# Alcoholism and Problem Drinking Behaviors

# Among College Students Revisited

A Senior Studies Report

Submitted to the Faculty
Of Saint Meinrad College of Liberal Arts
In Partial Fulfillment of the Requirements
For the Degree of Bachelor of Arts

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May, 1997
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# ABSTRACT

Stephen G. Ross (1989) conducted a survey to determine the extent of problem drinking behaviors and general knowledge of alcohol and alcohol consumption among Roman Catholic seminarians. In the following study, the questionnaire devised by Ross is administered to twenty-one college sophomores. The purpose is to compare the results of Ross' study to the data collected in this study. By using statistical analysis, it was found that, overall, the prevalence of problem drinking behaviors was the same in both studies. The overall similarities in the answers to a general knowledge section were also observed.

TABLE OF CONTENTS


| | | |
|---|---|---|
| Abstract | | i |
| Chapter I | - Introduction | 1 |
| Chapter II | - Research Design | 5 |
| | - Subjects | 5 |
| | - Instrument | 5 |
| | - Experimental Design | 6 |
| | - Statistical Methodology | 7 |
| Chapter III | - Data Analysis | 8 |
| | - Summary of Statistical Findings | 10 |
| | - Discussion of Findings | 12 |
| References | | 15 |
| Appendix A | - Problem Drinking Survey | 17 |
| Appendix B | - Consent Form | 24 |
| Appendix C | - Problem Behaviors Comparison Chart – Past Year Prevalence | 25 |
| Appendix D | - Problem Behaviors Comparison Chart – Lifetime Prevalence | 26 |
| Appendix E | - Graphs Comparing General Knowledge Section Responses | 27 |

# CHAPTER I

## Introduction

Alcoholism is a disease that effects people of all walks of life. Age, race, religion, gender, or socio-economic background have no bearing on whether or not a person will abuse alcohol. No one should be surprised that this disease also effects college students, for it is reported that college students drink the greatest amount of alcohol (Lall & Schandler, 1991, p. 245). Clinically speaking, alcoholism is "when a person's alcohol consumption repeatedly interferes with occupational or social functioning, emotional state, or physical health" (Maxmen & Ward, 1995, p. 144). This results in poor work performance, placing oneself in dangerous situations (e.g. driving under the influence), repeated drinking even when the person is confronted about the problem, or, sometimes, legal problems. The onset of alcoholism is different for each person, because, while one person may only have to drink one beer to bring on the above conditions, another person may be able to drink an entire bottle of Jack Daniel's and not exhibit any of the symptoms of alcoholism or intoxication.

One of the factors that bears weight on whether or not a person is susceptible to alcohol related disorders include family history (genetics). Of all males who are hospitalized for alcoholism, around 50% of them have a family history for the disorder. Although this is not the etiological cause for every case, family history does appear to play a major role. Other causes of alcohol abuse may be a low socio-economic level, lack of family cohesiveness, or unemployment. A significant psychological factor that may lead to the abuse of alcohol is stress (Maxmen & Ward, 1995).

All of these factors appear for college students as well, but there are several more pervasive issues that seem to also determine an individual's risk for alcohol abuse. For many collegians, pursuing an undergraduate degree is their first time in the "real" world. This is a time of both opportunity and challenge. It is a time to break

out of the protective shell in which parents wrap their children and for the children to discover who they really are as separate entities from their parents. For some, overcoming the many personal issues that must be faced can be a painful growth experience. All his life, for example, a student going into college may have been taught that since he was a member of a particular religion he would be saved from final damnation, while members of all other faiths are destined to go to Hell. When confronted with people of other religions, he may begin to see that this is surely not the case, but, when he returns home, an internal conflict arises when he has to stand up for his beliefs in front of his family.

When a college student relearns new truths about life, it is usually never an easy process. The same is true for when he begins to discover his role in the "grand scheme of things" in terms of intimacy and sexuality, values and beliefs, education and vocation, and the slew of other issues that are pressing him to become an adult. These issues are cited by some to be a cause of excessive drinking among college students (Brennan, Walfish, & AuBuchon, 1986). In other words, some students feel that they can escape the discomfort of confronting these personal issues through alcohol.

Although this is not the case at every college or university, one issue that is prevalent at Saint Meinrad College is the issue of chastity. Although Saint Meinrad is no longer a full college seminary, its students are still expected to live a chaste lifestyle. In a society that oftentimes seems to promote sexual promiscuity, the student's call to live a chaste lifestyle at Saint Meinrad College, itself a witness to the life of Christ, is many times shunned by the public at large. The issue of chastity is also complicated if the student has not been able to come to terms with his own sexuality in a healthy, positive way.

Not only is this an issue for the student in terms of personal growth, but a student who experiences problem behaviors that result from alcohol consumption will more often than not experience academic difficulty as well (Lall & Schandler, 1991, p.

246). In fact, these problems are one of the main reasons why some college students will take time off from school, if not quit all together (Nyström, Peräsalo, & Salaspuro, 1993, p. 528). Students may get in the habit of looking for alcohol instead of studying. They might, on the other hand, know that they have studying to do but want to avoid it, so they decide to get drunk in order to make it not seem so bad that they are not doing their school work.

A Gallup poll conducted in 1979 found that 69% of the population of the United States can be classified as drinkers (Gallup, 1980). The trend of alcohol use and abuse in the general public within the Unites States from 1984 to 1992 showed a very slow decline in drinking habits, but the number of people who could be classified as alcoholics is holding steady (Grant et al, 1994; Midanik & Clark, 1995). Other research has found that young adults between the ages of 18 and 25 who have used alcohol at least once in their lives has risen from 81.6% in 1974 to 90.3% in 1988 (USNIDA, 1989). Problems with alcohol, as earlier research shows, might begin or become worse during the college years (Donovan, Jessor, & Jessor, 1983; Reiskin & Wechsler, 1981). However, more recent data shows a decline in the number of "current users" (those who consumed alcohol at least once during the month prior to the survey) between the ages of 18 and 25 from 69.3% in 1974 to 65.3% in 1988 (USNIDA, 1989).

Several hypotheses have been offered to explain the possibility of problems with alcohol during the college years, including that it is the result of the difficulties in growth that were previously mentioned, the desire to "increase sociability and decrease tension," or that it may just be the current national trend (Lall & Schandler, 1991, p. 246). Given the fact that drinking is the norm for college students, the purpose of this study was to report the drinking habits of a select group of students at Saint Meinrad College. This data was compared with a study conducted by Stephen G. Ross in 1989 and a study (reported by Ross) conducted by R.C. Engs in 1978. Also being measured

was the students' grasp of knowledge concerning basic facts about alcohol and alcohol consumption. Based on the research presented above, there was no reason to assume that the current rate of problem alcoholic behaviors as well as the general level of knowledge about alcohol would be significantly different from the study Ross conducted in 1989.

# CHAPTER II

## Research Design

Subjects. The sample consisted of 21 college sophomores studying at an all male, Midwest Catholic liberal arts college with a total enrollment of 90 students. All 21 students were enrolled in a sophomore level psychology course, and each participated freely in this survey. Of these twenty-one students, 85.7% classified themselves as white or Caucasian, 4.8% Spanish American, and 9.5% as Oriental or Asian American. All 21 were raised Roman Catholic, with 33.3% being affiliated seminarians for a diocese, 4.8% for a religious order, and 61.9% classifying themselves as lay students (those who are not studying for the priesthood or religious life).

Instrument. An anonymous fifty-six item survey was administered to the 21 students in this study. The survey was one that was devised by a psychology doctoral candidate under the advisement of the Human Subjects Committee of the Illinois School of Professional Psychology (Ross, 1989, pp. 36-37). There were three sections to the survey.

The first section concerned basic demographics [see Appendix A], which included the following items: the student's age, average GPA, race, religion in which the student was raised, and if the student was a foreign student. Two questions dealt with the status of the student: seminarian or lay student. If the student was a seminarian, he was asked to identify whether he was studying for a diocese, a religious order, or unaffiliated.

The second section of the survey dealt with the student's drinking patterns and behaviors. The first six questions asked the amount of beer, table wine, and liquor the student, on average, drinks. The next twenty questions asked about certain problem behaviors the student may have experienced as a result of drinking alcoholic beverages. The student was asked to rate each alcohol-related behavior, detailing its frequency: (1) at least once during the past 2 months and at least one additional time during the past year; (2) at least once within the past 2 months but not during the rest of this past year; (3) not during the past two months but at least once during the past year; (4) has happened at least once in my life but not during the past year; (5) has not happened to me. Behaviors that were listed included having a hangover, drinking while driving, getting in trouble with civil/ school authorities because of drinking, and harming others.

The third section contained twenty-three true-false questions to test the respondent's knowledge of alcohol and its consumption. The respondent could also answer that he did not know whether the statement was true or false. Some of the statements included "Alcoholic beverages do not provide weight increasing calories," "About 10% of fatal highway accidents are alcohol related," "A person cannot become an alcoholic just by drinking beer," and "Liquor taken straight will affect you faster than liquor mixed with water."

## Experimental Design

Along with the survey itself, each student was given a consent form [see Appendix B] to be signed and returned to the administrator of the survey. This form assured the respondent of the confidential nature of the study and that the results

gained from the survey would be used only for the calculation of group analysis. The group was advised before the test was administered that individual tests would not be discussed with, distributed among, or shown to any administrators, faculty, or students.

The survey was administered and the respondents were dismissed after all had completed the survey. A short debriefing was completed, during which the respondents were reminded of the aforementioned confidentiality and told what the administrator planned to do with the results of the survey.

## Statistical Methodology

After the data was collected, several statistical calculations were performed in order to compare this data with that of Ross and R.C. Engs, who administered a similar survey to 6115 secular university students in 1978. The hypothesis test for two or more proportions was employed to compare the responses to items 14 through 33. The data from this study of past-year and lifetime prevalence was compared to that of Ross' study. The past-year prevalence found in this study was also compared to that in Engs' study.

Charts were created to visually compare the data collected in items 34 through 56 (the general knowledge section) in this study and Ross' study. This gave an impression of how the two groups compared in terms of their general knowledge of basic facts about alcohol and alcohol consumption.

# CHAPTER III

## Data Analysis

In terms of alcohol consumption, only 4.8% of the subjects drink beer or table wine (exclusive of Eucharist) daily, while none of the subjects drink liquor daily. In fact, the number of people who drink no beer at all was 33.3%, with those who drank no table wine or liquor being 42.9% of the subjects. It appears that more beer is consumed on a weekly basis than wine or liquor, while the consumption of wine and liquor is more sporadic. Thus it appears that beer is the most popular of the alcohols mentioned in the survey. This is an intriguing finding, confirming other such trends, given the fact that most of these men are not yet 21 years old.

The overall sporadic nature of drinking patterns among this group has led to an amiable picture in terms of problem behaviors that may arise from drinking alcohol. But its sporadic nature could merely be an artifact of age instead of an educated usage. The most prevalent problem behavior experienced by this group was having a hangover, with 14.3% of the respondents reporting having had a hangover during the past year and 14.3% having had at least one in their life. The rate of hangovers found in this study is significantly lower among the seminarians in Ross' 1989 study, alpha-level $< 0.005$ level.

In order to compare data in the problem behaviors section with Ross' data, an hypothesis test for two proportions was calculated for every question in the behaviors section in Section II of the survey. The specific areas that were compared were past year prevalence (those who answered 3) and lifetime prevalence (those who answered 4). To perform that test, a $\chi^2$ (chi-square) value at an alpha-level of 0.005 with one

degree of freedom was determined to be 7.88. With the proportions that were calculated with the answers in Section II, only one question score was found to be statistically different in terms of past year prevalence when comparing this study with Ross'. The answers to Question #19 were found to be statistically different at an alpha-level $< 0.01$, with more respondents in this study replying that they came to class after having had several drinks. This resulted in a total error of 0.01 for these comparisons. [See Appendix C for the complete results.]

When comparing the answers for lifetime prevalence, five questions were found to be statistically different. Question #14, had a hangover, was found to be different at an alpha-level of 0.01; question #15, gotten nauseated/vomited, at an alpha-level of 0.0005; and questions #16, driven after drinking, #17, driven a car when the person knows he has had too much to drink, and #18, drinking while driving, all at an alpha-level of 0.02. This resulted in a total error of 0.0705 [See Appendix D for the complete results.]

Ross also compared his data to a study of 6115 secular university students conducted by R.C. Engs. However, he only compared the prevalence during the previous year (those who answered 3). The same statistical test mentioned above was employed to compare the data from this survey and Engs' study. Interestingly, in the meta-analysis of all three samples, the same questions that were found statistically different when comparing this studies data with Ross' in terms of lifetime prevalence were the same questions that were found to be statistically different when comparing this study with Engs'. The non-equivalent items are as follows: question #14, had a hangover, was found to be different at an alpha-level of 0.0005; question #15, gotten

nauseated/vomited, at an alpha-level of 0.005; question #16, driven after drinking, at an alpha-level of 0.0005; question #17, driven a car when the person knows he has had too much to drink, at an alpha-level of 0.005; and question #18, drinking while driving, at an alpha-level of 0.0005. This gave a total error of 0.0115 for these comparisons. All of these items were found to be statistically more prevalent among the subjects in Engs' study. [See Appendix C for complete results.]

The answers for the true-false questions in section III were mixed in terms of the classes knowledge of general alcohol facts. Only 14.3% of the group knew that absorption of alcohol into the body will slow down if a person drinks a glass of milk prior to drinking the alcohol. Conversely, 61.9% knew that eating does have an effect on the rate alcohol is absorbed into the body. However, 76.2% knew that wines are *not* made by fermenting grains. Only 4.8% of the group knew that alcoholic beverages do not provide weight increasing calories (81% answered false). 85.7% and 90.5% knew that alcohol is not usually classified as a stimulant and that it is a drug, respectively. Two-thirds knew that the most common blood alcohol level considered to be intoxication is 0.1% and that table wines contain from 2-12% alcohol by volume. Only 19% knew that about one-tenth of all fatal highway accidents are alcohol related. Just under half (42.9%) knew that mixing soda with alcohol will affect a person slower then with a straight drink, while just over half (52.4%) knew that straight liquor will effect you faster than liquor mixed with water. 52.4% also knew that distilled liquors are not the liquor of choice in the United States.

Eighty-one percent knew that a person can become an alcoholic on beer alone, but only one-third knew that distilled liquors do not contain 15-20% alcohol by volume.

Moderate consumption of alcohol was seen by 76.2% as being not harmful to the body (and it is not), and 61.9% knew that the number of beers ingested equals the number of hours it will take to burn off the alcohol. Only a third of the group knew that proof on a liquor bottle does not represent half the percent of alcohol contained in the bottle, while just over a third (38.1%) believe that there is more alcoholism in a society which accepts drunken behavior as opposed to shunning it. The group was not stumped by the cold shower/coffee myth, with 85.7% saying those are not effective ways of sobering up, and 85.7% knew that alcohol has been used in more than "very few" societies in history.

Summary of Statistical Findings

The subjects in this group are infrequent drinkers, but most all of them have had some experience with alcohol. Furthermore, the prevalence of problem drinking behaviors among these students from Saint Meinrad College, statistically speaking, is equal to that found in Ross' study. When scanning over the results of Section III, this lack of regular consumption of alcoholic beverages did not effect, on the whole, the general knowledge of the respondents found in Section III. In fact, the answers received in this study were similar to those received in the Ross study (in terms of percentages). [See Appendix E] So, it seems that the null hypothesis, that the prevalence of problem drinking behaviors and the general knowledge held by the Sophomore class at Saint Meinrad College is similar to that of Ross' test sample, has been correctly accepted, controlling for Type II error, beta</= 0.07. It also seems that consumption has little to do with general knowledge of alcohol.

## Discussion of Findings

This study has demonstrated that, although the sample size was extremely small compared to the original study, Ross' survey is still an effective survey of the drinking patterns, problem behaviors, and general knowledge of alcohol possessed by men specifically attending religious colleges. Statistically speaking, there is little difference in the results obtained in this study than those in Ross', which adds to the overall applicability of the survey he created. However, there are a few differences in the two studies that are worth mentioning.

One of these differences may be a result of homoskedasicity. While looking solely at percentages, there does not appear to be much difference, for example, in question #19 when comparing past-year prevalence in this study and Ross' study. However, statistical analysis did find a difference at an alpha-level </= 0.01. The small sample size in this study could have resulted in an abnormal distribution of the data. Therefore, while only 2 people (9.5%) in this study reported going to class after drinking, the small sample size could have resulted in extreme variance in percentages and distribution.

Ross conducted his study in two full-fledged seminaries, whereas this study was conducted at a Catholic liberal arts college that has a separate college seminary program. While Saint Meinrad is not a full college-seminary, much of the same kinds of formation goes on there, which means that a student who attends Saint Meinrad goes through all of the personal development and growth mentioned previously.

Other differences arise when considering the demographics of the subjects in this study and Ross' study. This study consisted entirely of Sophomores in college, while

Ross' test group consisted of students ranging from Freshmen in college to students in their fourth year of theology. Also, 100% of Ross' subjects were seminarians, either affiliated or unaffiliated, while only 39% of the subjects for this study listed themselves as seminarians. These differences may cause some error in the comparison of this study and Ross'.

The differences in class standing are particularly relevant when comparing the data for lifetime prevalence. While this study was limited to one grade level (college Sophomores), Ross' study included people in all levels of undergraduate and graduate studies, with only 9.7% of his respondents being Sophomores in college. While many undergraduate students may be the "traditional" age, many seminarians in the graduate-level, or major seminary, enter as a second vocation, making their ages range anywhere from 21 to the 30s and 40s. That is vastly different from this study, where only three respondents were not in the 19 to 20 year-old range. Therefore, the differences found in certain lifetime drinking issues could be the result of Ross' study group being older and having had more experiences with alcohol.

On the other hand, this alcohol survey could be used to conduct a yearly study on how the new mission statement has effected the consumption and knowledge of alcohol at Saint Meinrad College. With the so-called "expanded" mission statement, the college recruits young men who are not necessarily looking solely toward priesthood as their vocation. The result has been an increase in the number of "typical" college freshman, who want to party, who want to seriously date women, and who really are not interested in the formational aspect of Saint Meinrad.

What this study could do is track the drinking prevalence rates, problem behaviors rates, and general knowledge of sophomores at Saint Meinrad concerning alcohol in order to see just how much this shift in mission has effected the mentality about alcohol. Sophomore year would be a good year to administer this survey, especially during the middle to last part of second semester, for it is by then that that class has been fully integrated into the life of Saint Meinrad. This way, those who are responding are not fresh into the program but have had some time to assimilate its basic structure of personal and spiritual growth and well-being.

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## APPENDIX A

Social Security Number:_____

***DIRECTIONS:*** Please fill in the number which applies to you in the line beside the question. When you have completed the survey, please return it (along with your signed consent form) to your professor. Do not write your name on this questionnaire as we wish to retain your anonymity.

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***SECTION I***

| | | | |
|---|---|---|---|
| ___1. | Your age: (write in) | | |
| ___2. | Average GPA: (write in) | (4.0=A, 3.0=B, etc.) | |
| ___3. | Are you a foreign student? | 1. Yes | [19.0%] |
| | | 2. No | [81.0%] |
| ___4. | Race: | 1. White or Caucasian | [85.7%] |
| | | 2. Black or Afro-American | [0.0%] |
| | | 3. Spanish American | [4.8%] |
| | | 4. Oriental or Asian American | [9.5%] |
| | | 5. Native American Indian | [0.0%] |
| | | 6. Other (please write in) | |
| ___5. | Religion in which you were raised as a child: | 1. Roman Catholic | [100%] |
| | | 2. Jewish | [0.0%] |
| | | 3. Protestant (religion allows drinking of alcohol) | [0.0%] |
| | | 4. Protestant (religion does not allow drinking of alcohol) | [0.0%] |
| | | 5. Other (please write in) | |
| ___6. | Seminarians only: studying for | 1. Diocese | [78.0%] |
| | | 2. Religious Order | [11.0%] |
| | | 3. Unaffiliated | [11.0%] |
| ___7. | Classification: | 1. Lay student | [61.9%] |
| | | 2. Diocesan Seminarian | [33.3%] |
| | | 3. Religious Seminarian | [4.8%] |

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***SECTION II***

WE WOULD LIKE TO ASK YOU ABOUT YOUR DRINKING PATTERNS

___8. Let's first take beer. How often on the average do you usually have a beer:

1. every day [4.8%]
2. at least once a week but not every day [23.8%]
3. at least once a month but less than once a week [4.8%]
4. more than once a year but less than once a month [23.8%]
5. once a year or less [9.5%]
6. not at all [33.3%]

___9. When you drink beer, how much, on the average, do you usually drink at any one time?

1. more than 1 six pack (6 or more cans or tavern glasses) [0.0%]
2. 5 or 6 cans of beer or tavern glasses [9.5%]
3. 3 or 4 cans of beer or tavern glasses [14.3%]
4. 1 or 2 cans of beer or tavern glasses [23.8%]
5. less than 1 can of beer or tavern glass [28.6%]

___10. Now, let's look at table wine. How often do you usually have wine (exclusive of Eucharist)?

1. every day [4.8%]
2. at least once a week but not every day [4.8%]
3. at least once a month but less than once a week [4.8%]
4. more than once a year but less than once a month [28.6%]
5. once a year or less [14.3%]
6. not at all [42.9%]

___11. When you drink wine how much on the average do you usually drink at any one time?

1. over six wine glasses [4.8%]
2. 5 or 6 wine glasses [0.0%]
3. 3 or 4 wine glasses [0.0%]
4. 1 or 2 wine glasses [23.8%]
5. less than one wine glass [42.9%]

___12. Next, we would like to ask you about liquor or spirits (whiskey, vodka, gin, mixed drinks). How often do you usually have a drink of liquor?

1. every day [0.0%]
2. at least once a week but not every day [9.5%]
3. at least once a month but less than once a week [19.0%]
4. more than once a year but less than once a month [14.3%]
5. once a year or less [14.3%]
6. not at all [42.9%]

___13. When you drink liquor how many, on the average, drinks do you usually drink at any one time?

1. over six drinks [4.8%]
2. 5 or 6 drinks [14.3%]
3. 3 or 4 drinks [4.8%]
4. 1 or 2 drinks [19.0%]
5. less than 1 drink [28.6%]

## BEHAVIORS

The following are common results of drinking that other students have reported. If you have never had a drink at all, go to the next section (Section Three). If you currently drink or have been drunk in the past, put the number corresponding to the frequency of the occurrences on the line next to the question. Please use the guide below to account for your frequency of drinking.

1. at least once during the past 2 months and at least one additional time during the past year
2. at least once within the past 2 months but not during the rest of this past year
3. not during the past two months but at least once during the past year
4. has happened at least once in my life but not during the past year
5. has not happened to me

**********

___14. have had a hangover
1=9.5% 2=9.5% 3=14.3% 4=14.3% 5=52.4%

___15. have gotten nauseated and vomited from drinking
1=4.8% 2=9.5% 3=9.5% 4=9.5% 5=66.7%

___16. driven a car after having several drinks
1=0.0% 2=0.0% 3=0.0% 4=19% 5=81%

___17. driven a car when you know you've had too much to drink
1=0.0% 2=0.0% 3=0.0% 4=14.3% 5=85.7%

___18. drinking while driving a car
1=0.0% 2=0.0% 3=0.0% 4=0.0% 5=100%

___19. come to class after having had several drinks
1=9.5% 2=0.0% 3=9.5% 4=0.0% 5=81%

___20. "cut a class" after having several drinks
1=4.8% 2=0.0% 3=0.0% 4=0.0% 5=95%

___21. missed a class because of a hangover
1=0.0% 2=0.0% 3=9.5% 4=9.5% 5=81%

___22. arrested for DWI (Driving While Intoxicated)
1=0.0% 2=0.0% 3=0.0% 4=0.0% 5=95%

___23. trouble with the law because of drinking
1=0.0% 2=0.0% 3=0.0% 4=0.0% 5=95%

___24. lost a job because of drinking
1=0.0% 2=0.0% 3=0.0% 4=0.0% 5=95%

___25. got a lower grade because of drinking too much
1=0.0% 2=0.0% 3=0.0% 4=4.8% 5=90.5%

___26. gotten into trouble with the school administration because of behavior resulting from drinking too much
1=0.0% 2=4.8% 3=0.0% 4=0.0% 5=95.2%

___27. thought you might have a problem with your drinking
1=0.0% 2=0.0% 3=4.8% 4=4.8% 5=85.7%

___28. damaged property, pulled a false alarm, or other such behavior after drinking
1=0.0% 2=4.8% 3=4.8% 4=0.0% 5=90.5%

___29. in your spiritual counseling sessions, has your director or counselor ever brought up the issue of problem drinking
1=4.8% 2=4.8% 3=0.0% 4=4.8% 5=85.7%

___30. ever been criticized by a friend or peer about your drinking
1=9.5% 2=0.0% 3=0.0% 4=0.0% 5=85.7%

___31. ever attended an AA (Alcoholics Anonymous) meeting
1=4.8% 2=0.0% 3=0.0% 4=0.0% 5=90.5%

___32. ever attended an ACOA (Adult Children of Alcoholics) meeting
1=4.8% 2=0.0% 3=4.8% 4=0.0% 5=85.7%

___33. ever had a "black-out" or loss of memory
1=4.8% 2=0.0% 3=4.8% 4=4.8% 5=81%

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***SECTION III***

WE WOULD NOW LIKE TO ASK YOU QUESTIONS ABOUT YOUR KNOWLEDGE OF ALCOHOL.

The questions should be answered either "true" or "false". If you don't know the answer, mark "0".

If you think the answer is TRUE, mark "1" for true.
If you think the answer is FALSE, mark "2" for false.
If you DO NOT KNOW the answer, mark "0".

[The letter 't' or 'f' after the question refers to the correct response; 'dk' indicates "don't know."]

___34. Drinking milk before drinking an alcoholic beverage will slow down absorption of alcohol into the body. [t]
t=14.3% f=33.3% dk=52.4%

___35. Wines are made by fermenting grains. [f]
t=19.0% f=76.2% dk=4.8%

___36. Alcoholic beverages do not provide weight increasing calories. [t]
t=4.8% f=81.0% dk=14.3%

___37. In America, drinking is usually considered an important socializing custom in business, for relaxation, and for improving interpersonal relationships. [t]
t=81.0% f=9.5% dk=9.5%

___38. Gulping of alcohol beverages is a commonly accepted drinking pattern in this country. [f]
t=42.9% f=28.6% dk=28.6%

___39. Alcohol is usually classified as a stimulant. [f]
t=9.5% f=85.7% dk=4.8%

___40. Alcohol is not a drug. [f]
t=4.8% f=90.5% dk=4.8%

___41. A blood alcohol concentration of 0.1% is the legal definition of alcohol intoxication in most states in regards to driving. [t]
t=66.7% f=14.3% dk=19.0%

___42. About 10% of fatal highway accidents are alcohol related. [t]
t=19.0% f=47.6% dk=33.3%

___43. Table wines contain from 2-12% alcohol by volume. [t]
t=66.7% f=9.5% dk=23.8%

___44. Liquor mixed with soda pop will affect you faster than liquor taken straight. [f]
t=19.0% f=42.9% dk=38.1%

___45. The most commonly drunk alcoholic beverages in the United States are distilled liquors (whiskey, gin, vodka). [f]
t=4.8% f=52.4% dk=42.9%

___46. A 150 pound person, to keep their blood alcohol concentration below the legally intoxicated level, would have to drink fewer than three beers in an hour. [f]
t=47.6% f=9.5% dk=42.9%

___47. A person cannot become an alcoholic by just drinking beer. [f]
t=4.8% f=81.0% dk=14.3%

___48. Distilled liquors (gin, whiskey, vodka) usually contain about 15-20% alcohol by volume. [f]
t=28.6% f=33.3% dk=38.1%

___49. Moderate consumption of alcoholic beverages is generally <u>not</u> harmful to the body. [t]
t=76.2% f=9.5% dk=14.3%

___50. It takes about as many hours as the number of beers drunk to completely burn up the alcohol ingested. [t]
t=61.9% f=14.3% dk=23.8%

___51. Proof on a bottle of liquor represents half the percent of alcohol contained in the bottle. [f]
t=38.1% f=33.3% dk=28.6%

___52. There is usually more alcoholism in a society which accepts drunken behavior than in a society which frowns on drunkenness. [t]
t=38.1% f=38.1% dk=23.8%

___53. Eating while drinking will have no effect on slowing down the absorption of alcohol in the body. [f]
t=19.0% f=61.9% dk=19.0%

___54. Drinking coffee or taking a cold shower can be an effective way of sobering up. [f]
t=4.8% f=85.7% dk=9.5%

___55. Alcohol has been used in very few societies throughout history. [f]
t=9.5% f=85.7% dk=4.8%

___56. Liquor taken straight will affect you faster than liquor mixed with water. [t]
t=52.4% f=9.5% dk=38.1%

## APPENDIX B

Social Security Number:_____

I, the undersigned, by signing this statement, give Kevin M. Bazzel the right to use the results of these materials in a group analysis only. I also understand that the results of these materials will be held in complete confidentiality.

Signed:_____ Date:_____

## APPENDIX C
## PAST YEAR PREVALENCE

| | | BAZZEL | ROSS | | | ENGS | | |
|---|---|---|---|---|---|---|---|---|
| **Question #** | **BEHAVIOR** | **% of N** | **% of N** | **($\chi^2$ value)** | **Alpha-level** | **% of N** | **($\chi^2$ value)** | **Alpha-level** |
| #14 | Hangover | 14.3% | 17.0% | 0.01 | | 63.9% | 22.30 | 0.0005 |
| #15 | Nausea/Vomiting | 9.5% | 11.9% | 0.12 | | 39.6% | 7.93 | 0.005 |
| #16 | Driving after drinking | 0.0% | 14.8% | 3.59 | | 52.7% | 23.31 | 0.0005 |
| #17 | Driving while knowing too much was had to drink | 0.0% | 6.8% | 1.60 | | 35.3% | 11.44 | 0.005 |
| #18 | Drinking while driving | 0.0% | 2.8% | 0.71 | | 52.7% | 23.31 | 0.0005 |
| #19 | Came to class after drinking | 9.5% | 1.1% | 6.92 | 0.01 | 7.3% | 0.15 | |
| #20 | Cut class after drinking | 0.0% | 1.1% | 0.23 | | 7.9% | 1.80 | |
| #21 | Missed class because of hangover | 9.5% | 2.8% | 1.93 | | 20.1% | 1.46 | |
| #22 | DWI | 0.0% | 0.0% | | | 1.2% | 0.26 | |
| #23 | Trouble with law while drinking | 0.0% | 0.0% | | | 4.0% | 0.88 | |
| #24 | Lost job due to drinking | 0.0% | 0.6% | 0.23 | | 0.5% | 0.11 | |
| #25 | Got lower grade due to drinking | 0.0% | 1.7% | 0.47 | | 4.1% | 0.90 | |
| #26 | Trouble with school administration | 0.0% | 0.6% | 0.23 | | 1.7% | 0.36 | |
| #28 | Damaged property/ prankish behavior | 4.8% | 0.6% | 1.74 | | 8.4% | 0.36 | |
| #30 | Criticized by friend about drinking | 0.0% | 4.0% | 0.96 | | n/a | | |
| #33 | Blackouts | 4.8% | 2.9% | 0.12 | | n/a | | |
| | | Bazzel: N=21 | Ross: N=182 | | | Engs: N=6115 | | |

$\chi^2_{(0.0005)} = 12.12$ $\chi^2_{(0.01)} = 6.63$ $\chi^2_{(0.025)} = 5.02$
$\chi^2_{(0.005)} = 7.88$ $\chi^2_{(0.02)} = 5.41$ $\chi^2_{(0.05)} = 3.84$

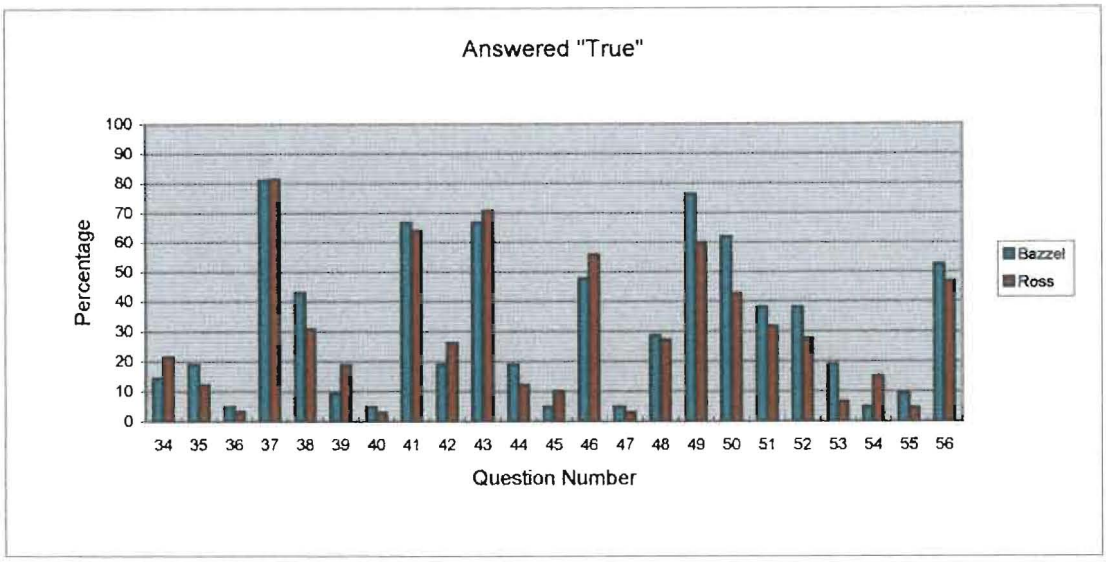
## APPENDIX D
## LIFETIME PREVALENCE

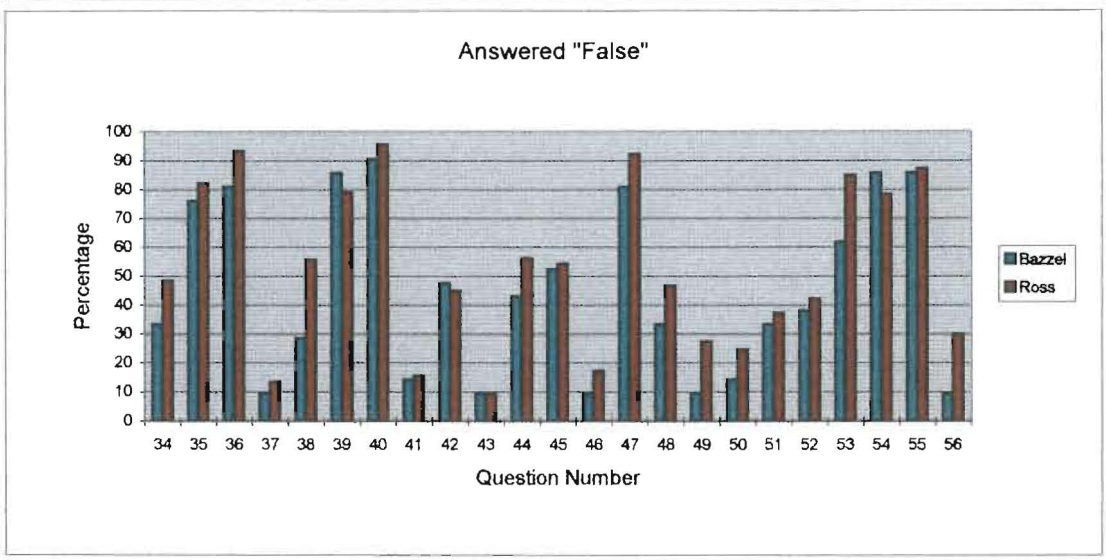
| | | BAZZEL | ROSS | | |
|---|---|---|---|---|---|
| **Question #** | **BEHAVIOR** | **% of N** | **% of N** | **$X^2$ Value** | **Alpha-Level** |
| #14 | Hangover | 14.3% | 43.8% | 6.86 | 0.01 |
| #15 | Nausea/Vomiting | 9.5% | 52.8% | 14.44 | 0.0005 |
| #16 | Driving after drinking | 19.0% | 45.5% | 5.42 | 0.02 |
| #17 | Driving while knowing too much was had to drink | 14.3% | 40.3% | 5.56 | 0.02 |
| #18 | Drinking while driving | 0.0% | 23.9% | 6.48 | 0.02 |
| #19 | Came to class after drinking | 0.0% | 10.3% | 2.42 | |
| #20 | Cut class after drinking | 0.0% | 5.1% | 1.21 | |
| #21 | Missed class because of hangover | 9.5% | 12.5% | 0.17 | |
| #22 | DWI | 0.0% | 1.7% | 0.47 | |
| #23 | Trouble with law while drinking | 0.0% | 5.1% | 1.21 | |
| #24 | Lost job due to drinking | 0.0% | 0.6% | 0.23 | |
| #25 | Got lower grade due to drinking | 4.8% | 4.0% | 0.01 | |
| #26 | Trouble with school administration | 0.0% | 0.6% | 0.23 | |
| #28 | Damaged property/ prankish behavior | 0.0% | 13.1% | 3.14 | |
| #30 | Criticized by friend about drinking | 0.0% | 15.4% | 3.90 | |
| #33 | Blackouts | 4.8% | 16.1% | 2.00 | |
| | | Bazzel: N=21 | | Ross: N=182 | |

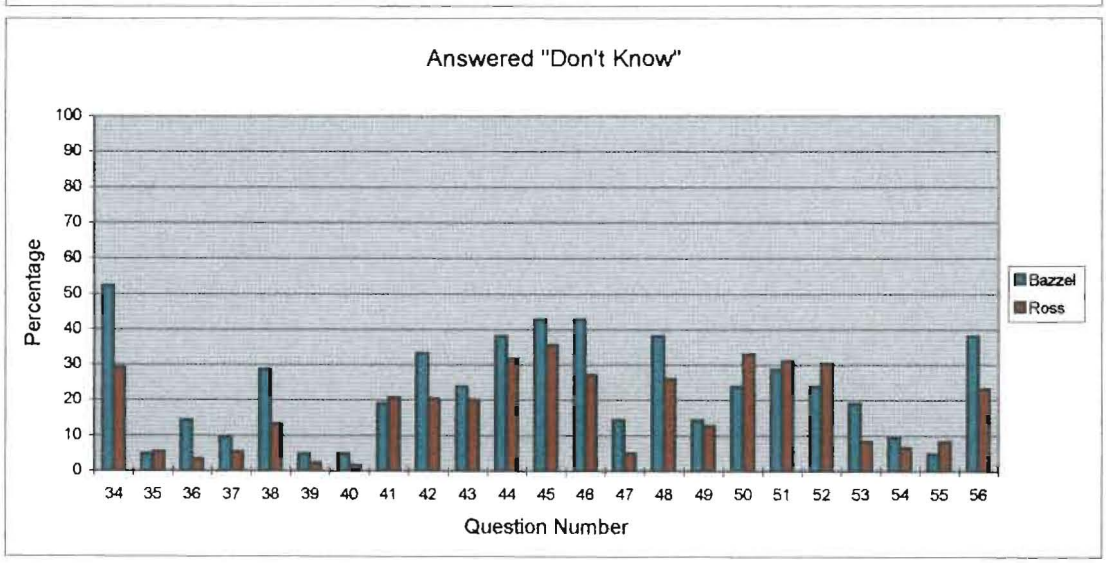
$X^2_{(0.0005)} = 12.12$ $X^2_{(0.01)} = 6.63$ $X^2_{(0.025)} = 5.02$
$X^2_{(0.005)} = 7.88$ $X^2_{(0.02)} = 5.41$ $X^2_{(0.05)} = 3.84$

## *APPENDIX E*

## Graphs Comparing General Knowledge Section



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