

Alcohol Consumption Among College Students
as a Function of Attitudes, Intentions,
and Perceptions of Norms.

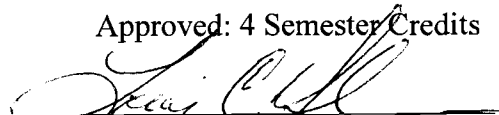
by

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ABSTRACT

Research has shown that media and advertisements are perhaps the most significant predictor of student's knowledge about alcohol, current drinking behavior, and intentions to drink. This experiment will compare the amount of alcohol a student consumes to the advertisements the student views. Approximately 70 students were randomly asked to participate in this study, which involved an online survey. Students viewed six advertisements for drink specials (example: all you can drink) or six advertisements for non drink specials (example: 25 cent wings) at various bars. After each advertisement the students were asked a series of questions related to drinking behavior if placed in that given situation. Various analyses, Pearson Correlations, ANOVAs, and ANCOVAs, were used to assess the hypothesis. The results were consistent with the hypothesis that advertisements do play a part in drinking behavior.

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Chapter I: Introduction

Statement of the Problem

Alcohol Consumption is always a heated debate in college atmospheres. For this reason it is imperative to study what causes students to consume more alcohol in a social college atmosphere. A major reason college students feel the need to binge drink alcohol could be formed from the advertising geared towards college students.

Purpose of the Study

The purpose of this study was to assess the effects of the promotion of drink specials on perceived norms of college students for alcohol consumption. From this information we can learn how social norms and advertising affect student's drinking behavior; leading to effective marketing and advertising that may cause lower levels of alcohol consumption on college campuses.

Assumptions of the Study

The major assumptions of this study were that there would be a high correlation between alcohol consumption and advertisements that promote both activities (example: 25 cent wings) and drink specials (example: 2-4-1 beers). There would be a lower correlation between strictly activity only advertising and alcohol consumption.

Definition of Terms

A Drink: 12 oz beer, 6 oz wine, or 1 shot of liquor.

Establishment: Any place of business that sells alcohol.

Drink Special Survey: The on-line survey that includes an informed consent page, demographic page, six advertisements for establishments that sell and advertise alcohol including questions for each ad, and a completion page.

Non-Drink Special Survey: The on-line survey that includes an informed consent page, demographic page, six advertisements for establishments that sell and advertise alcohol and non-alcohol specials including questions for each ad, and a completion page.

Social Norm: An expected behavior in a given situation.

Limitations of the Study

There were a few limitations to this study. Participants were asked to be at least 21 years of age because the legal drinking age is 21 in Wisconsin. Many students at the University of Wisconsin- Stout are under the age of 21 and therefore not part of the population that could be sampled. Many participants that may have been over the age of 21 choose not to drink alcohol and therefore would not qualify to take the survey. Another limitation was that all participants needed their own laptops to take the survey. If they did not bring their laptop to class the day the survey was occurring they could not take the survey.

Methodology

Two researchers, one male and one female, entered classrooms on the University of Wisconsin – Stout campus at the times and locations provided by the professors. Taking turns, one researcher would read an introduction while the other handed out consent forms. Those that consented to be involved in the study signed one consent form, which was collected by the researchers, and kept the other consent form. The consent form that was kept by the participant had an internet address for the study printed on it. The address was one of two different websites that were randomly handed out on the consent form. The participants then went to the web address printed on their consent form and continued to take the survey individually on their personal laptops. When all participants were finished (approximately 10 minutes) a debriefing page was read by the researcher who introduced the study.

Participants

All participants were current students at the University of Wisconsin – Stout. The University, which is public, serves mainly a Caucasian population of approximately 8,000 undergraduate and graduate students in the Midwest. Table 1 shows that the University is comprised of a population of approximately 4211 (51%) females and 4046 (48%) males ranging in age from 16 to 75 with a median age of 22 years old. The various grade levels university are composed of the following: freshman $n = 1657$ (21.4%), sophomores $n = 1235$ (16.0%), juniors $n = 1403$ (18.1%), seniors $n = 2415$ (31.2%) and graduates $n = 889$ (10.8%).

The participants in this study consisted of approximately 53 (75%) females and 17 (25%) males ranging in age from 18 to 49 with a median age of 23 years old. The

participants of the study were of various grade levels: freshman $n = 6$ (8.6%), sophomores' $n = 3$ (4.3%), juniors' $n = 13$ (18.6%), seniors' $n = 44$ (62.9%) and graduates $n = 3$ (4.3%). Most participants, 62, reported that they do drink alcohol; while only 8 participants reported that they do not drink alcohol.

Table 1
Demographics

	<i>Stout Population</i>		<i>Study Population</i>	
<i>Females</i>	4211	51.00%	53	75.00%
<i>Males</i>	4046	48.00%	17	25.00%
<i>Median Age</i>	22		23	
<i>Freshman</i>	1657	21.40%	6	8.60%
<i>Sophomore</i>	1235	16.00%	3	4.30%
<i>Junior</i>	1403	18.10%	13	18.60%
<i>Senior</i>	2415	31.20%	44	62.90%
<i>Graduate</i>	889	10.80%	3	4.30%

Stimulus Materials

The stimulus materials included a two paper consent form (See Appendix B), a verbal introduction (See Appendix C), two multi-page on-line surveys including directions and a printable completion page (See Appendix D). The consent form explained the study and allowed students to choose whether or not to participate and provided a link to the survey. The on-line directions consisted of easy to understand instructions on how to complete the multi-page questionnaire and an explanation on how to understand the measurement scale that they will be responding on. The measurement scale consisted of the definition of a drink: 6 oz of beer, 8 oz of wine, or 1 shot of liquor.

The first on-line multi-page survey consisted of six separate pages of advertisements for establishments that focus on drink specials and four questions to go

along with each page (See Appendix E). The questions were: 1) How many drinks will the average patron consume in association with this ad? 2) How many drinks will you consume in association with this ad? 3) How many drinks will the average patron consume once the drink special is over? 4) How many drinks will you consume once the drink special is over?

The second on-line multi-page survey consisted of six separate pages of advertisements for establishments that are focusing on non-drink features and four questions to go along with each page (See Appendix F). The questions were: 1) How many drinks will the average patron consume in association with this ad? 2) How many drinks will you consume in association with this ad? 3) How many drinks will the average patron consume once the drink special is over? 4) How many drinks will you consume once the drink special is over?

The surveys were randomly assigned to participants. The ads were taken from various newspaper sources within the Midwest. This reduced any biases towards local establishments, while still keeping the value of an alcoholic drink at the Midwest level.

Procedure

Researchers e-mailed professors to ask permission to go into their classroom for 15 minutes to recruit participants for the survey. Those professors who accepted set up a time and classroom for the researchers to invite students to participate. Researchers read a brief verbal introduction the students about the purpose of the survey. Next, all students received and a two page informed consent and were asked to sign both copies if they chose participate. The top copy was placed in large white envelope and kept by researchers. The bottom copy was kept by the student. This copy had information on how

to reach the website that the survey was located on.

Students that chose to participate in the survey went to the website address that was on the bottom of their copy of the informed consent. The first page of the on-line survey was where they will encounter an informed consent page. This page again allowed students to continue or terminate their participation by checking the appropriate box. By continuing the participants encountered a direction page. The direction page explained how to respond to the questionnaire, using the measurement scale. The measurement scale was the estimated number of drinks consumed. A drink was defined as equaling 12 oz of beer, 6 oz wine, or 1 shot of liquor. After clicking the “next” icon, participants encountered a page with an advertisement and four questions below it. After answering the questions and clicking the “next” icon participants encountered five more pages with an advertisement and four questions. The participants will be required to click on the “next” icon after selecting their answer to the question to continue. After completing the questionnaire a printable completion page will appear. This will debrief the participants, offer a way to contact researchers for further information, and provide proof of participation to receive compensation, if offered by the instructor.

Data Analysis

For data analysis, a between subject design was used. This type of analysis was used because there are two different groups of participants that are viewing two different types of stimulus (drink special advertisements and non-drink special advertisements). The dependant variable will be the expected amount of alcohol consumed, while the independent variable will be the type of advertisement viewed. The analysis will be preformed with the help of statistical computer software SPSS 14.0.

Chapter II: Literature Review

Alcohol use on college campuses is not a new problem. It has been documented in the United States for at least 50 years. (Jung, 2002) Unfortunately, the consequences of this association can be deadly. Every year approximately 1,400 students die because of the effects of alcohol consumption (National Institute on Alcohol Abuse and Alcoholism, 2004). In addition, there are approximately 500,000 injuries and 70,000 cases of sexual assaults reported all because of alcohol. Alcohol was also involved in nearly 2/3 of suicides on campus, 90 % of rapes, and 95% of violent crimes (Sullivan, 2002).

Apart from the numerous immediate harms associated with student alcohol abuse, there are also serious long-term harms. For example, it has been estimated 4 out of 10 students are assumed to be likely to have a life long alcohol abuse problem, with 32% having experienced at least one symptom of alcohol dependence in their life, and 13 % having had such an experience in the past month. (Clements, 2004) It is estimated that 240,000 to 360,000 of current students will eventually die of alcohol-related causes. (Schroeder, 2002)

Furthermore, underage drinking costs including medical expenses, lost earnings dues to illness, premature deaths, auto crashes, and fires add up to nearly \$53 billion yearly. (Pacific Institute for Research and Evaluation, 2004) Approximately \$116.2 billion was spent on beer, spirits and wine by college students alone. (Foster, 2003) This could add to the already large financial strain of many college students.

Recent concerns on college campuses have centered on heavy episodic drinking, a dangerous practice often termed “binge drinking.” Binge drinking is usually defined as consuming five drinks or more in a row for men and four drinks or more in a row for

women. (Wechsler, 2001) According to this definition, about two out of five college students have engaged in binge drinking in the past two weeks. In 1999, underage drinkers, age 12-20, accounted for about 19.7% of the alcohol consumed in the U.S.

Excessive drinking among college students is associated with a variety of negative consequences. Noise and property damage, vomit, and unsightly litter are common byproducts of nights of binge drinking on campus. More than one-half of college administrators from schools with high levels of excessive drinking report problems with vandalism and property damage. (Wechsler et al., 1998)

In addition alcohol abuse has been found to be associated with fatal and nonfatal injuries, alcohol poisoning, academic failure, property damage, and vocational and criminal consequences that could jeopardize future job prospects. (Hingson et al., 2002) At least 50% of college student sexual assaults are associated with alcohol use (Boyd, 2002). Students who drink excessively are more likely to physically or sexually assault other students. (Hingson et al., 2002) More than 70,000 students are victims of alcohol-related assault or date rape. These assaults can lead to unintended pregnancy and sexually transmitted diseases.

A study by the Harvard School of Public Health (Wechsler et al., 2001) examined more than 1,600 off-campus alcohol establishments at 118 different universities. Researchers immediately noticed that binge-drinking rates were higher at those colleges where large volumes of beer were available at lower prices. The Harvard School of Public Health study indicated that establishments with special promotions or advertising correlated with higher drinking rates among college students. The study found that establishments that offered an all-you-can-eat or drink special saw a 19% rise in alcohol

consumption, while those that advertised a special price saw a 42% rise. Those establishments that offered "buy one, get one free" specials saw a 7% increase in binge-drinking rates. Additionally, if the establishment had some form of outside advertising, the rate of alcohol consumption increased by 24% and inside promotions resulted in a 13% increase.

Alcohol advertising helps create an environment that suggests that alcohol consumption and over-consumption are normal activities, and contributes to increased alcohol consumption. (Saffer, 1997) Research has shown that media and advertisements are perhaps the most significant predictor of student's knowledge about beer, current drinking behavior, and intentions to drink. (Gentil, 2001) Consistent with these findings, results from the University of Florida Alcohol and Drug Survey administered in 2002, indicated that 49.7% of students believe that drink specials encourage high volume drinking among UF students. (Barkley, 2002)

Although the obvious explanation of the impact of drink specials on student alcohol consumption is that lower prices enable students to afford more alcohol, another explanation is also possible. Social norms and reasoned action could be more possible contributing factors.

Social norms have been defined as sets of rules that a group uses to guide values, beliefs, attitudes, and behavior. (Deutch, 1955) Failure to stick to these rules can result in severe punishments, the most feared of which is exclusion from the group. Asch (1952) stated, "The tendency to conformity in our society is so strong that reasonably intelligent and well-meaning young people are willing to call white black." In his studies Asch showed that people are willing to conform to the norm of what other people are doing

even if they believe it is wrong. In Asch's experiments he showed how a confederate can influence the decisions of participants, even though the participants knew the confederate was wrong. Thus, advertisements for drinks specials that make statements such as "All you can drink for \$5" may promote intentions to drink excessively by suggesting that such a pattern of alcohol consumption is the accepted norm at a particular bar.

Fishbein and Ajzen's Theory of Reasoned Action (Ajzen & Fishbein, 1980), in particular, has been successfully used to predict intentions and behaviors from the measurement of attitudes and norms. Their theory proposes that a person's behavior is determined by their intention to perform that given behavior (See Appendix A). This intention is influenced by attitudes and perceptions of social norms. The Theory of Reasoned Action could be applied to advertising that tries to attract individuals by providing product relevant information and emphasizing the positive attributes of the product in advertising. The Theory of Reasoned Action has been applied to many health issues such as AIDS campaign, anti-smoking campaign, safety belt usage, and anti-drug campaign, etc. to determine which factors influence individuals to act in certain ways and try to develop better ways to effectively communicate the message. (Kim, 1997)

Support for the capacity of advertisements to alter perceptions of alcohol-related social norms has been provided by numerous studies of social norms marketing (SNM). SNM is an attempt to reduce misperceptions about how many members of a community or group engage in binge drinking or hold certain attitudes about it. SNM programs involve an assessment of how much of the behavior and attitudes in question are believed to exist and actually exist. (Bauerle, 2004) Next, a message must be selected based on a set of criteria set forth, such as is the message empowering and positive.

The messages should be tested in a pilot study of students. These pilot tests should include a variety of ways to reach the students from internet to posters. After the “best fit” messages are selected and used, there must be an evaluation to see if the messages worked. Studies that have used SNM have examined their effectiveness and found a 20% reduction of drinking after 18 months in drinkers who have been shown to be high risk drinkers. (Fabiano, 2001) The University of Virginia found similar results from their social norms marketing during the years 2003 to 2004. Out of the consequences that were identified as negative (assault, driving under the influence, etc.) 10 out of 17 consequences declined or stayed the same. (Bauerle, 2004).

Thus, if advertising campaigns that promote norms of moderate drinking can minimize alcohol consumption, it would seem quite likely that ads that promote excessive alcohol consumption could have the opposite effect. This is noteworthy because if a change in perceived drinking norms can account for the effects of drink specials on student alcohol consumption, one would expect to observe a higher level of alcohol consumption among patrons of drink special bars long after the “happy hour” drink special has ended. Taking the above into consideration social norms marketing may work in the same way for the advertisement of drink specials in bars. Social norms marketing by bars may be effective in the same way colleges are marketing to discourage drinking. Advertisements for drink specials may contribute to higher rates of binge drinking on college campuses. Unfortunately, the impact of drink specials ads on perceived norms regarding alcohol consumption at the bars that use them has not been studied. For this reason, research is needed that will compare perceived levels of

alcohol consumption in bars that utilize drink special ads with those that advertise in other ways.

The primary hypothesis of this study is that advertising does affect a student's behavior or consumption of alcohol in a social situation greatly. The group of participants that view the drink special advertisements will report that they would drink more than the group of participants that see the same advertisement without any mention of alcohol. During the advertised specials, it is hypothesized that those participants in the drink special experimental condition will report a statistically higher rate of drink consumption by "most people" and personal drink consumption than will be reported by those in the drink only condition on the same measure. Furthermore, after the advertised specials, it is hypothesized that those subjects in the drink special experimental condition will report a statistically higher rate of drink consumption by "most people" and personal drink consumption than will be reported by those in the drink only condition on the same measure.

Chapter III: Methodology

Alcohol Consumption is always a heated debate in college atmospheres. For this reason it is imperative to study what causes students to consume more alcohol in a college atmosphere. The sections addressed in this chapter include subject selection and description, instrumentation, data collection procedures, data analysis, and limitations.

Subject Selection and Description

To select participants, professors at the University of Wisconsin – Stout in Menomonie, Wisconsin were e-mailed and asked if they would donate a few minutes of their class time to ask students to participate. Those professors who accepted set up a date and time with researchers for data to be collected. There were 70 participants, comprised of 53 females and 17 males. All participants were asked to be above the age of 21; although a few were below that age. The table below describes participant demographics including the average days in a week when 5 or more drinks are consumed or binge drinking occurs, and the amount of drinks consumed in an average week.

Table 2
Participant Demographics

Demographic Categories	Do You drink?		Mean times > 5 drinks	Mean Number of Drinks
	<i>Yes</i>	<i>No</i>		
<i>Males</i>	14	3	2.47	11.59
<i>Females</i>	48	5	1.66	6.23
<i>Freshman</i>	5	1	2.00	6.33
<i>Sophomore</i>	3	0	3.00	11.00
<i>Junior</i>	11	2	1.31	4.46
<i>Senior</i>	39	5	0.67	3.00
<i>Graduate</i>	3	0	0.67	3.00
<i>No Response</i>	1	0	0.00	1.00

Instrumentation

A survey was created for the purpose of this study. The survey was an online website that included a brief consent form that allowed participants to acknowledge that they meet the requirements of the study and that the study was Institutional Review Board Approved. The survey was six pages including an ad on each page and four questions, a demographic page, and a debriefing page.

The advertisements used in the survey were found on-line. These ads were altered for content slightly. Times were added, drink specials were added or taken away, and non-drink specials were added or taken away in some ads. Six ads were altered to represent drink special establishments and six ads were altered to represent non-drink special establishments. The same four questions were asked of each advertisement in all conditions. The questions are as follows: “On average, how many drinks would you consume in this establishment from 7-8 pm?”, “On average, how many drinks would you consume in this establishment from 9-10 pm?”, “On average, how many drinks do you think most people would consume in this establishment from 7-8pm?”, and “On average, how many drinks do you think most people would consume in this establishment from 9-10pm?”.

The debriefing page informed the participants of the intent of the study. It also included the names of the researchers and a way to contact them for further questions.

Data Collection Procedures

A 34 question on-line survey was administered to college students that had been volunteered by their professors as possible participants. The collection times and locations varied depending on what time the class was and what classroom the course

was taught in. All collection occurred on the UW-Stout campus in either the Home Economics building or Vocational Rehabilitation building. Researchers introduced the project by reading the purpose of the study and letting the class know that participation was voluntary. Participants were asked to sign a consent form. One copy of the consent was kept by researchers and the other was kept by participants. On the participant's copy of the consent form was an internet address for one of two surveys: a drink special survey or a non-drink special survey. Participants were given as much time as need, normally fewer than 10 minutes, to complete the survey. After all participants completed the survey the researchers read a debriefing page and thanked the participants. At this point the professor took over the class.

Data Analysis

Data was analyzed using SPSS 14.0. A variety of statistical tests within this program were utilized to obtain correlations and variances in the data and between subjects. Specifically, descriptive statistics about the participants were obtained through the use of frequencies. An ANCOVA was utilized to observe the significance of different variables in the study. A Pearson correlation was used to correlate the different times (7-8 pm and 8-9 pm) at the establishment and the different advertisements used. Participants that responded that they do not drink alcohol were not included in the analysis.

Limitations

The limitations of the study included legal drinking age, laptop access, alcohol consumption assumptions, permission from professors, and the number of male participants. It is illegal, in Wisconsin, for anyone under the age of 21 to consume

alcoholic beverages. Knowing this researchers asked students to participate only if they were 21 years of age or above, to avoid legalities. This caused the pool of qualified participants to drop drastically. Also, students were asked to bring their laptops to class for the survey. Those who forgot to bring their laptop were not included in the survey. Furthermore, it was assumed that all students 21 years of age and over drink alcohol. Those that do not drink alcohol might have had a difficult time completing the survey because of the nature of the questions. Finally, professors were asked to donate a portion of their class time for the study. Many professors did not have the time or see how the survey would relate to their curriculum. This lowered the amount of available participants. Also, there was a higher amount of female participants than male participants. They could have swayed the amount of actual amount of alcohol consumed at UW - Stout because females tend to drink less than males.

Chapter IV: Results

The purpose of this study was to conclude if there was a correlation between the amounts of alcohol consumed by a student with the advertising they observe. That is, the participants that viewed drink special advertisements would have reported higher levels of alcohol consumption than those that viewed non-drink special advertisements. One of two online surveys was given to University of Wisconsin – Stout students that participated. The results show a difference in the amount of alcohol a participant thinks they drink compared to their peer, the popularity of the advertisement not taking the condition into account, and the perceived amount of binge drinking on the UW-Stout campus. The results of this survey are discussed below.

Binge Drinking

Binge drinking is defined as consuming five or more drinks in a row for males and four or more in a row for females. The results below determine that UW-Stout student do have a preference for binge drinking. Most males and females do drink but they report drinking a low number of drinks per week. Of those participants that reported drinking, males report binge drinking 2.47 times a week but drink only 11.59 alcoholic beverages per week. Females report binge drinking 1.66 times a week but drink only 6.23 alcoholic beverages per week.

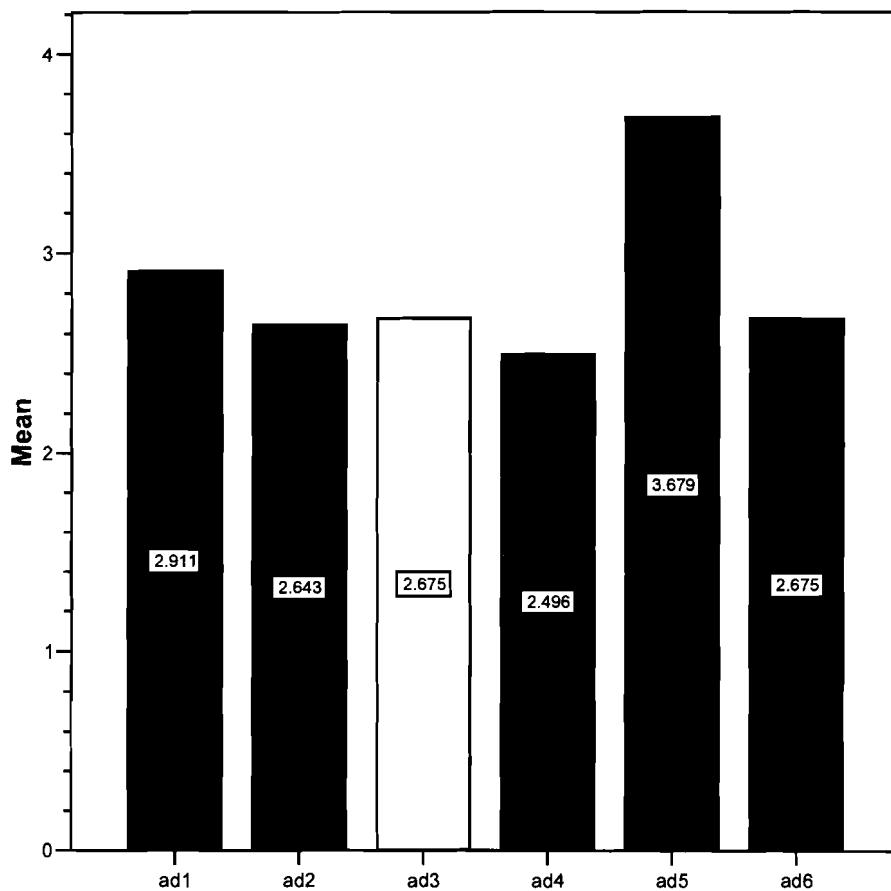
Table 3
Binge Drinking

Demographic Categories	Do You drink?		Mean times > 5 drinks	Mean Number of Drinks
	<i>Yes</i>	<i>No</i>		
<i>Males</i>	14	3	2.47	11.59
<i>Females</i>	48	5	1.66	6.23

Advertisement Popularity

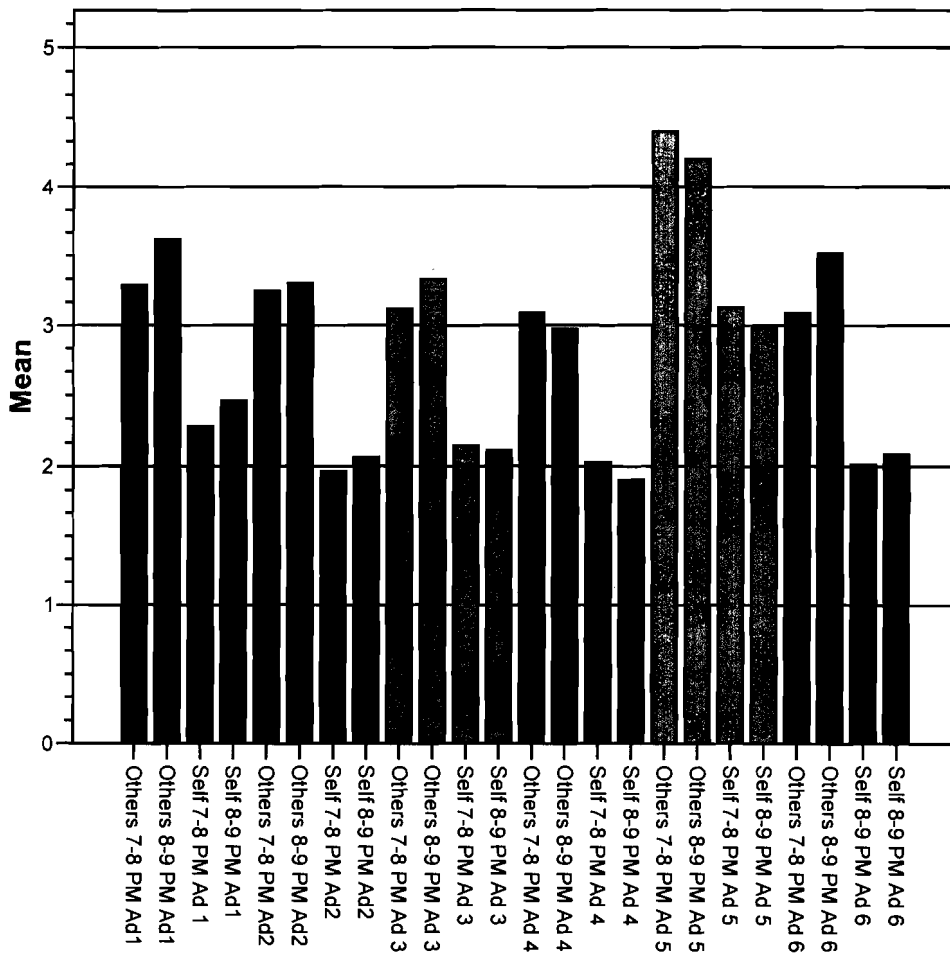
There were six different visual stimuli (advertisements) for the four different conditions. Although, the advertisement's wording was changed the pictures, colors, and themes remained the same. Not taking the condition into account, there seemed to be slight preference in advertisements for participants. Ad 5 showed the highest number of average drinks, 3.7, per person; followed by Ad 1 at 2.9 drinks. All other ads were significantly below the average number of drinks compared to Ad 5. See the figure below.

Figure 1
General Ad Popularity



The figure below highlights each advertisement in each condition. It is noted that the participants thought that they themselves and others would consume the most drinks in the establishment advertised in Ad 5 from 7-8 pm. The least amount of alcohol consumption would occur by the participant from 7-8 pm in the establishment feature in Ad 4. It is also noted that the highest alcohol consumption in each advertisement occurred during the 7-8 pm timeframe.

Figure 2
Specific Ad Popularity



Others versus Self Consumption (Within-Subjects Effects)

As noted above, participants rated that they would consume an average of 2.52 alcoholic beverages overall from 7-8pm, but thought that their peers would consume more alcohol, 3.47 beverages, in the same condition. This pattern also holds true for the 8-9 pm timeframe. Participants rated that they would consume an average of 2.53 alcoholic beverages but their peers would consume 3.46 alcoholic beverages in the same condition.

Table 4
Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Composite drinks people would consume 7-8pm	3.47	62	1.45	0.18
	Composite drinks you would consume 7-8pm	2.52	62	1.46	0.19
Pair 2	Composite drinks people would consume 8-9pm	3.46	62	1.25	0.16
	Composite drinks you would consume 8-9	2.53	62	1.46	0.18

Table 5 shows that when observing the 7-8 pm conditions together (Pair 1) and the 8-9 pm conditions together (Pair 2) it can be seen that both conditions are statistically

significant. This significance indicates that people assume others are drinking more than themselves in the same situation.

Table 5
Paired Samples Test

	Paired Differences							Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	
				Lower	Upper			
Pair 1								
Composite drinks people would consume 7-8pm - Composite drinks you would consume 7-8pm	0.95	1.31	0.17	0.61	1.28	5.69	61	0
Pair 2								
Composite drinks people would consume 8-9pm - Composite drinks you would consume 8-9	0.93	1.12	0.14	0.65	1.21	6.53	61	0

Figure 3 highlights the average amount of alcohol the participants themselves thought they would drink and the amount of alcohol their peers would drink in the same condition.

Figure 3
General Alcohol Consumption Comparison

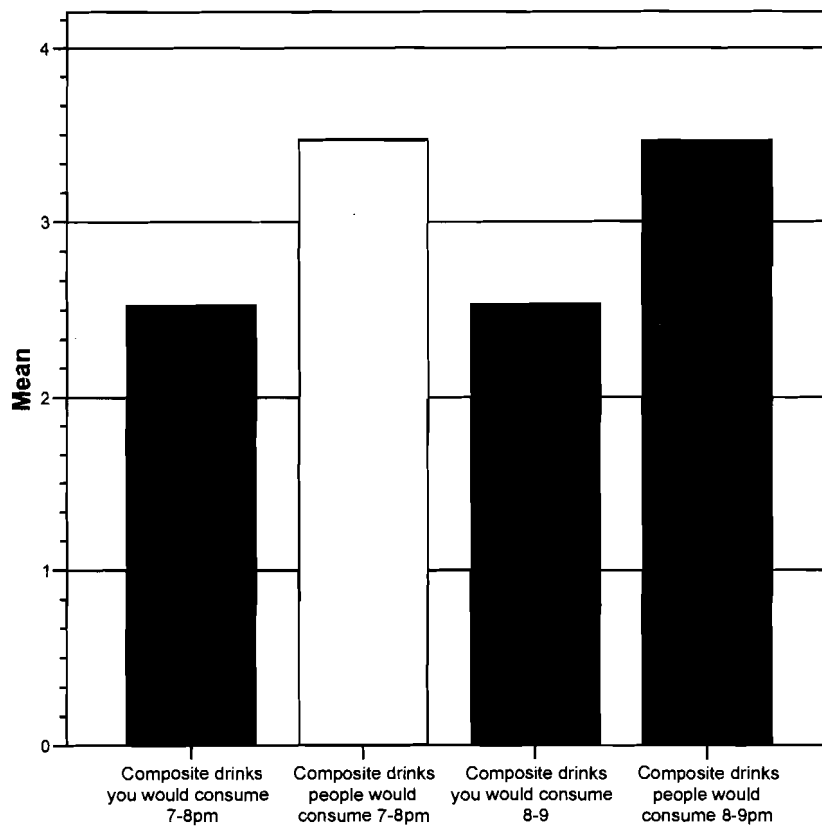


Figure 4 shows that the majority of participants (11) assumed that other people would consume between 2-3 alcoholic beverages in the given condition. It can also be seen that the mean number of drinks for this condition was approximately 3.5 alcoholic beverages.

Figure 4
People 7-8 PM Condition

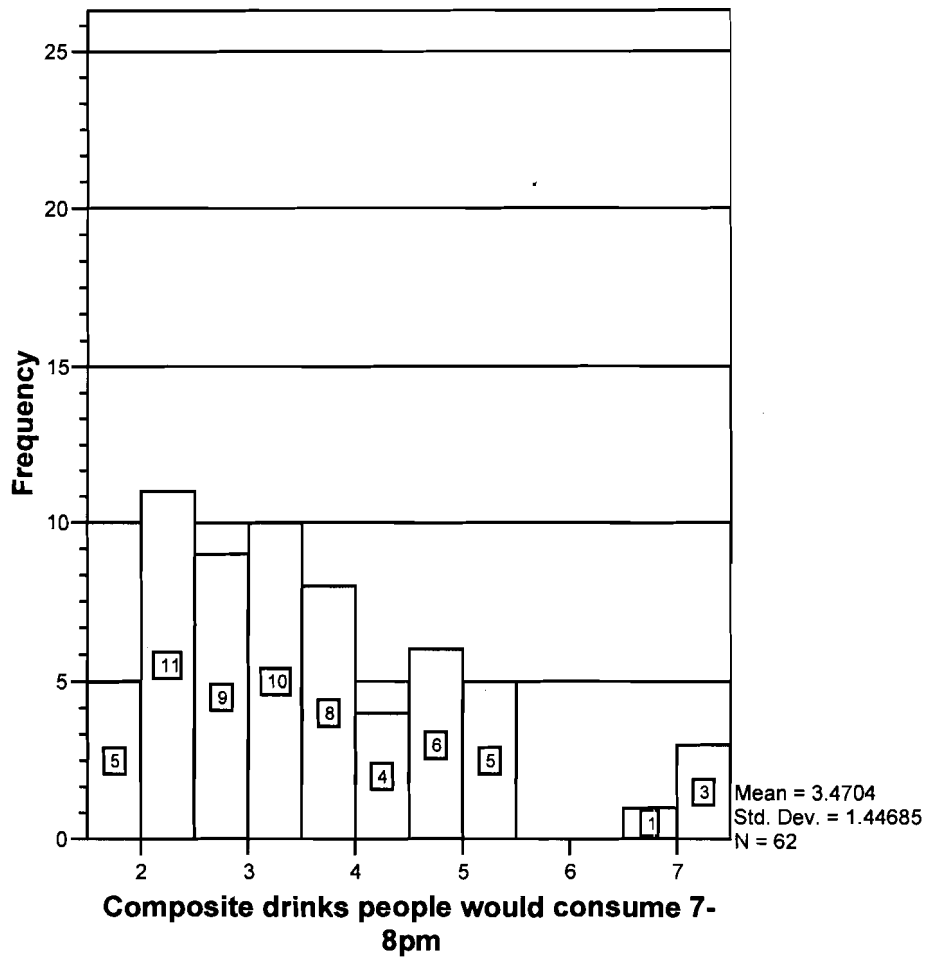


Figure 5 shows that a large majority of participants (22) assumed that other people would consume between 2-3 alcoholic beverages in the given condition. It can also be seen that the mean number of drinks for this condition was approximately 3.5 alcoholic beverages.

Figure 5
People 8-9 PM Condition

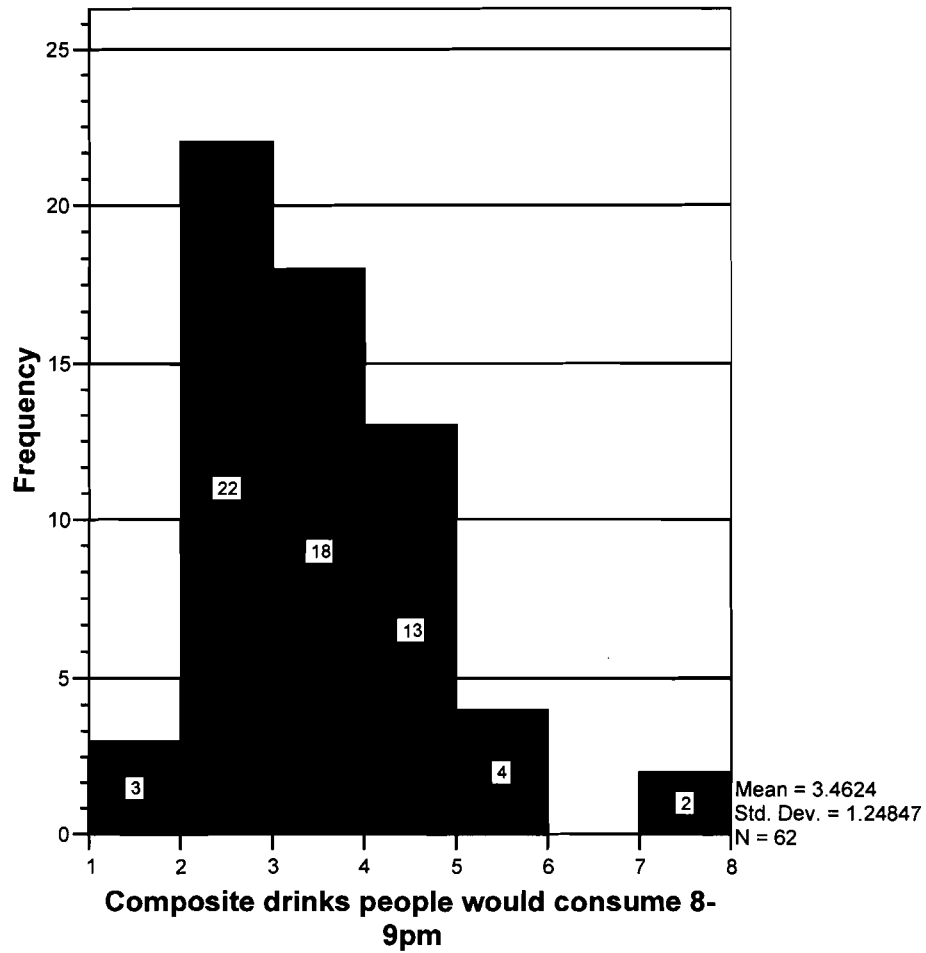


Figure 6 shows that the majority of participants (16) assumed that other people would consume between 2-3 alcoholic beverages in the given condition. It can also be seen that the mean number of drinks for this condition was approximately 2.5 alcoholic beverages.

Figure 6
Self 7-8 PM Condition

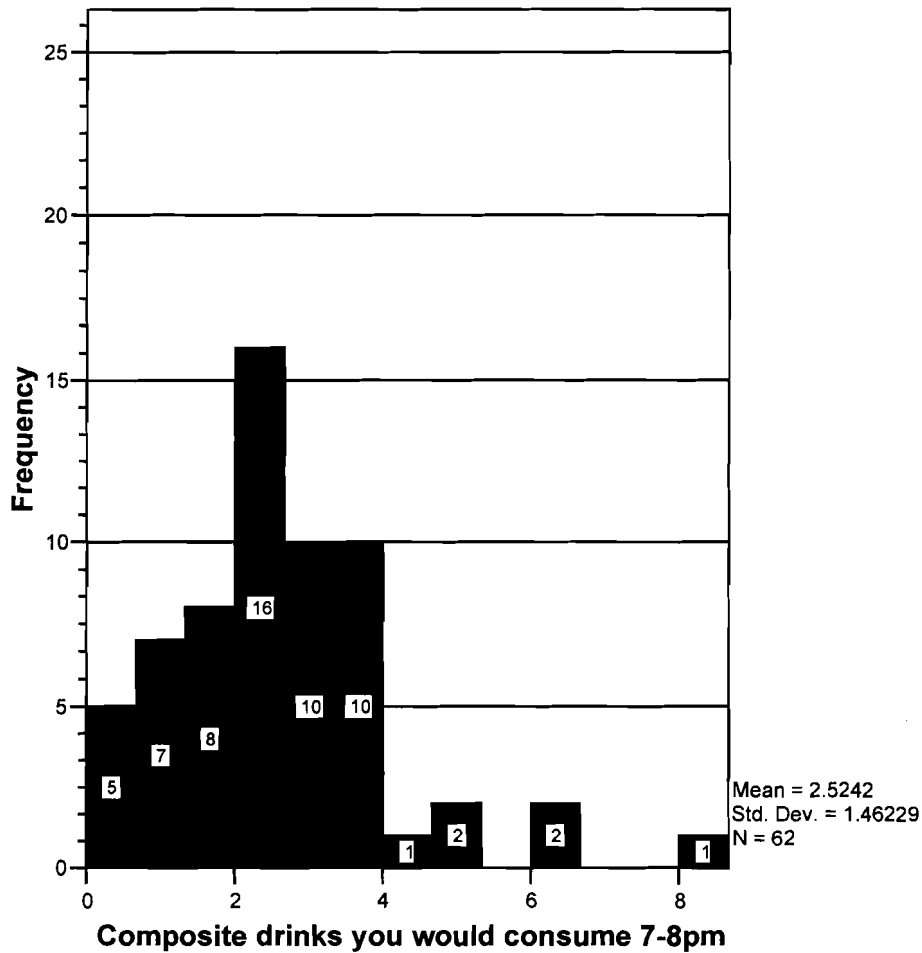
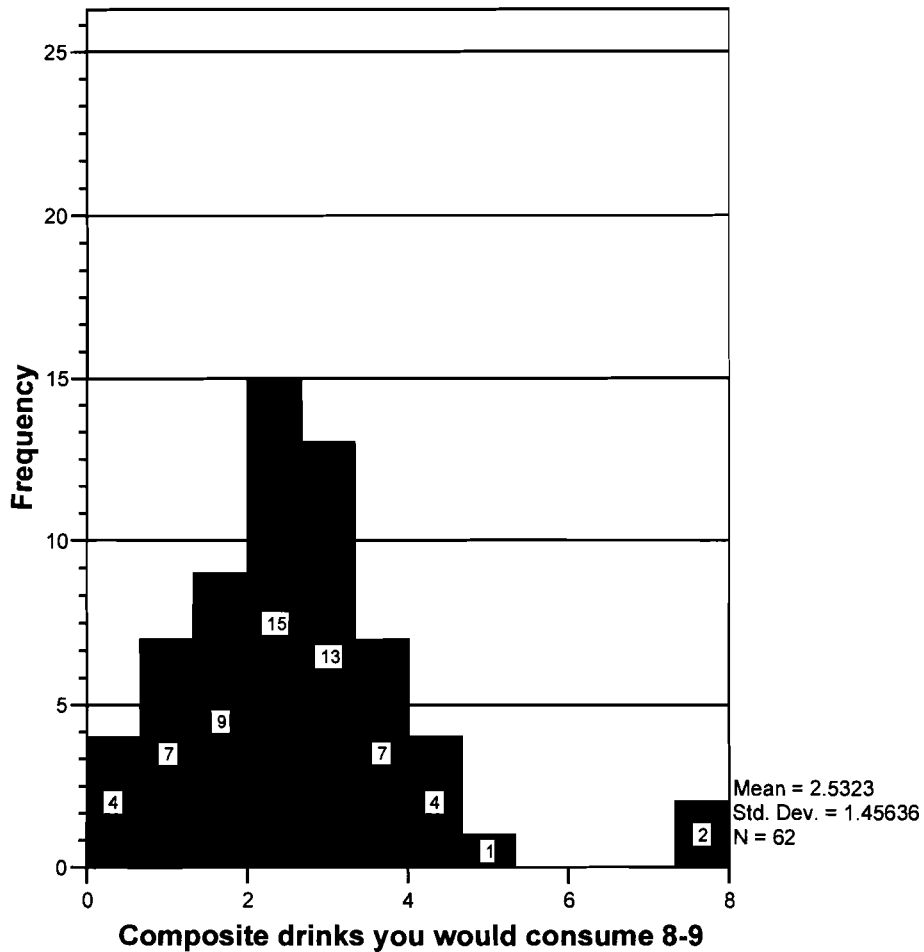


Figure 7 shows that the majority of participants (15) assumed that other people would consume between 2-3 alcoholic beverages in the given condition. It can also be seen that the mean number of drinks for this condition was approximately 2.5 alcoholic beverages.

Figure 7
Self 8-9 PM Condition



Ad versus No Ad Consumption (Between-Subjects Effects)

The following tables compare the amount of alcohol that participant think they will drink to the amount they think others would drink in the condition. Table 5 explains the factors that were involved in the analysis of the between subject effects of alcohol consumption. It can be seen that the amount of participants in each condition were almost equal.

Table 5
Between-Subjects Factors

		Value Label	N
Drink Special	1	Drink Special Ads	31
Non-Drink Special	2	Non-Drink Special Ads	30

The table 6 shows us that there was a significant effect (.006) for the amount of perceived alcohol consumption by others between 7-8 pm.

Table 6
Tests of Between-Subjects Effects, People 7-8 PM

Dependent Variable: Composite drinks people would consume 7-8pm					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	31.799(a)	5	6.36	3.71	0.01
Intercept	2.25	1	2.25	1.31	0.26
Gender	10.30	1	10.30	6.01	0.02
Age	6.13	1	6.13	3.58	0.06
Grade	0.01	1	0.01	0.00	0.95
avgweek	11.46	1	11.46	6.70	0.01
Group	12.19	1	12.19	7.12	0.01
Error	94.17	55	1.71		
Total	869.72	61			
Corrected Total	125.97	60			

a. R Squared = .252 (Adjusted R Squared = .184)

The table 7 shows us that there was not a significant effect for the amount of perceived alcohol consumption by others between 8-9 pm.

Table 7
Tests of Between-Subjects Effects, People 8-9 PM

Dependent Variable: Composite drinks people would consume 8-9pm					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9.044(a)	5	1.81	1.16	0.34
Intercept	13.67	1	13.67	8.78	0.00
Gender	4.58	1	4.58	2.94	0.09
Age	0.00	1	0.00	0.00	0.96
Grade	0.16	1	0.16	0.10	0.75
avgweek	5.70	1	5.70	3.66	0.06
Group	0.53	1	0.53	0.34	0.56
Error	85.63	55	1.56		
Total	830.31	61			
Corrected Total	94.68	60			

a R Squared = .096 (Adjusted R Squared = .013)

The table 8 shows us that there was a significant effect (.000) for the amount of participant perceived they would consume between 7-8 pm.

Table 8
Tests of Between-Subjects Effects, Self 7-8 PM

Dependent Variable: Composite drinks you would consume 7-8pm					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	50.436(a)	5	10.09	7.15	0.00
Intercept	3.51	1	3.51	2.48	0.12
Gender	0.34	1	0.34	0.24	0.63
Age	0.01	1	0.01	0.01	0.92
Grade	0.33	1	0.33	0.24	0.63
avgweek	36.97	1	36.97	26.19	0.00
Group	3.53	1	3.53	2.50	0.12
Error	77.64	55	1.41		
Total	524.47	61			
Corrected Total	128.08	60			

a R Squared = .394 (Adjusted R Squared = .339)

The table 9 shows us that there was a significant effect (.019) for the amount of participant perceived they would consume between 8-9 pm.

Table 9
Tests of Between-Subjects Effects, Self 8-9 PM

Dependent Variable: Composite drinks you would consume 8-9					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	26.108(a)	5	5.22	2.97	0.02
Intercept	11.60	1	11.60	6.59	0.01
Gender	0.10	1	0.10	0.06	0.81
Age	2.14	1	2.14	1.22	0.28
Grade	0.32	1	0.32	0.18	0.67
avgweek	19.14	1	19.14	10.88	0.00
Group	0.06	1	0.06	0.04	0.85
Error	96.75	55	1.76		
Total	526.94	61			
Corrected Total	122.86	60			

a. R Squared = .212 (Adjusted R Squared = .141)

Chapter V: Discussion

Summary

This study showed that on average UW-Stout students binge drink 1-2 days a week and consume 6 – 12 alcoholic beverages per week. Advertisement may play a factor in binge drinking. Participants showed a preference for one advertisement over the other. There was also an assumption by participants that their peers consume more alcohol than they themselves would in the same environment. It should also be noted that there was a significant effect for the amount of alcohol participants thought other would consume between 7-8 pm. There was also a significant effect for the amount of alcohol participants thought they would consume in both condition; 7-8 pm and 8-9 pm. The advertisements appeared to predict that social norms play a role in alcohol consumption between 7-8 pm, but not the 8-9 pm condition.

Limitations

- This study was limited by the participant pool that volunteered. There was an over abundance of female participants, in a university that has a similar population size of males and females.
- Having less male participants than female participants could affect the amount of alcohol consumption reported compared to actual amount consumed at UW - Stout because females tend to drink less than males.

Recommendations for Future Research

- It is recommended for future research that the amount of male and female participants in the study be similar. This could help reduce the tendency of one gender to report higher or lower consumption of alcohol than the other. A better

reading of the actual consumption of students on the UW – Stout campus could be calculated.

- A larger sample size would be useful because it would produce more reliable and valid results than a smaller sample size. It would be easier to generalize results to the entire UW – Stout population.
- The advertisements used in the study should be pilot tested. The type of ad could have influenced how much a student would drink in that situation. If they like the ad they may report drinking more or vice versa.

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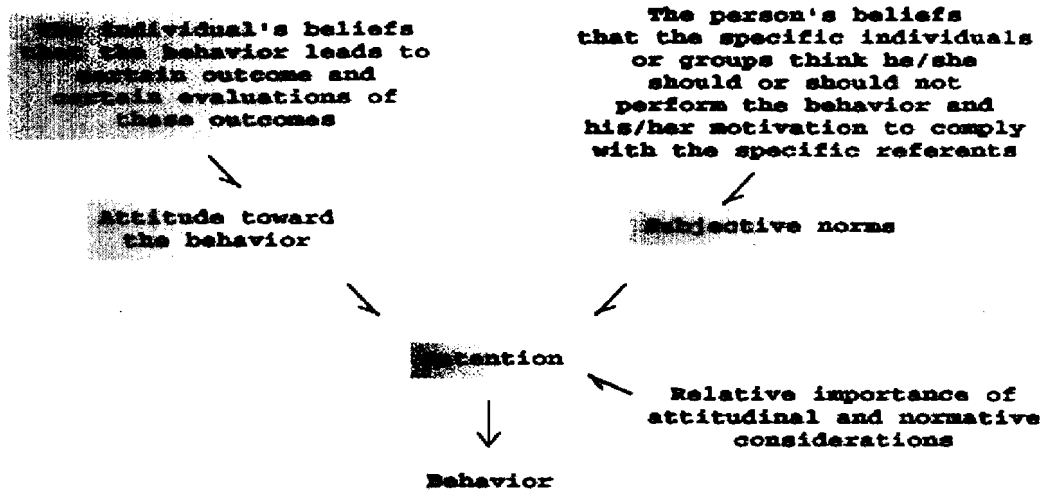
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Appendix A: Theory of Reasoned Action



Source: Ajzen and Fishbein(1980)

Appendix B: Informed Consent

Student Informed Consent to Research Participation

I have consented of my own free will to participate in this scientific study. This project is being conducted by James A. Lenio (715-232-8863) and Deanna Meier (715-505-8640) and is being advised by Dr. Louis Milanesi at the University of Wisconsin – Stout. This study is in compliance with the University Institutional Review Board for the Protection of Human Subjects.

I understand that my participation in this study is strictly voluntary; that I am free to discontinue my participation in the study at any time without penalty, and that I am free to decline to answer any specific items or questions on the questionnaire. My refusing and/or discontinuing participation will have no affect on my relation to the University of Wisconsin – Stout, its representatives, or its services.

I understand that the results of my participation will be treated in strict confidence and that I will remain anonymous with respect to the study. I also understand that because this is an on-line survey there is risk, however small it may be, of a computer hacker viewing my responses. I understand that my participation in the study does not insure any beneficial results to me except for credit in a course agreed upon as condition of my participation.

I understand that if I have any questions concerning the purpose or procedures of this research project, I may call or write the research advisor or researchers identified below to get additional information without revealing my name.

Dr. Louis Milanesi	Deanna Meier	James Lenio
Department of Psychology	meierde@uwstout.edu	lenioj@uwstout.edu
University of Wisconsin – Stout	715-505-8640	715-232-8863
Menomonie, WI 54751		
715-232-330, McCalmont Hall 323		

I understand that if I have any questions or concerns about the treatment of human subjects in this study, I may call or write:

Laura McCullough, Chair
 Institutional Review Board
 Stout Solutions – Research Services
 University of Wisconsin – Stout
 Menomonie, WI 54751
 715-232-1126, Voc. Rehab Building 152

I have read the above and wish to participate in this study.

_____ (signature) _____ (date)

Appendix C: Verbal Introduction

Cover Story/Verbal Introduction

The purpose of this experiment is to assess advertisements for drinking establishments affect on peoples perceptions of the bar being advertised. This experiment is in the form of a short survey in which you will view actual ads for 6 bars located throughout the United States. Since all the advertisements you view are for bars in other communities you are not likely to be familiar with any of them. Please respond to each question using the numeric computer keys rather than typing out the words. We will now pass out the informed consent page for you to sign if you wish to participate in this experiment. After we have collected them I will direct you to the website where you can begin the survey.

Appendix D: Survey

Directions

When this survey starts an advertisement will appear on the screen for 10 seconds.

All the advertisements that appear are for bars in other communities.

After the advertisement disappears you will be asked to respond to 4 questions.

For all questions that refer to “drinks,” please keep in mind that one drink will be considered 12 oz. of beer, 6 oz of wine, or 1 shot of liquor.

Always use the numeric keys when answering.

After a response is made, click on the ‘next’ icon to move on.

Please do your best to answer the questions honestly.

NEXT

Survey Questions (for each advertisement in both conditions)

On average, how many drinks would most people consume in this establishment from 7-8pm?

On average, how many drinks would most people consume in this establishment from 10-11?

On average, how many drinks would you consume in this establishment from 7-8pm?

On average, how many drinks would you consume in this establishment from 10-11?

NEXT

Demographics

Gender:

Age:

Class Standing:

Do you drink alcohol?

Think back over the last two weeks. How often have you had 5 or more drinks in one sitting?

What is the average number of drinks you consume a week?

NEXT

Completion/Debriefing Page

Thank you again for participating in this experiment. The purpose of the experiment was to determine if drink specials play a role in altering perceptions of norms of how much people drink, as well as to examine the influence of drink specials even after the specials have ended. If there are any questions feel free to call or email the researchers below, in which case you will still remain anonymous. Thank you.

James A. Lenio
715-232-8863
lenioj@uwstout.edu

Deanna Meier
715-505-8640
meierde@uwstout.edu

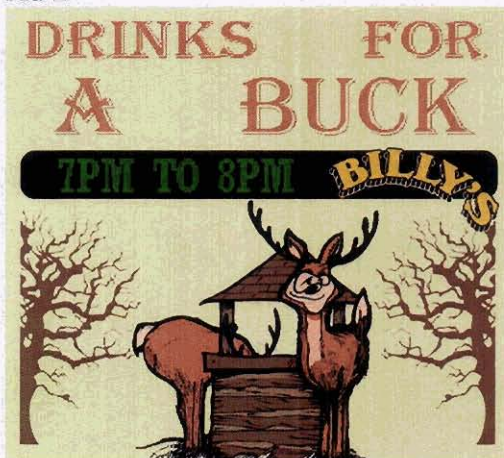
Dr Louis Milanesi
715-232-2659
milanesil@uwstout.edu

Appendix E: Drink Special Condition Ads

Ad 1



Ad 2



Ad 3

COMEDY NIGHT



**\$1
Rail**

**\$.50
Taps**

**@ The Far Side
7PM TO 8PM**

The advertisement features a cartoon illustration of a man with brown hair, wearing a blue jacket and blue pants, holding a microphone on a stand. To the left of the man, the words "COMEDY NIGHT" are written vertically in red, stylized letters. To the right of the man, there are two lines of blue text: "\$1 Rail" and "\$.50 Taps". Below the man, the text "@ The Far Side" and "7PM TO 8PM" is written in blue.

Ad 4

KARAOKE

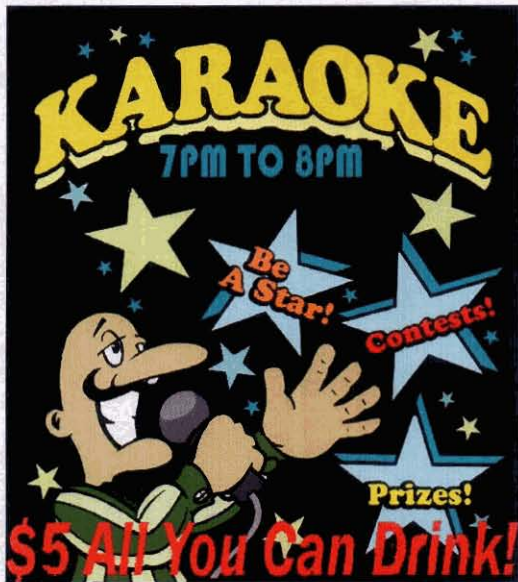
7PM TO 8PM

**Be
A Star!**

Contests!

Prizes!

\$5 All You Can Drink!



The advertisement is a colorful graphic with a black background. At the top, the word "KARAOKE" is written in large, yellow, outlined letters. Below it, "7PM TO 8PM" is written in blue. In the center, there is a cartoon illustration of a man with a large nose and a wide smile, wearing a green shirt and holding a microphone. He is surrounded by several blue and yellow stars. To the right of the man, the text "Be A Star!" is written in red, and "Contests!" is written in red below it. At the bottom, "Prizes!" is written in yellow, and "\$5 All You Can Drink!" is written in large, red, outlined letters.

Ad 5

The Palms Restaurant

All Mixed (with full Bar) 2 for 1
Drinks \$1 **Special** All Beer!

Barbecue Chicken w/ Baked Beans & Slaw \$3.50

OR

Barbecue Ribs w/ Baked Beans & Slaw \$5.50

7 - 8 P.M.

Ad 6

WEST END PUB STEAK & DARTS

16 oz. STEAK, POTATO, & SALAD

&
SAT NITE DART TOURNAMENT



STEAK DINNER \$8.00 WITH TOURN ENTRY
NON-PLAYERS STEAK DINNER \$10.00
COUPLES WHO PLAY STEAK DINNERS \$15.00



\$2 RAILS

\$1 SHOTS

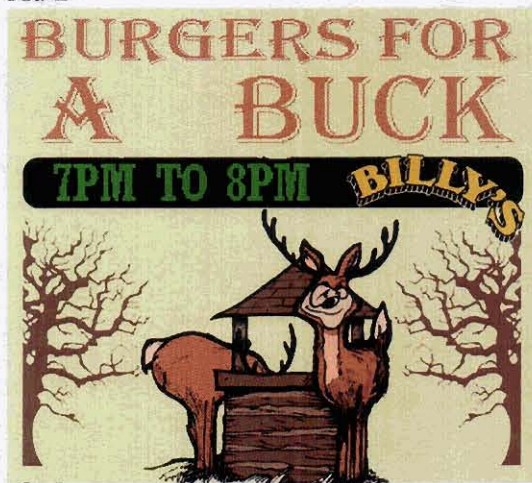
ENJOY A GREAT STEAK AND
PLAY IN OUR TOURNAMENT
STEAKS 7:00 TO 8:00 PM
TOURNAMENT 8:00 PM

Appendix F: Non-Drink Special Condition ads

Ad1



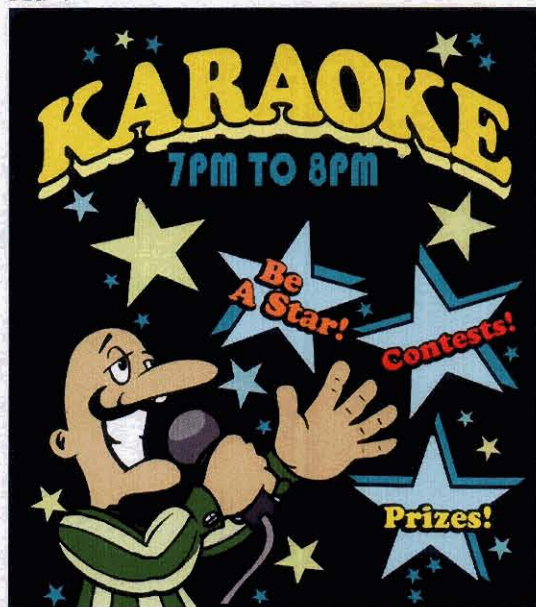
Ad 2



Ad 3



Ad 4



Ad 5

 **The Palms Restaurant** 
(with full Bar)
Special

Barbecue Chicken w/ Baked Beans & Slaw \$3.50

OR

Barbecue Ribs w/ Baked Beans & Slaw \$5.50

7 - 8 P.M.

Ad 6

WEST END PUB
STEAK & DARTS
16 oz. STEAK, POTATO, & SALAD
&
SAT NITE DART TOURNAMENT



STEAK DINNER \$8.00 WITH TOURN ENTRY
 NON-PLAYERS STEAK DINNER \$10.00
 COUPLES WHO PLAY STEAK DINNERS \$15.00



Jack & Jill, Cricket, 501, Flip \$6.00 Entry,
 \$1.00 Mystery Out, House Matches Pot
 & Adds \$25.00 per week to mystery out
 Players of all skill levels welcome

ENJOY A GREAT STEAK AND
PLAY IN OUR TOURNAMENT
STEAKS 7:00 TO 8:00 PM
TOURNAMENT 8:00 PM