college students at two different college environments. The correlation between alcohol use and religiosity for the entire sample was -0.506 ($p < .05$). This correlation shows that as religiosity increased, alcohol consumption decreased. There is an inverse relationship between religiosity and alcohol consumption. Females demonstrated a stronger negative correlation between religiosity and alcohol use than males. Anglo-Americans and African-Americans also had significant correlations (-0.524 and -0.344 , respectively). Age was also a significant factor in correlations between alcohol and religiosity with the exception of age 24. Even though the strength of the correlations fluctuated through the age groups, each one, except for age 24, was significant. All classes in school and both types of residence had significant correlations. Religiosity and alcohol consumption correlations by demographics are shown in Table 4.6.

Research Question Five

The final question attempted to pull all the previous research questions together by examining college/university religious affiliation on the relationship between student religiosity and college alcohol consumption. To accomplish this, alcohol use was categorized into three groups: abstainers, moderate drinkers, and heavy drinkers. Abstainers served as the reference group for the multinomial logistic regression model.

Table 4.6.
Demographic Profile of Correlations For Alcohol Consumption And Religiosity

Alcohol Consumption	Religiosity R
<u>By Total Sample</u>	-0.506*
<u>By School</u>	
Religious	-0.521*
University	-0.379*
<u>By Gender</u>	
Male	-0.464*
Female	-0.534*
<u>By Race</u>	
Anglo-Am	-0.524*
African-Am	-0.344*
Other	-0.398
<u>By Age</u>	
≤ 18	-0.503*
19	-0.463*
20	-0.447*
21	-0.576*
22	-0.350*
23	-0.523*
24	-0.411
>25	-0.585*
<u>By Class in School</u>	
Freshmen	-0.448*
Sophomore	-0.391*
Junior	-0.537*
Senior	-0.571*
5 th year	-0.293*
<u>By Residence</u>	
On-campus	-0.470*
Off-campus	-0.421*
<u>By Religious Affiliation</u>	
None	-0.593*
Catholic	-0.326*
Judaism	0.186
Protestant	-0.510*
Other	-0.215

Note. *= p<.01

The model found that students who attend a secular school are four times more likely to be a moderate or a heavy alcohol consumer compared to those students who attend a religious school. Furthermore, the model shows that those with lower levels of religiosity were more likely to be moderate or heavy drinkers. Those with the lowest religiosity scores were 27 times more likely to be a heavy alcohol user and 9 times more likely to be a moderate drinker regardless of school attended. Results of the multinomial logistic regression for heavy alcohol consumption are presented in Table 4.7. Table 4.8 shows the regression model for moderate alcohol consumption.

Table 4.7.
College Environmental Risk Factors for Heavy Alcohol Consumption

Heavy Alcohol Consumption	Odds Ratios (95% CI)
Religious School	--
Secular University	3.89* (2.32-6.51)
Religious Group 1 (lowest religiosity)	27.02* (11.43-63.88)
Religious Group 2	15.92* (6.12-41.40)
Religious Group 3	6.32* (2.70-14.69)
Religious Group 4 (highest religiosity)	--

*significant variable

Table 4.8.
College Environmental Risk Factors for Moderate Alcohol Consumption

Moderate Alcohol Consumption	Odds Ratio (95% CI)
Religious School	--
Secular University	4.07* (2.53-6.55)
Religious Group 1 (lowest religiosity)	9.31* (4.66-18.61)
Religious Group 2	11.40* (5.35-24.27)
Religious Group 3	3.38* (1.78-6.41)
Religious Group 4 (highest religiosity)	--

*significant variable

Summary

This chapter presented the results and analysis of the data and the interpretation of these results. Overall, there is a difference in alcohol consumption between students attending a religious school versus students attending a secular university. Furthermore, there is a significant inverse relationship between religiosity and alcohol consumption. As religiosity increased, alcohol consumption decreased. Multinomial logistic regression also showed that religiosity and college environment were significant predictors of moderate and heavy alcohol use.

The next chapter will discuss the summary, findings, conclusions, and recommendations based on the analysis and interpretation of the results.

CHAPTER FIVE

FINDINGS, CONCLUSIONS, AND DISCUSSION

The purpose of this study was to assess the interactive relationship of college religious environment and personal religiosity with the college alcohol experience of college students attending two institutions, one secular and one a religiously affiliated college. Using reference group theory as a guide, this study sought to explain some of the factors that explain collegiate alcohol consumption. This chapter discusses the findings and related conclusions, limitations, and recommendations for further research. The following sections are contained in this chapter: summary of procedures, findings and related conclusions, discussion and implication, limitations of the study, and recommendations for further research.

Summary of Procedures

Five research questions were proposed and answered by the use of self-reported survey data from 529 college students at the two institutions, one a religious college and one a secular university. The survey instruments used were The Religiosity Measure (Rorhbaugh & Jessor, 1975) and the College Alcohol Survey (Wechlser & McFadden, 1979).

The Religiosity Measure was developed to evaluate the impact of religion on a respondent's daily life and to assess a person's participation in religious rituals. The College Alcohol Survey was developed by Harvard University to assess collegiate alcohol

behaviors. Data was collected in a variety of classes at both institutions during the fall semester of 2000. Alcohol campus culture, religiosity, and the relationship between alcohol consumption, religiosity, and environment were all explored in this study.

Analysis of the data showed that there is a difference in the college alcohol experience of students attending different institutions of higher learning. Those students who attended the secular school were more likely to consume alcohol. Furthermore, religiosity is an important variable in predicting alcohol use. Those students with the highest religiosity scores regardless of school were less likely to consume alcohol in large amounts. There is, in fact, an interactive relationship between religiosity, environment, and alcohol consumption.

Findings

Based on the data from this study, the following findings are offered:

1. Students at a secular university consume alcohol in significantly greater amounts than students who attend a religious college.
2. Students at a secular university binge drink more often than students attending a religious college.
3. There are more students who abstain from alcohol consumption at a religious college than there are at a secular school.
4. College age males consume alcohol in significantly greater amounts than college age females.

5. Students who live in off campus housing are more likely to consume alcohol than students who live in on-campus housing.
6. The campus alcohol culture of a religious college is more conservative than the alcohol culture of a secular university.
7. Regardless of the religious affiliation of a college or university, students reported being exposed to the same amount of alcohol education and awareness.
8. A person who is a member of a denomination that is proscriptive about alcohol use is less likely to consume alcohol than a person who is a member of a denomination that is not proscriptive about alcohol.
9. Students with the lowest levels of religiosity were more likely to be moderate drinkers and heavy drinkers.
10. A more conservative campus environment significantly decreases the likelihood of moderate and heavy alcohol use regardless of an individual's religiosity.

Conclusions

Based on the findings of this study, the following conclusions will be suggested and discussed in the following sections:

Research Question One: Students who attend a secular university are more likely to consume alcohol than students who attend a religious college.

Research Question Two: The campus alcohol culture of a religious college is more conservative than the campus alcohol culture of a secular university.

Research Question Three: Students who attend a religious college have a higher level of religiosity than students who attend a secular university.

Research Question Four: As a person's religiosity increases, the likelihood of alcohol consumption decreases.

Research Question Five: College environment is a significant predictor of moderate and heavy alcohol consumption.

Discussions and Implications

This study attempted to add to the literature concerning alcohol use among college students. Using reference group theory as a theoretical foundation, this study sought to better understand the role of religiosity and college alcohol culture as they relate to alcohol consumption. Reference group theory is an appropriate psychosocial theory for this study because it attempts to explain the role of a group in determining individual behavior. Since the college campus can serve as a reference group for a student, this theory provides insight into the function of the college environment on a person's decision to consume alcohol.

A variety of studies have attempted to quantify and better understand collegiate alcohol use, which is a significant health risk for that population (Wechsler, Lee, Kuo, & Lee, 2000; Centers For Disease Control, 1997; Engs, Diebold, & Hanson, 1996; Haberman, 1994; Johnston, O'Malley, & Bachman, 1996; Midanik & Clark, 1995). Likewise, numerous studies have examined the relationship of religiosity on alcohol use

(Magg, 1997; Bechtel & Swisher, 1992; Burkett, 1993; Clarke, Beeghley, & Cochran, 1990; Donohue & Benson, 1995; Ginn, Walker, Poulson, Singletary, Cyrus, & Picarelli, 1998). However, there has been little alcohol-related research conducted that compares college students who attend a religious school versus a secular university in the same geographical area. Therefore, this study attempts to discover the relationship between religiosity, alcohol consumption, and environment.

Collegiate Alcohol Consumption

Alcohol consumption is a common problem for college students across the country (Wechsler, Lee, Kuo, & Lee, 2000; Engs, Diebold, & Hanson, 1996). In fact, alcohol has been ranked as the number one college health problem in the United States (Federal Reports, 1999). For example, alcohol use is related to health risks (Canterbury, 1992; OSAP, 1991), academic difficulties (Hanson & Engs, 1992; Presley, 1992; Haberman, 1994) and risky sexual behavior (Abbey, 1991; Douglas, Collins & Warren, 1997). Many of these problems are related to heavy alcohol consumption, which have been documented in several national studies (Wechsler, Lee, Kuo, & Lee, 2000; Wechsler, Dowdall, Maenner, Gledhill-Hoyt & Lee, 1997; Gfroerer, Greenblatt, & Wright, 1997; Centers For Disease Control, 1997).

This study adds to the literature on collegiate alcohol use by examining two specific types of college environment. A secular environment has been studied extensively, yet religious schools, especially those that are proscriptive in their teachings

on alcohol, have not been studied as much. Some religious colleges have been included in other studies of alcohol use, yet these studies have not compared a proscriptive religious college to a university to assess the effects of alcohol consumption, religiosity, and college religious environment. Although religious schools by themselves have not been studied very much, some national studies have included proscriptive as well as non-proscriptive religious colleges. For example, Wechsler, Lee, Kuo, and Lee (2000) found that 82% of students at nonreligious schools consume alcohol versus 75% at religious schools. This is significant because this difference is based on proscriptive as well as non-proscriptive religious colleges. This difference might be even greater if only proscriptive colleges had been studied.

This study attempted to better understand the role of religiosity and college environment in a student's decision to consume alcohol by examining a sample of students at one proscriptive religious college and one secular university. This study found that students who attended a religious school were significantly less likely to be moderate or heavy consumers of alcohol. Although students at both of these schools are from the same area of the country, there was a great deal more alcohol consumed by the students at the secular university. A particularly interesting finding was the number of alcohol abstainers at each school. At the religious school 64% of the students self-reported that they had abstained from alcohol in the 30 days prior to the survey. This figure was very different from the 30% of university students who abstained in the same time frame, and it is also different from national figures that show that only 19% of college students abstain

from alcohol (Wechsler, Lee, Kuo, & Lee, 2000). Religiosity and the religious culture of each college may be a factor in the abstention differences. These issues will be addressed in a later section.

Binge drinking was also an important area of difference in this study. A larger number of students at the university were considered binge drinkers than at the religious school. At the university 34% of the students were classified as binge drinkers as opposed to only 21% of the students at the religious school. Both of these numbers are lower than the Wechsler, Lee, Kuo, and Lee (2000) finding that 44% of students nationally binge drink, yet the 34% of binge drinking found at the university is the exact figure found by the CDC (1995) in the National College Health Risk Behavior Survey.

Demographic variables may serve to further understand this difference in alcohol consumption. Looking at gender, males in this study consumed more alcohol than women on both campuses. This finding is supported in other literature (Wechsler, 1996; Centers for Disease Control, 1995; Meilman, Leichter & Presley, 1999). For example, the Centers for Disease Control (1995) found that 73% of male students consumed alcohol versus 65% of females. At the religious school 44% of the males drank alcohol versus 29% of the women. At the university 90% of the males and 82% of the females consumed alcohol.

Another important demographic variable to examine is ethnicity. Concerning ethnicity, Anglo-American students consumed more alcohol than African Americans. This finding is supported by other studies (Engs, Diebold, & Hanson, 1996; Herd, 1996;

Centers for Disease Control, 1995; US Department of Health and Human Services, 1993).

In the 1995 study the CDC found that 72% of white students reported current alcohol use as opposed to 54% of black students. Wechsler, Lee, Kuo, and Lee, 2000 found that 38% of African-Americans abstained from alcohol as opposed to only 16% of Anglo-American students.

Amey, Albrecht, and Miller (1996) suggest that the reason African-Americans consistently show lower alcohol and drug use is the importance of religion in the black community. According to their work, the church is a center of the African-American community. Furthermore, they state that the church provides a sense of community that is not always available elsewhere. Their study found that African Americans were more likely to be involved in church activities, and twice as many blacks as whites stated that religion was very important to them.

In looking just at African-Americans, 53% of students at the university consumed alcohol. At the religious school 38% of the African-American students consumed alcohol. Despite the fact that African Americans drink less than Anglo-Americans, differences in alcohol consumption exist between schools. The sample in this study was overwhelmingly Anglo-American, so another study with a larger sample of minorities is suggested to further this area of research.

Another important factor in collegiate alcohol consumption is where a student lives while in college. Students who live off-campus have a much higher level of alcohol consumption than students who live on-campus. In this study, students who lived on

campus and who reported prior 30 day alcohol use, consumed an average of 9 drinks in a two week period; whereas students who lived off-campus consumed an average of 27.8 drinks in the same period. One explanation for this is the fact that both schools in this study are “dry” campuses, which means that alcohol is not permitted on campus by anyone. Both schools have college policies as well as disciplinary actions related to alcohol use on campus. Wechsler Davenport, Dowdall, Moeykens, and Castillo (1994) suggest that binge drinking is less likely to occur on campuses that prohibit alcohol use for all persons on campus.

One area that may explain differences in alcohol use at the two schools is the campus alcohol culture of the institutions. The two campuses used in this study are very different in alcohol culture. Students at the religious school are overwhelmingly Protestant because the college is a Protestant institution; therefore, the students who attend this institution are aware that the rules of the college reflect the religious teachings of the denomination. In the denomination supporting the college, alcohol use is not allowed. Abstention from alcohol is taught and reinforced in the church setting. This is an example of reference group theory. Students who are members of proscriptive religious groups have accepted the values of the group, and they reinforce the values and rules of the group to each other.

The university, on the other hand, is a state supported school that is not subject to religious doctrine. Furthermore, peer groups play a role in encouraging alcohol use. At the religious school, almost two-thirds of the students abstain from alcohol; whereas, at

the university less than a third of the students abstain. Since peers can influence each other to drink, this may be a significant finding in explaining why alcohol consumption is so different at the two schools. Perkins (1985) found that one's peer group was a primary influence in a student's decision to drink alcohol. His study found that students who perceived that their friends had liberal attitudes toward drinking were more likely to consume alcohol themselves. Again, the influence of reference group theory is an explanatory factor in the strength of peer relationships concerning alcohol consumption.

Another possible explanation for the differences in alcohol consumption between the two schools may be the level of fraternity and sorority activity at each school. Although this area was not addressed in the research questions of this study, it may serve as an important explanatory element. The religious school has very few Greek organizations compared to the university, which has a strong Greek system. This cultural difference may affect alcohol consumption levels since studies show that involvement in fraternities and sororities leads to greater consumption of alcohol (Meilman, Leichliter, & Presley, 1999; Cashin, Presley, & Meilman, 1998). This variable should be the focus of future studies related to environmental differences in collegiate alcohol consumption.

Campus alcohol culture can also be evaluated by looking at campus alcohol education efforts at each school. This study showed that students at both institutions were exposed to similar amounts of alcohol-related education and awareness programming. Despite this fact, alcohol use was significantly higher at the secular university. Therefore, this variable cannot explain the differences in alcohol consumption. Both schools were

making efforts to curb alcohol use and make students aware of the dangers of alcohol consumption.

Although alcohol education efforts were similar at both schools, there was a significant difference in school policy concerning alcohol. Neither school allows alcohol on campus; however, students at the religious college were more satisfied with this policy than students at the university. Over half of the students at the religious college stated they were satisfied with the current policy; whereas, less than half of the university students stated the same.

Alcohol Consumption and Religiosity

Since alcohol use, especially heavy alcohol use can be detrimental to college students, it is important to understand the many factors that play a role in a person's decision to consume or not consume alcohol. One of those factors is religiosity. Over the years, many studies have shown that religiosity and alcohol use have an inverse relationship for adolescents (Burkett & White, 1974; Nelson & Rooney, 1982; Amey, Albrecht, & Miller, 1996; Herd, 1996; Wallace & Williams, 1997) and college students (Perkins, 1987; Humphrey, Leslie & Britain, 1989; Slicker, 1994; Engs, Diebold, & Hanson, 1995). This study also found a significant negative correlation between alcohol consumption and religiosity. Students who had the highest levels of religiosity had the lowest levels of alcohol consumption. This was true at both institutions.

Other studies have also shown a negative correlation between religiosity and alcohol use. For example, Donahue and Benson (1995) found a negative correlation of -0.20 in their research. Their research was based on 34,129 surveys of teens aged 13-18. This is similar to the findings of Dudley, Mutch, and Cruise (1987) who found a -0.22 correlation between alcohol use and the statement "Religion is important in my life." This study examined responses from 801 people aged 12-24 who were members of the Seventh-Day Adventist Church.

In looking at religiosity, it is important to recognize that not all religions have strict views on alcohol use. Since religion is not a homogenous category, students who are from proscriptive religions may be less likely to consume alcohol (Clarke, Beeghley, & Cochran, 1990). For example, in this study Protestants had a stronger negative correlation (-0.51) than any other religious group. Furthermore, Protestants at both schools had the highest mean religiosity scores (religious school $M=27.0$, university $M=25$) of any other religions represented. Shifting the focus to proscriptive denominations may help explain the strength of the relationship between increased religiosity and decreased alcohol use in this study. Seventy percent of students in the entire sample were Protestant. Both schools are overwhelmingly Protestant with the religious college having a large sample of proscriptive Protestants, which is indicative of the area of the country where the two schools are located.

Both samples demonstrated a fairly high level of religiosity, although there was a statistical difference between the two mean religiosity scores. The mean religiosity score

was higher at the religious school than at the university, yet both scores were fairly high.

This is a significant point because it shows that individual religiosity is not the only factor in play in the decision by college students to consume alcohol.

Alcohol Consumption, Religiosity, and Environment

The crux of this study was the assessment of the relationship between alcohol consumption, religiosity, and environment. Given that average alcohol consumption among students was very different at the two schools, and given that average religiosity scores were fairly similar, there must be other factors that played a role in collegiate alcohol consumption. Results from the multinomial logistic regression model showed that regardless of religiosity, alcohol use was significantly higher for students who attended a secular university versus a religious college. Hence, environment was an important predictor of alcohol consumption. There are several possible reasons for this environmental difference.

One environmental factor is the level of religious exposure at the two campuses. Since 70% of the students in the sample stated they were members of Protestant churches, it can be assumed that these students were exposed to religious training in their past. However, depending on the institution attended, college students may not be exposed to religious teachings while in college. At the religious school, chapel services are required for all students, and two religion classes are required as part of the general education requirement. Neither of these things is true at the university.

This type of exposure to religious principles may serve to curb alcohol use. The stronger the religious norm is against alcohol use, the less likely it is that a person will consume alcohol. This idea relates to the concept of social control. Religious groups provide a reference group that can reinforce religious traditions and rules. This can be accomplished by providing non-alcohol activities through church, or through a more negative approach of punishment for alcohol consumption. Social norms are presented by religious teachings and then reinforced by ministers, parents, and peers. At the religious school students are frequently exposed to proscriptive religious teachings through community worship services that are required and through religion classes that are also required (Spilka, Hood, & Gorsuch, 1985).

Peer pressure is also an important factor to consider in alcohol consumption. Perkins (1985) showed that at the college level, the influence of peers is more significant than parental influence or religious upbringing. Therefore, peer groups play a large role in determining the alcohol culture of an institution. At the religious school 64% of the students were abstainers from alcohol. At the university, this number was only 28%.

Both religious exposure and peer pressure are two factors that are related to reference group theory. According to Merton and Rossi (1968) reference group theory provides a system of self-appraisal in which the individual assumes the values of the group as well as other group members. In other words, a person's behavior is shaped by reinforcement of group values and other group members.

Another significant factor may be availability of alcohol. At the university, which is located in a metropolitan area, alcohol is readily available within walking distance of the campus. The religious school, however, is located in a county where all liquor is banned. Only beer is sold, but it is only sold in markets, not bars or restaurants.

This study has attempted to better understand alcohol consumption characteristics at two institutions of higher learning. In summation, this study found that alcohol consumption is different at the two schools, and religiosity was a significant predictor of moderate and heavy alcohol use. Finally, there was a significant relationship between a religious college environment and alcohol use.

Limitations of the Study

Although the findings of this study are supported by other research and add to the understanding of collegiate alcohol use at two different types of colleges, there are limitations to this research. The first methodological concern is the fact that this sample is one of convenience. Although the sample was fairly large (N=529), it was not a random sample. In order to generalize these findings to other schools, a randomized sample would be necessary. The fact that freshmen at the university were underrepresented may play a role in the alcohol consumption differences between the two schools. Future studies on this topic should be conducted with a randomized sample. Further, this sample was a non-proportional sample in that students at the college were more likely to be chosen for the sample than students at the university. This is due to the difference in size of the two

schools. The university had 26,000 students to choose from as opposed to only 2300 at the religious school. Since the sample size was similar at both schools, the sample was not proportional to the population. Concerns over time contributed to the decision not to use a proportional sample.

A second limitation of this study is that results are based on self-report data. This type of data collection is frequently used to assess health behaviors, yet it does have some limitations. Students may desire to present a healthier image of themselves on surveys, especially at the religious college where there is a greater expectation of conformity to religious principles forbidding alcohol use. Generally, it is assumed that when there is a bias in reporting, it is usually an issue of underestimating alcohol use instead of overestimating use.

A final limitation concerns the fact that non-parametric statistics had to be used to analyze the data. Because of the high number of alcohol abstainers in both samples, the data was not normally distributed. As a consequence, only non-parametric statistics could be used.

Recommendations for Further Research

Further research is needed in order to better understand the relationship between alcohol culture, personal religiosity, and college environment as it relates to alcohol consumption. This study has explored these relationships in order to better understand collegiate alcohol use, and this study suggests that college administrators consider

religiosity as an important variable in addressing alcohol use on campus. Furthermore, reference group theory adds another viewpoint on this issue. College administrators and health educators may want to further explore the importance of the group dynamic in encouraging alcohol consumption.

Based on this study, the following recommendations for further research are suggested:

1. Future research should consider using religiosity as a factor in explaining collegiate alcohol consumption.
2. Further research concerning characteristics of alcohol consumption and environment among college students attending Christian colleges should be conducted.
3. Reference Group Theory should be studied further to assess the theoretical foundation of environment and alcohol consumption.

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APPENDIX

College Alcohol Study



Harvard School of Public Health

- Please complete the questionnaire as soon as possible, and return it in the postage-paid return envelope provided.
- Return the enclosed postcard separately. This lets us take your name off the follow-up list.
- Indicate your answers by filling in the circles.

YOU MUST USE A NO. 2 PENCIL INCORRECT MARKS    CORRECT MARK 

- Your answers are anonymous. Do not write your name on the questionnaire.
- Your participation is, of course, voluntary. You do not need to answer any question which makes you feel uncomfortable.

Thank you for your help. We do hope you will take part and let your views be represented.

Please return this questionnaire in the postage-paid envelope as soon as possible or mail it to:

*Harvard School of Public Health
Department of Health and Social Behavior
Data Center
1639 Tremont Street
Boston, MA 02120*

SECTION A: STUDENT LIFE

A1. How old are you?

- ☐ 15
☐ 16
☐ 17
☐ 18
☐ 19
☐ 20
☐ 21
☐ 22
☐ 23
☐ 24
☐ 25 or older

A2. Are you male or female?

- ☐ Male
☐ Female

A3. What is your current year in school?

- ☐ Freshman (first year)
☐ Sophomore (2nd year)
☐ Junior (3rd year)
☐ Senior (4th year)
☐ 5th year or beyond (undergraduate)
☐ Graduate student

A4. Did you transfer to this school from another college?

- ☐ No, did not transfer
☐ Yes, during this current school year
☐ Yes, before this school year

A5. Was the school you transferred from . . . ?

- ☐ Did not transfer
☐ In the same state
☐ In a different state
☐ Outside the U.S.A.

**A6. Where do you live while you are at college?
(Choose one answer.)**

- ☐ Single-sex residence hall or dormitory
☐ Co-ed residence hall or dormitory
☐ Other university housing
☐ Fraternity/sorority house
☐ Off-campus house or apartment → skip to A8
☐ Other: _____

A7. Some universities have housing that is specially designated as "substance-free." Do you live in this type of specially designated housing?

- ☐ No
☐ Yes, only smoking is prohibited
☐ Yes, only alcohol is prohibited
☐ Yes, both smoking and alcohol are prohibited

**A8. With whom do you currently live?
(Choose all that apply.)**

- ☐ Alone
☐ Roommate(s) or housemate(s)
☐ Spouse or significant other
☐ Parent(s) or other relative(s)

A9. Are you a member of a fraternity or sorority?

- ☐ Yes
☐ No

**A10. How important is it for you to participate in the following activities at college?
(Choose one answer in each row.)**

	Very Important	Important	Somewhat Important	Not At All Important
a. Athletics	☐	☐	☐	☐
b. Arts	☐	☐	☐	☐
c. Academic work	☐	☐	☐	☐
d. Fraternity or sorority life	☐	☐	☐	☐
e. Political activism	☐	☐	☐	☐
f. Parties	☐	☐	☐	☐
g. Community service	☐	☐	☐	☐
h. Religion	☐	☐	☐	☐

SECTION B: ALCOHOL POLICIES AND PROGRAMS

B1. Which of the following statements best describes what your school does about student drinking? (Choose one answer.)

- ☐ Discourages or tries to prevent all student drinking
- ☐ Tolerates drinking but tries to keep students from becoming drunk and disorderly
- ☐ Does little to discourage alcohol use or abuse

B2. What is your school's policy about alcohol use on campus by students, staff, and faculty? (Choose one answer.)

- ☐ Alcohol prohibited for everyone regardless of age
- ☐ Alcohol prohibited for all students, regardless of age
- ☐ Alcohol prohibited for everyone under 21
- ☐ No school policy
- ☐ Don't know school's policy

B3. Which of the following do you think should be your school's policy about student drinking? (Choose one answer.)

- ☐ The current alcohol policy
- ☐ A policy which imposes greater restrictions on alcohol use
- ☐ A policy which imposes fewer restrictions on alcohol use
- ☐ Don't know school's policy

B4. What is your school's policy about smoking tobacco? (Choose one answer.)

- ☐ Prohibits smoking in all school buildings
- ☐ Allows smoking only in a few designated areas
- ☐ Allows smoking in most areas

B5. Which of the following do you think should be your school's policy about smoking tobacco? (Choose one answer.)

- ☐ Prohibit smoking in all school buildings
- ☐ Allow smoking only in a few designated areas
- ☐ Allow smoking in most areas

B6. Since the beginning of the school year, how frequently has each of the following happened to you? (Choose one answer in each row.)

	Not At All	Once	2 or 3 Times	4 or More Times
a. I was stopped or searched for alcohol when <u>entering</u> a dorm or residence hall	☐	☐	☐	☐
b. My own room was searched for alcohol	☐	☐	☐	☐
c. I was "carded" or asked for my ID at a campus event	☐	☐	☐	☐
d. I was part of a group that was drinking and we were asked to be quieter or less disruptive	☐	☐	☐	☐
e. I was at a campus party that was "shut down" because of alcohol	☐	☐	☐	☐

B7. Since the beginning of the school year, has your school provided the following types of information to you? (Choose one answer in each row.)

	Yes	No
a. The college rules for drinking	☐	☐
b. The penalties for breaking the rules	☐	☐
c. Where you can get help for alcohol-related problems	☐	☐
d. How to recognize when someone has a drinking problem	☐	☐
e. The long term health effects of heavy drinking	☐	☐
f. The dangers of alcohol overdose	☐	☐

B8. Since the beginning of the school year, have you attended or seen the following alcohol education materials or programs? (Choose one answer in each row.)

	Yes	No
a. Attended lectures, meetings or workshops	☐	☐
b. Received mailings or handouts	☐	☐
c. Seen posters or signs	☐	☐
d. Read announcements or articles in student newspapers	☐	☐
e. Taken a special college course on alcohol and other student life issues	☐	☐

B9. How likely is it that a student under 21 years of age who drinks alcohol on or near your campus in any of the following situations will be caught? (Choose one answer in each row.)

	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely
a. In a dorm room	☐	☐	☐	☐
b. At a dorm party or social event	☐	☐	☐	☐
c. At a fraternity or sorority party	☐	☐	☐	☐
d. At an intercollegiate home athletic event	☐	☐	☐	☐
e. At an intercollegiate away athletic event	☐	☐	☐	☐
f. At an off-campus party	☐	☐	☐	☐
g. At an off-campus bar or club	☐	☐	☐	☐

B10. If a student is caught on your campus using a fake ID to get alcohol, what is likely to happen to the student? (Choose all that apply.)

- ☐ Nothing will happen
- ☐ Will be refused alcohol
- ☐ ID will be confiscated
- ☐ Will receive official warning
- ☐ Will be fined
- ☐ Will be sent to an alcohol education program
- ☐ Will be required to do community service
- ☐ Will be put on probation

B11. In the state where you attend school, how many drinks do you think you can consume in an hour and legally drive a car? (Choose one answer.)

- ☐ None
- ☐ 1 drink or less
- ☐ 2 drinks
- ☐ 3 drinks
- ☐ 4 drinks
- ☐ 5 drinks
- ☐ 6 drinks
- ☐ 7 drinks
- ☐ 8 drinks
- ☐ 9 or more drinks

B12. If a student under 21 years of age attempted to purchase alcohol in the city or town where your college is located, how likely is it that he or she . . . ? (Choose one answer in each row.)

	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely
a. Would be asked for an ID for proof of age	☐	☐	☐	☐
b. Would be refused sale of alcohol	☐	☐	☐	☐

B13. If a student is caught using a fake ID to purchase alcohol off campus in the city or town where your college is located, how likely are each of the following consequences?
(Choose one answer in each row.)

- a. The ID will be rejected and the sale refused
- b. The ID will be confiscated
- c. Local police will be called
- d. School will be called
- e. Parents will be called

Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely	Don't Know
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐

SECTION C: PERSONAL ALCOHOL USE

The following questions ask about how much you drink. A "drink" means any of the following:

- A 12-ounce can or bottle of beer
- A 4-ounce glass of wine
- A 12-ounce bottle or can of wine cooler
- A shot of liquor straight or in a mixed drink

C1. Think back over the last two weeks. How many times have you had five or more drinks in a row?

- ☐ None
- ☐ Once
- ☐ Twice
- ☐ 3 to 5 times
- ☐ 6 to 9 times
- ☐ 10 or more times

C2. During the last two weeks, how many times have you had four drinks in a row (but no more than that)?

- ☐ None
- ☐ Once
- ☐ Twice
- ☐ 3 to 5 times
- ☐ 6 to 9 times
- ☐ 10 or more times

C3. Compared to the beginning of your freshman year in college, how has your drinking changed?

(Choose one answer.)

- ☐ I don't drink now and didn't drink then
- ☐ I drink more now
- ☐ I drink about the same now
- ☐ I drink less now

C4. Have you ever . . . ?
(Choose one answer in each row.)

- a. Felt the need to cut down on your drinking
- b. Become annoyed at criticism of your drinking
- c. Felt guilty about your drinking
- d. Needed a drink first thing in the morning to get going
- e. Thought you had a drinking problem
- f. Thought you had a drug problem

Yes	No
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

C5. How would you best describe yourself in terms of your current use of alcohol? (Choose one answer.)

- ☐ Abstainer
- ☐ Abstainer—former problem drinker in recovery
- ☐ Infrequent drinker
- ☐ Light drinker
- ☐ Moderate drinker
- ☐ Heavy drinker
- ☐ Problem drinker

C6. How easy is it for you to obtain alcohol?

- ☐ Very difficult
- ☐ Difficult
- ☐ Easy
- ☐ Very easy
- ☐ Don't know, I don't drink

C7. Are there places at or near your school where you or your friends usually can get alcohol without showing an ID? (Choose one answer in each row.)

- a. At a local off-campus bar or club
- b. At an on-campus pub
- c. At a local liquor or grocery store
- d. At a fraternity or sorority house

No	Yes	Don't Know
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

C8. The last time that you had four or more drinks in a row, how many drinks did you actually have?

- ☐ Have never had four or more drinks in a row
- ☐ 4 drinks
- ☐ 5 drinks
- ☐ 6 drinks
- ☐ 7 drinks
- ☐ 8 drinks
- ☐ 9 drinks
- ☐ 10–14 drinks
- ☐ 15 or more drinks

C9. How long did it take you to consume the number of drinks you indicated in the last question?

- ☐ Have never had four or more drinks in a row
- ☐ 1 hour or less
- ☐ 2 hours
- ☐ 3 hours
- ☐ 4 hours
- ☐ 5 hours
- ☐ 6 hours or more

C10. When did you last have a drink (that is more than just a few sips)?

- ☐ I have never had a drink → skip to C22 (page 10)
☐ Not in the past year → skip to C22 (page 10)
☐ More than 30 days ago, but less than a year ago → skip to C16 (page 8)
☐ More than a week ago, but less than 30 days ago
☐ Within the last week

Answer questions C11 to C14 only if you have had a drink in the past 30 days.

C11. On how many occasions have you had a drink of alcohol in the past 30 days? (Choose one answer.)

- ☐ Did not drink in the last 30 days
☐ 1 to 2 occasions
☐ 3 to 5 occasions
☐ 6 to 9 occasions
☐ 10 to 19 occasions
☐ 20 to 39 occasions
☐ 40 or more occasions

C12. In the past 30 days, on those occasions when you drank alcohol, how many drinks did you usually have? (Choose one answer.)

- ☐ Did not drink in the last 30 days
☐ 1 drink
☐ 2 drinks
☐ 3 drinks
☐ 4 drinks
☐ 5 drinks
☐ 6 drinks
☐ 7 drinks
☐ 8 drinks
☐ 9 or more drinks

C13. In the past 30 days, how often did you drink enough to get drunk? (By drunk, we mean unsteady, dizzy, or sick to your stomach.) (Choose one answer.)

- ☐ Not at all
☐ 1 to 2 occasions
☐ 3 to 5 occasions
☐ 6 to 9 occasions
☐ 10 to 19 occasions
☐ 20 to 39 occasions
☐ 40 or more occasions

C14. In the past 30 days, how many drinks did you have the last time you attended any of the following events? (Choose one answer in each row.)

	Didn't Attend	No Drinks	1 or 2 Drinks	3 or 4 Drinks	5 or More Drinks
a. Dormitory social event or party	☐	☐	☐	☐	☐
b. Fraternity or sorority event or party	☐	☐	☐	☐	☐
c. On-campus dance or concert	☐	☐	☐	☐	☐
d. Intercollegiate home athletic events	☐	☐	☐	☐	☐
e. Intercollegiate away athletic events	☐	☐	☐	☐	☐
f. On-campus pub	☐	☐	☐	☐	☐
g. Off-campus party	☐	☐	☐	☐	☐
h. Off-campus bar or club	☐	☐	☐	☐	☐

Answer question C15 only if you are under 21 years of age. If you are 21 years of age or older, skip to question C16.

C15. In the past 30 days, have you obtained alcohol in any of the following ways? (Choose one answer in each row.)

	Yes	No
a. Got it myself without being carded	☐	☐
b. Got it from someone who was under 21	☐	☐
c. Used my own fake ID	☐	☐
d. Got it from a student who was 21 or older	☐	☐
e. Got it from a stranger who was 21 or older	☐	☐
f. Got it from parents or relatives	☐	☐

Answer questions C16 through C21 if you have had a drink either within the past year or within the past 30 days.

C16. Since the beginning of the school year, how often has your drinking caused you to . . . ? (Choose one answer in each row.)

	Not At All	Once	Twice	3 Times	4 or More Times
a. Have a hangover	☐	☐	☐	☐	☐
b. Miss a class	☐	☐	☐	☐	☐
c. Get behind in school work	☐	☐	☐	☐	☐
d. Do something you later regretted	☐	☐	☐	☐	☐
e. Forget where you were or what you did	☐	☐	☐	☐	☐
f. Argue with friends	☐	☐	☐	☐	☐
g. Engage in unplanned sexual activity	☐	☐	☐	☐	☐
h. Not use protection when you had sex	☐	☐	☐	☐	☐
i. Damage property	☐	☐	☐	☐	☐
j. Get into trouble with the campus or local police	☐	☐	☐	☐	☐
k. Get hurt or injured	☐	☐	☐	☐	☐
l. Require medical treatment for an alcohol overdose	☐	☐	☐	☐	☐
m. Been the victim of a crime on campus	☐	☐	☐	☐	☐
n. Been the victim of a crime off-campus	☐	☐	☐	☐	☐

C17. Since the beginning of the school year, has your school taken any of the following actions as a consequence of your drinking? (Choose one answer in each row.)

	Not At All	Once	2 or 3 Times	4 or More Times
a. I received a warning	☐	☐	☐	☐
b. I was fined	☐	☐	☐	☐
c. I was required to attend an alcohol education program	☐	☐	☐	☐
d. I had to perform community service	☐	☐	☐	☐
e. I was referred to an alcohol treatment program	☐	☐	☐	☐
f. I received other disciplinary action	☐	☐	☐	☐

C18. When you choose not to drink, or to limit your drinking, how important are the following reasons for you? (Choose one answer in each row.)

	Very Important	Important	Somewhat Important	Not At All Important
a. It interferes with studying	☐	☐	☐	☐
b. I'm going on a date	☐	☐	☐	☐
c. I'm going to drive	☐	☐	☐	☐
d. I'm short of money	☐	☐	☐	☐
e. I'm afraid of getting caught	☐	☐	☐	☐
f. I've decided to cut down	☐	☐	☐	☐
g. It interferes with athletics	☐	☐	☐	☐
h. I recently drank too much	☐	☐	☐	☐
i. I've had problems with alcohol	☐	☐	☐	☐
j. It's fattening	☐	☐	☐	☐

C19. What type of alcohol do you drink most often? (Choose one answer.)

- ☐ Do not drink
- ☐ Beer
- ☐ "Low alcohol" beer
- ☐ Wine coolers
- ☐ Wine
- ☐ Liquor (or mixed drinks)
- ☐ No "usual" drink

C20. How much do you typically pay for one alcoholic drink? (Choose one answer.)

- ☐ Do not drink
- ☐ Nothing, it is typically free
- ☐ Under \$0.50
- ☐ \$0.51–1.00
- ☐ \$1.01–2.00
- ☐ \$2.01–3.00
- ☐ \$3.01 or more
- ☐ I pay a set fee for all I can drink; that fee is usually _____

(Please fill in amount.)

C21. How important are each of the following reasons for you to drink alcohol? (Choose one answer in each row.)

	Very Important	Important	Somewhat Important	Not At All Important
a. To get away from my problems and troubles	☐	☐	☐	☐
b. To get drunk	☐	☐	☐	☐
c. To fit in with my friends	☐	☐	☐	☐
d. To feel more comfortable when I'm with the opposite sex	☐	☐	☐	☐
e. As a reward for working hard	☐	☐	☐	☐
f. Because everyone else is drinking	☐	☐	☐	☐

***Answer C22 only if you did not drink any alcohol in the past year.
If you have consumed any alcohol within the last year skip to section D.***

C22. How important are each of the following reasons for you not to drink alcohol? (Choose one answer in each row.)

	Very Important	Important	Somewhat Important	Not At All Important
a. Drinking is against my religion	☐	☐	☐	☐
b. Drinking is against my values	☐	☐	☐	☐
c. People in my family have had alcohol problems	☐	☐	☐	☐
d. I'm not old enough to drink legally	☐	☐	☐	☐
e. It costs too much money	☐	☐	☐	☐
f. I don't like the taste	☐	☐	☐	☐
g. My friends don't drink	☐	☐	☐	☐
h. I don't want to disappoint someone I care about	☐	☐	☐	☐
i. It is bad for my health	☐	☐	☐	☐
j. It interferes with my studying	☐	☐	☐	☐
k. It interferes with my athletic activities	☐	☐	☐	☐
l. I don't want to lose control	☐	☐	☐	☐
m. I've had problems with alcohol	☐	☐	☐	☐
n. It's fattening	☐	☐	☐	☐

SECTION D: YOUR VIEWS ABOUT STUDENT ALCOHOL USE

D1. In your opinion, how much do you think is appropriate for a college student to drink in each of the following situations? (Choose one answer in each row.)

	Nothing	Only 1-2 Drinks	Enough to Get High, but Not Drunk	Enough to Get Drunk
a. At a party	☐	☐	☐	☐
b. In an off-campus bar	☐	☐	☐	☐
c. Before driving a car	☐	☐	☐	☐
d. On a date	☐	☐	☐	☐
e. Alone	☐	☐	☐	☐

D2. What should be the legal minimum drinking age? (Choose one answer.)

- ☐ Under 18
☐ 18
☐ 19
☐ 20
☐ 21

D3. To what extent do you support or oppose the following possible school policies or procedures? (Choose one answer in each row.)

	Strongly Support	Support	Oppose	Strongly Oppose
a. Prohibit kegs on campus	☐	☐	☐	☐
b. Offer alcohol-free dorms	☐	☐	☐	☐
c. Require non-alcoholic beverages be available when alcohol is served at campus events	☐	☐	☐	☐
d. Ban advertisements of alcohol availability at campus events and parties	☐	☐	☐	☐
e. Provide more alcohol-free recreational and cultural opportunities such as movies, dances, sports, and lectures	☐	☐	☐	☐
f. Make the alcohol rules clearer	☐	☐	☐	☐
g. Enforce the alcohol rules more strictly	☐	☐	☐	☐
h. Crack down on drinking at sororities and fraternities	☐	☐	☐	☐
Hold hosts responsible for problems arising from alcohol use	☐	☐	☐	☐
j. Crack down on underage drinking	☐	☐	☐	☐

D4. Since the beginning of the school year, how often have you experienced any of the following because of other students' drinking? (Choose one answer in each row.)

	Not At All	Once	2-3 Times	4 or More Times
a. Been insulted or humiliated	☐	☐	☐	☐
b. Had a serious argument or quarrel	☐	☐	☐	☐
c. Been pushed, hit or assaulted	☐	☐	☐	☐
d. Had your property damaged	☐	☐	☐	☐
e. Had to "babysit" or take care of another student who drank too much	☐	☐	☐	☐
f. Found vomit in the halls or bathroom of your residence	☐	☐	☐	☐
g. Had your studying or sleep interrupted	☐	☐	☐	☐
h. Experienced an unwanted sexual advance	☐	☐	☐	☐
i. Been a victim of sexual assault or "date rape"	☐	☐	☐	☐
j. Been a victim of another crime on campus	☐	☐	☐	☐
k. Been a victim of another crime off campus	☐	☐	☐	☐

D5. Since the beginning of the school year, how often have you asked someone to stop drinking?

- ☐ Not at all
☐ Once
☐ 2-3 times
☐ 4 or more times

D6. Since the beginning of the school year, how often have you complained to a college official or Resident Advisor about the behavior of students who were high or intoxicated?

- ☐ Not at all
☐ Once
☐ 2-3 times
☐ 4 or more times

D7. What action was taken about your complaint? (Choose all that apply.)

- ☐ Did not complain
☐ No action
☐ Student(s) were warned
☐ Student(s) were disciplined

D8. How many drinks in a row must a college man or woman have in order to be called a binge drinker? (Choose one answer in each row.)

	3 or Less	4	5	6	7	8	9	10 or More
a. College man	☐	☐	☐	☐	☐	☐	☐	☐
b. College woman	☐	☐	☐	☐	☐	☐	☐	☐

D9. Based on what you heard or experienced, approximately what proportion of the following do you think are binge drinkers at school? (Choose one answer in each row.)

	0%	1-9%	10-19%	20-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-89%	90-100%	Don't Know
a. All students	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b. Your friends	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

SECTION E: OTHER PERSONAL BEHAVIORS

E1. How often, if ever, have you used any of the drugs listed below?

Do not include anything you used under a doctor's orders.
(Choose one answer in each row.)

	Never Used	Used, but NOT in Past 12 Months	Used, but NOT in Past 30 Days	Used in Past 30 Days
a. Marijuana (or hashish)	☐	☐	☐	☐
b. Crack cocaine	☐	☐	☐	☐
c. Other forms of cocaine	☐	☐	☐	☐
d. Barbiturates (prescription-type sleeping pills like Quaaludes, downers, yellow-jackets)	☐	☐	☐	☐
e. Amphetamines (prescription-type stimulants like speed, uppers, ups)	☐	☐	☐	☐
f. Tranquilizers (prescription-type drugs like valium, Librium)	☐	☐	☐	☐
g. Heroin	☐	☐	☐	☐
h. Other opiate-type drugs (controlled substances like codeine, demerol, percodan)	☐	☐	☐	☐
i. LSD	☐	☐	☐	☐
j. Other psychedelics or hallucinogenics like mushrooms, mescaline or PCP	☐	☐	☐	☐
k. Ecstasy (MDMA)	☐	☐	☐	☐
l. Anabolic steroids	☐	☐	☐	☐
m. Chewing tobacco	☐	☐	☐	☐
n. Cigarettes	☐	☐	☐	☐

E2. How old were you when you first . . . ?
(Choose one answer in each row.)

	Never Did This	9 or Younger	10-12	13-15	16-18	19 or Older
a. Smoked a cigarette	☐	☐	☐	☐	☐	☐
b. Started smoking regularly	☐	☐	☐	☐	☐	☐
c. Drank alcohol recreationally	☐	☐	☐	☐	☐	☐
d. Got drunk	☐	☐	☐	☐	☐	☐
e. Used marijuana	☐	☐	☐	☐	☐	☐
f. Started using marijuana regularly	☐	☐	☐	☐	☐	☐

E3. How many cigarettes a day do you smoke on average?
(One pack equals 20 cigarettes.)

- ☐ None
☐ Less than one cigarette
☐ Less than half a pack
☐ About half a pack
☐ More than half a pack, but less than a pack
☐ A pack
☐ More than a pack

E4. In the past 12 months, how many times have you tried to quit smoking and succeeded for at least 24 hours?

- ☐ Never
☐ Once
☐ Twice
☐ 3 times
☐ 4 times
☐ 5 or more times

E5. Have you ever taken any drugs like heroin, cocaine, or anabolic steroids by injection with a needle? (Do not include anything you used under a doctor's order.)

- ☐ Yes
☐ No

E6. Have you ever shared a needle to inject a drug?

- ☐ Yes
☐ No

E7. Is there someone you are seeing or involved with romantically?

- ☐ Yes
☐ No

E8. In the last two weeks, how many times did this person have 5 or more drinks in a row?

- ☐ Not romantically involved
☐ None
☐ Once
☐ Twice or more
☐ Don't know

E9. Have you ever had sexual intercourse (with opposite or same sex partner)?

- ☐ No → skip to E13
☐ Yes

E10. If you have been sexually active, has it been with . . . ?

- ☐ I have not been sexually active
☐ Opposite sex partner(s)
☐ Same sex partner(s)
☐ Both opposite and same sex partners

E11. How many people have you had sexual intercourse with in the past 30 days?

- ☐ 0
☐ 1
☐ 2
☐ 3 or more

E12. When you have sexual intercourse, how often do you or your partner use a condom?

- ☐ Do not have sexual intercourse
☐ Never
☐ Rarely
☐ Sometimes
☐ Always

**Answer questions E13 through E15 if you are a woman.
If you are a man, skip to question E16.**

E13. Since the beginning of the school year, have you had sexual intercourse against your wishes, because someone used force?

- ☐ 0 times
☐ 1 time
☐ 2 times
☐ 3 or more times

E14. Apart from anything you just told us in question E13, since the beginning of the school year, have you had sexual intercourse against your wishes, because someone threatened to harm you?

- ☐ 0 times
☐ 1 time
☐ 2 times
☐ 3 or more times

E15. Apart from anything you just told us in questions E13 and E14, since the beginning of the school year, have you had sexual intercourse when you were so intoxicated that you were unable to consent?

- ☐ 0 times
☐ 1 time
☐ 2 times
☐ 3 or more times

E16. Since starting college, have you ever sought help because you thought that you had a problem with alcohol?

- ☐ Yes
☐ No

E17. Since starting college, have you received counseling or treatment for an alcohol-related problem?

- ☐ Yes
☐ No

**E18. Since starting college, have you attended a meeting of any of the following groups?
(Choose one answer in each row.)**

- a. Alcoholics Anonymous (AA)
b. Alanon
c. ACOA
d. Narcotics Anonymous (NA)

- | Yes | No |
|-----------------------|-----------------------|
| ☐ | ☐ |
| ☐ | ☐ |
| ☐ | ☐ |
| ☐ | ☐ |

E19. Before finishing college, what is your best guess as to the chances that you will . . . ?

(Choose one answer in each row.)

	Very Good Chance	Some Chance	Very Little Chance	No Chance
a. Fail one or more courses	☐	☐	☐	☐
b. Need extra time to complete your degree requirements	☐	☐	☐	☐
c. Seek individual counseling on personal problems	☐	☐	☐	☐
d. Drop out of this college temporarily (excluding transferring)	☐	☐	☐	☐
e. Drop out permanently	☐	☐	☐	☐
f. Transfer to another college before graduating	☐	☐	☐	☐

E20. In the past 30 days, how often did you drive a car, truck or motorcycle?

- ☐ Not at all ☐ Once or twice a week ☐ Nearly every day
☐ Only a few times ☐ Most days

E21. In the past 30 days, how many times did you . . . ?

(Choose one answer in each row.)

	Not At All	Once	Twice or More
a. Drive after drinking alcohol	☐	☐	☐
b. Drive after having 5 or more drinks	☐	☐	☐
c. Ride with a driver who was high or drunk	☐	☐	☐
d. <u>Serve as</u> a designated driver	☐	☐	☐
e. <u>Ride with</u> a designated driver	☐	☐	☐

E22. Since you started school this year, were you . . . ?

(Choose one answer in each row.)

	Yes	No
a. A driver in an automobile accident in which someone was injured	☐	☐
b. A driver in an automobile accident in which no one was injured	☐	☐
c. Arrested for driving under the influence	☐	☐

E23. Do you have a working firearm with you at college?

- ☐ No
☐ Yes, a handgun
☐ Yes, a semi-automatic

E24. In the past year, were you injured seriously enough to see a doctor?

- ☐ No → skip to E27
☐ Yes, once
☐ Yes, two times
☐ Yes, three times or more

E25. Did you consume alcoholic drinks during the 6 hours prior to this injury?

- ☐ No → skip to E27
☐ Yes

E26. For your most recent injury, how did you get injured? (Choose one answer.)

- ☐ Car crash
☐ Assault/fight
☐ Sports/recreation
☐ Work/school
☐ Home
☐ Other

Answer question E27 only if you are 21 years of age or older.

E27. In the past 30 days, how many times . . . ?
(Choose one answer in each row.)

	Not At All	Once	Twice	3 or More Times
a. Has someone under 21 years of age asked you to purchase alcohol for them	☐	☐	☐	☐
b. Have you purchased alcohol for someone under 21 years of age	☐	☐	☐	☐
c. Have you given alcoholic drinks to someone under 21 years of age	☐	☐	☐	☐

SECTION F: STUDENT ACTIVITIES

F1. In general, how satisfied are you with the education that you are receiving?

- ☐ Very satisfied
☐ Somewhat satisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

F2. How many close student friends do you have?

- ☐ None
☐ One
☐ Two
☐ Three
☐ Four
☐ Five or more

F3. Is there a member of the faculty or administration with whom you could discuss a problem?

- ☐ Yes
☐ No

F4. Which of the following best describes your grade point average this year?

- ☐ A
☐ A-
☐ B+
☐ B
☐ B-
☐ C+
☐ C
☐ C-
☐ D
☐ No grade or don't know

F5. In the past 30 days, how many hours per day on average have you spent on each of the following activities?
(Choose one answer in each row.)

	Average Number of Hours per Day					
	0	1	2	3	4	5+
a. Watching TV or videos	☐	☐	☐	☐	☐	☐
b. Studying outside of class	☐	☐	☐	☐	☐	☐
c. Working for wages	☐	☐	☐	☐	☐	☐
d. Socializing with friends	☐	☐	☐	☐	☐	☐
e. Student organizations	☐	☐	☐	☐	☐	☐
f. Playing or practicing intercollegiate sports	☐	☐	☐	☐	☐	☐
g. Other physical activities (e.g., intramural athletics, jogging, biking)	☐	☐	☐	☐	☐	☐
h. Volunteer work	☐	☐	☐	☐	☐	☐

F6. How much of the time during the past 30 days . . . ?

(For each question, please give one answer that comes closest to the way you have been feeling.)

	All of the Time	Most of the Time	A Good Bit of the Time	Some of the Time	A Little of the Time	None of the Time
a. Did you feel full of pep	☐	☐	☐	☐	☐	☐
b. Have you been a very nervous person	☐	☐	☐	☐	☐	☐
c. Have you felt so down in the dumps that nothing could cheer you up	☐	☐	☐	☐	☐	☐
d. Have you felt calm and peaceful	☐	☐	☐	☐	☐	☐
e. Did you have a lot of energy	☐	☐	☐	☐	☐	☐
f. Have you felt downhearted and blue	☐	☐	☐	☐	☐	☐
g. Did you feel worn out	☐	☐	☐	☐	☐	☐
h. Have you been a happy person	☐	☐	☐	☐	☐	☐
i. Did you feel tired	☐	☐	☐	☐	☐	☐

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SECTION G: BACKGROUND INFORMATION**G1. What is your current marital status?**

(Choose one answer.)

- ☐ Never married
☐ Married
☐ Divorced
☐ Separated
☐ Widowed

G2. Are you of Spanish or Hispanic origin?

- ☐ No
☐ Yes

G3. Which of these racial or ethnic groups describes you best? (Choose one answer.)

- ☐ White
☐ Black African American
☐ Asian/Pacific Islander
☐ Native American Indian/Native Alaskan
☐ Other: _____

G4. In what religion were you raised?

(Choose one answer.)

- ☐ None
☐ Catholicism
☐ Judaism
☐ Islam
☐ Protestantism
☐ Other: _____

G5. How religious are you?

- ☐ Very
☐ Some
☐ A little
☐ Not at all

G6. Does your religion prohibit alcohol use?

- ☐ No
☐ Yes

G7. During an average week at college how much money do you get from . . . ?
(Choose one answer in each row.)

	\$0	\$1-10	\$11-20	\$21-35	\$36-50	\$51-75	\$76-125	\$126+
a. A job or other work	☐	☐	☐	☐	☐	☐	☐	☐
b. Other sources (allowances, etc.)	☐	☐	☐	☐	☐	☐	☐	☐

G8. In general, how would you rate your health now?

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor

G9. During your last year in high school, how often did you drink alcohol (beer, wine, liquor) during a typical month? (Choose one answer.)

- ☐ Never
- ☐ 1-2 occasions
- ☐ 3-5 occasions
- ☐ 6-9 occasions
- ☐ 10-19 occasions
- ☐ 20-39 occasions
- ☐ 40 or more occasions

G10. During your last year in high school, how many drinks did you usually have when you drank alcohol? (A drink is a 12-oz. can or bottle of beer; a 4-oz. glass of wine; a 12-oz. bottle or can of wine cooler; or a shot of liquor straight or in a mixed drink.) (Choose one answer.)

- ☐ Did not drink alcohol
- ☐ 1 drink
- ☐ 2 drinks
- ☐ 3 drinks
- ☐ 4 drinks
- ☐ 5 drinks
- ☐ 6 drinks
- ☐ 7 drinks
- ☐ 8 drinks
- ☐ 9 or more drinks

G11. During your last year in high school, on how many occasions did you have 5 or more drinks in a row?

- ☐ Never
- ☐ 1-2 occasions
- ☐ 3-5 occasions
- ☐ 6-9 occasions
- ☐ 10-19 occasions
- ☐ 20-39 occasions
- ☐ 40 or more occasions

G12. Where was the high school you attended during your senior year located? (Choose one answer.)

- ☐ Same state as current college
- ☐ Different state from current college
- ☐ Outside of the U.S.A.

G13. Was your high school . . . ?

- ☐ Public
- ☐ Private—with religious affiliation
- ☐ Private—without religious affiliation

G14. Describe your father's (or that person who served as your father in raising you) use of alcohol during most of the time that you were growing up. (Choose one answer.)

- ☐ Not applicable (no father or father substitute)
- ☐ Abstainer
- ☐ Abstainer—former problem drinker in recovery
- ☐ Infrequent or light drinker
- ☐ Moderate drinker
- ☐ Heavy drinker
- ☐ Problem drinker
- ☐ I don't know

G15. Describe your mother's (or that person who served as your mother in raising you) use of alcohol during most of the time that you were growing up. (Choose one answer.)

- ☐ Not applicable (no mother or mother substitute)
- ☐ Abstainer
- ☐ Abstainer—former problem drinker in recovery
- ☐ Infrequent or light drinker
- ☐ Moderate drinker
- ☐ Heavy drinker
- ☐ Problem drinker
- ☐ I don't know

G16. How did your family feel about drinking alcohol when you were growing up?

- ☐ My family did not approve of drinking
- ☐ They accepted light drinking but disapproved of heavy drinking
- ☐ They accepted heavy drinking
- ☐ There was no agreement about drinking in the family

G17. Did either of your parents (or persons who served as your father or mother) attend college?

- ☐ Neither father nor mother attended college
- ☐ Father attended college
- ☐ Mother attended college
- ☐ Both father and mother attended college

[illegible]

THANK YOU FOR YOUR TIME AND COOPERATION IN
HELPING TO MAKE THIS A SUCCESSFUL STUDY.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	3
9	9	9

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

MONTH		DAY		YEAR	
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

COMMENTS	
(Y)	
(N)	

a b c d e f g h i j k l m n o p q r s t u v w x y z

RELIGIOSITY MEASURE

Instructions: The following questionnaire consists of seven multiple-choice items with one fill-in-the-blank item. Please answer the following questions by *circling* the appropriate letter for the multiple-choice items and providing the most accurate number for the fill-in-the blank question.

Ritual Religiosity

1. How many times have you attended religious services during the past year?
_____ times.
2. Which of the following best describes your practice of prayer or religious meditation?
 - a. Prayer is a regular part of my daily life.
 - b. I usually pray in times of stress or need by rarely at any other time.
 - c. I pray only during formal ceremonies.
 - d. I never pray.

Consequential Religiosity

3. When you have a serious personal problem, how often do you take religious advice or teaching into consideration?
 - a. Almost always
 - b. Usually
 - c. Sometimes
 - d. Never
4. How much influence would you say that religion has on the way that you choose to act and the way that you choose to spend your time each day?
 - a. No influence
 - b. A small influence
 - c. Some influence
 - d. A fair amount of influence
 - e. A large influence

Theological Religiosity

5. Which of the following statements comes closest to your belief about God?
- a. I am sure that God really exists and that He is active in my life.
 - b. Although I sometimes question His existence, I do believe in God and believe He knows of me as a person.
 - c. I don't know if there is a personal God, but I do believe in a higher power of some kind.
 - d. I don't know if there is a personal God or a higher power of some kind, and I don't know if I ever will.
 - e. I don't believe in a personal God or in a higher power.
6. Which one of the following statements comes closest to your belief about life after death (immortality)?
- a. I believe in a personal life after death, a soul existing as a specific individual spirit.
 - b. I believe in a soul existing after death as a part of a universal spirit.
 - c. I believe in a life after death of some kind, but I really don't know what it would be like.
 - d. I don't know whether there is any kind of life after death, and I don't know if I will ever know.
 - e. I don't believe in any kind of life after death.

Experiential Religiosity

7. During the past year, how often have you experienced a feeling of religious reverence or devotion?
- a. Almost daily
 - b. Frequently
 - c. Sometimes
 - d. Rarely
 - e. Never
8. Do you agree with the following statement? "Religion give me a great amount of comfort and security in life."
- a. Strongly disagree
 - b. Disagree
 - c. Uncertain
 - d. Agree
 - e. Strongly Agree

VITA

Gayle Maddox Wells was born in Greenville, South Carolina on July 9, 1969. She moved to Jefferson City, Tennessee in 1977. Following graduation from Jefferson County High School in 1987, she enrolled at Carson-Newman College, earning a triple major in English, History, and Political Science.

Upon graduation from college, she entered the University of South Carolina where she earned a Master of Education degree with a major in College Student Personnel in 1992. That same year she began working as an admissions representative at Carson-Newman College, and she married John W. Wells. They have one child, John Garland Wells.

In 1995 she entered the Health Education and Health Promotion graduate program at the University of Tennessee, Knoxville, where she graduated with a Master of Science degree in August 1997. That fall she began her work toward the Doctor of Philosophy degree in Community Health Education. She served as a graduate teaching associate while working on her degree. She completed her doctoral work in May 2001. Currently, she is teaching in the Department of Health, Leisure Services, and Physical Education at Carson-Newman College.