

THE INFLUENCE OF ALCOHOL ADVERTISING
IN A CAMPUS NEWSPAPER
ON STUDENTS' CONSUMPTION OF ALCOHOL

A Thesis

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Abstract

The purpose this study was to investigate the relationship between alcohol advertising policies in the campus newspaper, *The Reveille*, and students' reported consumption of alcohol. Students' reported consumption of alcohol was assessed using the Harvard School of Public Health's College Alcohol Study (CAS) for the years 1997, 1999, and 2000. Five variables were used: (a) How many times have you had five or more drinks in a row? (b) During the last two weeks, how many times have you had four drinks in row, (but no more than that?) (c) The last you had four or more drinks in row, how many drinks did you actually have? (d) On how many occasions have you had a drink of alcohol in the past 30 days? (e) In the past 30 days, how often did you drink enough to get drunk? Demographically, in all three sample years (1997, 1999, and 2000), the participants were similar. In terms of gender, more males than females responded (54.9% in 1997; 61.9% in 1999; and 60.1% in 2000). The students ranged from 18-25 years of age. The majority of the sample was white, single, Catholic, lived off campus, and had no Greek or athletic affiliation with the school. The findings from this study indicated that students' consumption of alcohol may have increased following a change in the alcohol advertisement policy of the campus newspaper *The Reveille*. In 1999-2000, students who reported drinking four or more drinks in a row were likely to be influenced to drink by the presence of alcohol advertisements in *The Reveille*. The same held true for students who reported drinking alcohol within a 30 day period, and for the number of occasions students reported getting drunk. The causal link between alcohol advertising and consumer behavior is complex. Also, literature relating specifically to college students is not voluminous. Therefore, future research is needed in the area of alcohol advertising and its effects on alcohol consumption, particularly as it relates

to college students, since high risk drinking appears to be a common characteristic among this group.

Chapter 1

Introduction

A major transition for many young adults is leaving home to attend college. Students are not only beginning their academic careers, but are also starting to form new peer relationships and social ties away from their families. Unfortunately, this socialization process among college students usually involves the consumption of alcohol (Tyron, 1986). When alcohol becomes the central focus of a social gathering, high-risk drinking occurs, along with its associated negative consequences and second hand effects (Robert Wood Johnson Foundation, 1999).

Many times alcohol consumption is taken for granted, especially among undergraduate students. It is well-known that almost all freshmen drink (e.g., Weschler & Isaac, 1991), and binge drinking is common: 57.4% of freshmen males and 35.5% of freshmen women have indicated that they have had five or more drinks in a row on at least one occasion in a two week period (Wechsler & Isaac, 1991). This type of hazardous drinking among college students is a national issue; in fact, university presidents cite substance abuse as the most frequent problem on their campuses (Boyer, 1990; The Carnegie Foundation, 1990).

A force that may encourage students to engage in alcohol-related activities is the collegiate press. Campus newspapers generally have large readerships among students and carry significant influence with college students (Gomberg, 1999). An editor is in a premiere position to influence students' behavior, particularly related to alcohol use. When there is an absence of a formal policy regarding alcohol advertisements, the editor will probably allow such alcohol advertisements on the grounds of students' free speech and financial gain (Erenberg & Hacker, 1997). A student journalist may also choose to publish alternative views about alcohol (Erenberg & Hacker, 1997) that focus on individual and societal negative consequences and

second hand effects. Breed, Wallack, and Grube (1990) reported on the frequency and nature of alcohol advertising in college newspapers and concluded that the papers promoted irresponsible and heavy drinking among students. This finding was due in part because many of the advertisements promoted excessive drinking (i.e. two for one, penny pitchers, etc.). Researchers have also noted that alcohol advertising affects knowledge, attitudes, and intentions to drink (Parker, 1998; Zinser, Freeman, & Ginnings, 1999).

Theoretical Framework

The environment has been defined as the surroundings, atmosphere, ambiance, backdrop, climate conditions, context, element, habitat, hood, jungle, locale medium, neighborhood, scene, setting situation, stomping ground, territory, and turf (Yoast, 2002). The environmental model used in the field of public health is very closely related to the ecological model of the field of human ecology. Human ecology theory, also referred to as the ecological model, emphasizes the interdependent interaction of humans and their physical and social environment (Bubolz & Sontag, 1993; Deacon & Firebaugh, 1988). The ecological perspective can be conceptualized as concentric circles where changes in one system affect others. It includes the micro-environment or immediate physical and social surroundings and the macro-environment. The macro-environment incorporates two systems: related societal systems and natural structural systems. In societal systems, information, goods, and services are constantly being exchanged between the socio-cultural, political, and economic and technological environment. Natural and structured systems include physical, biological, and human made surroundings such as buildings, highways, plant and animal life, and weather and climate. Changes in any level of the environment are posited to change the other levels.

The environmental model of public health, also known as the population approach, emphasizes prevention and health promotion for the whole community or population, rather than prevention aimed at the individual (Fineberg, 2002). The public health perspective not only seeks the health of the community as a whole, but also recognizes the health of individuals within the community. The principles of public health (APHA, 2002) mirror that of the human ecology theory in three ways. First, the principles imply that humans are inherently social and interdependent, thus looking to one another for companionship, and relying upon one another for safety and survival. Second, that people and their physical environment are also interdependent, thus depending upon the resources in their natural environment for life itself. A damaged natural environment will have an adverse effect on the health of the people. Third, the way society is structured is reflected in the health of a community. Thus, addressing fundamental causes of the social environment rather than more proximal causes in the social environment is more effective (APHA, 2002).

The ecological model asserts that to change a person, culture, or social norm, the environment must be changed. Change efforts are directed to policies and practices rather than individual behavior. Individual change is thought to be better impacted by changing the social environment through the creation of new policies and practices. This approach posits that creating new policies and practices can guide and direct behaviors of large populations and in turn change the social norm (Wittman, no date). Thus, the focus of the environmental model is based on creating new policies and practices at the societal level that affect entire groups of people, where they live, work, and play rather than following traditional methods of lectures, speeches, traditional education, admonishments, counseling, psychological therapy, and messages aimed at individuals.

Purpose of the Study

High-risk drinking among college students on the Louisiana State University campus is a problem (N. Mathews, personal communication, September 4, 2000). The College Alcohol Study conducted by the Harvard School of Public Health revealed that in 2000, the binge-drinking rate among LSU students was 50%, which was an increase from 44.1% in the 1999 national study. Research sponsored by the Robert Wood Johnson Foundation (1999) concluded that alcohol advertising and marketing are factors in the environment that lead to binge drinking and its associated negative consequences to college students. The campus newspaper, *The Reveille*, established a new policy (Fall 2000) to accept alcohol advertising and marketing. This new policy is the antithesis of the old policy, established in 1997 that did not allow any advertisements that encouraged excessive or binge drinking. Guided by the environmental or ecological approach (Wallack, 1993), the purpose of this project is to investigate the relationship between alcohol advertising policies in the campus newspaper, *The Reveille*, and students' reported consumption of alcohol.

Hypothesis

Using existing data, it is hypothesized that:

1. There is a relationship between students who report consuming five or more drinks in a row and the alcohol advertising policy in *The Reveille*.
2. There is a relationship between students who report consuming four drinks in a row and the alcohol advertising policy in *The Reveille*.
3. There is a relationship between students who report consuming four or more drinks in a row, how many drinks they actually consumed and the alcohol advertising policy in *The Reveille*.
4. There is a relationship between the number of occasions students reported having a drink of

alcohol in the within a 30 day period and the alcohol advertising policy in *The Reveille*.

5. There is a relationship between the number of occasions students reported drinking enough to get drunk in the within a 30 day period and the alcohol advertising in *The Reveille*.

Limitations

1. Due to scheduling of classes, students may not read *The Reveille* on the days it is published. For example, it may be read only on Tuesday and Thursday.
2. *The Reveille* is only published four days a week therefore limiting the amount of exposure to alcohol advertising that a student might receive.
3. The possibility that other factors contribute to binge drinking cannot be excluded (e.g. political, cultural, societal, and characterlogical).

Definitions

1. High-risk drinking: drinking too much alcohol too quickly; drinking to get drunk; hazardous drinking; drinking that results in harm to self, others, or the environment (N. Mathews, personal communication, September 4, 2000)
2. Negative consequences: emergency room visits; fights; sexual assaults; damage to property; sexually transmitted diseases and pregnancies; vehicle crashes and driving while intoxicated; injuries; legal problems; academic problems; and harm to themselves, others, and the University (Eigen, 1991; N. Mathews, personal communication, September 4, 2000)
3. Second-hand effects: having to “baby-sit” a drunken person; having sleep or study interrupted; being insulted or humiliated; being pushed, hit, or assaulted; experiencing an unwanted sexual advance; having the environment damaged; and displaying a negative university image (N. Mathews, personal communication, September 4, 2000)

4. Environmental strategy: creating policies and practices that influence entire groups of people where they live, work, and/or play; this strategy reaches entire populations and communities; focuses on changing large group behavior; creates a standard of behavioral expectations; repeats and reinforces the same messages and thus, creates new group norms (Wittman, no date)

Assumptions

1. The majority of LSU students read *The Reveille*.
3. An environmental strategy can change behavior within a given time period.
2. External events, such as another death of an LSU student resulting from binge drinking or change in enforcement policy, cannot be controlled.

Chapter 2

Review of Literature

Extensive drinking in the undergraduate context has long been a tradition in the United States (Engs, 1978; Straus & Bacon, 1953). In fact in 1979 Wechsler stated that, “research findings indicate that college students are drinking more alcohol than their counterparts did a generation ago (p. 69).” Over a decade later, university presidents are citing alcohol abuse as the most prevalent problem on today’s campuses (Boyer, 1990; The Carnegie Foundation, 1990). More recently, the CORE Institute (1998) reported that the prevalence of alcohol use by college students was 84.2% in 1997, and that 45.5% of students had binged in the last two weeks. Even more important is that over 90% of students in this study believed that drinking was a central part of campus social life. Reis and Chamberlain (1994) found in their study that 80% of the respondents thought that campus bars were an important feature of undergraduate social life. Tyron (1986), through the outcomes of an alcohol use and attitude survey, revealed that heavy consumption was associated with drinking in local bars, and that alcohol consumption was an important part of the social-cultural experience of college. Thorner (1986) summarized underage drinking by saying that, “each university has its own reputation that either promotes or discourages alcohol use...and the conditions on the campus that either promote or discourage alcoholic beverage consumption will play a role in the particular drinking patterns of that campus (p. 44).”

This chapter will review alcohol advertising and consumption with respect to college students. While the literature relating specifically to college students is not voluminous and contradictory findings exist, it does, however, provide an opportunity to review the research that does exist on alcohol advertising and college newspapers and alcohol advertising in relation to

other areas. Therefore, literature was reviewed in the following areas: (a) alcohol advertising in college newspapers, (b) alcohol advertising and per-capita consumption of alcohol, (c) alcohol advertising in magazines, and (d) alcohol advertising and youth. Additionally, alcohol advertising media and its relation to one's attitude, beliefs, and memory, and the use of survey methods on alcohol consumption and advertising will be discussed briefly.

Alcohol Advertising in College Newspapers

One force that promotes excessive drinking at colleges and universities is alcohol advertisements in campus newspapers. The Robert Wood Johnson Foundation (1999) concluded that alcohol advertising was a factor in the environment that created problems associated with college binge drinking. Although there are a plethora of studies using magazines (Breed & DeFoe, 1979; Russo, Metcalf, & Stephens, 1981; Strickland, Finn, & Lambert, 1982) rather than newspapers to study the affects of alcohol advertising and consumption, there are very few studies that have investigated alcohol advertisements in campus newspapers targeted specifically at students. Therefore, very little empirical evidence exists concerning the effects such advertising has on actual alcohol consumption.

Only two studies were located that specifically studied alcohol advertising in college newspapers and its relation to college students. Breed et al. (1990) reported the frequency and nature of alcohol advertisements in a representative sample of college newspapers from 1984-1985 and compared the results from a similar study in 1977-1978. The total sample consisted of 180 issues representing newspapers from 60 college campuses. The number of advertisements and measured column inches of both national and local alcohol advertisements were counted. Results indicated that national alcohol advertising was prominent in campus newspapers in the year 1984-1985, averaging 24 column inches of space for a total of

3,570-column inches. This was a significant decrease from the previous study conducted in 1977-1978. Local alcohol advertisements, however, were still as plentiful in 1984-85 as in 1977-1978, accounting for 20 column inches per issue, as compared to 15.5 column inches in the study conducted 7 years earlier. When alcohol advertising was analyzed by geographical region, the South had the highest percentage of column inches of alcohol advertising (19%), compared to the Northeast (7.6%), Midwest (15.6%), and the West (15%). There were two unexpected findings in this study that deserve attention. Alcohol advertising appeared to be just as prevalent in newspapers from states where the legal drinking age was 21 as compared to states with lower drinking ages. The second unexpected finding was that fewer alcohol advertisements appeared on campuses with a high proportion of male students and more on campuses with higher female enrollments. The researchers believe this is an indication that alcohol advertisers are targeting youth and women (Breed et al., 1990).

In 1995, Hunnicutt, Mann, Davis, Hunnicutt, and Newman conducted the second research project investigating alcohol advertising in college newspapers. They sought to answer two questions: (1) Has there been a change in frequency of alcohol advertising in the college newspaper from 1984 to 1992 and (2) Has there been a change in the message content of alcohol advertising from 1984 to 1992? Methodology for this study was similar to Breed's et al. 1990 national analysis of alcohol advertising in campus newspapers. This particular study was conducted at the University of Nebraska-Lincoln, which has an enrollment of approximately 16,500 students. The total sample consisted of 79 newspaper issues for the fall semester of 1984 and 77 newspaper issues for the fall semester of 1992. Column inches devoted to alcohol advertising were calculated and recorded. The researchers concluded that alcohol advertising was prominent in the fall semester of 1984, accounting for approximately 67 column inches per

issue, as compared to the 21.48 column inches per issue in 1992. In 1984, 98% of all advertisements were for beer, and in 1992 beer was still the predominately advertised beverage. Researchers found no advertisements for wine or distilled spirits in the latter study. Overall, the findings for 1992 indicated that there was a sizable decrease, approximately 70%, in alcohol advertising since 1984. The qualitative change reflects the influence of the State Liquor Control Commission instituting the Multiple Drink Rule of 1988, which prohibited advertising drink specials that promoted excessive drinking.

Alcohol Advertising and Per-capita Consumption

Studies that have investigated the influence of advertisements on per capita consumption of alcohol include Bourgeois & Barnes (1979), Franke & Wilcox (1987), and Ogborne & Smart (1980). Each of these researchers measured some type of advertising outlet including, newspapers, magazines, and broadcast (e.g. television, radio). A variety of methods including longitudinal and cross sectional data were used.

Bourgeois and Barnes launched the pioneer study concerning alcohol advertising on per-capita consumption in 1979. The primary objective of their study was to determine the impact of per-capita consumption of alcoholic beverages in the Canadian population. Data gathered for this study was both longitudinal (over 24 years) and cross sectional (across 10 provinces). Following a database screening 31 variables was selected which would ultimately improve the models to be built. The four models investigated the impact of controllable marketing variables on the four dependent variables: beer, wine, spirits, and total alcohol. They found that both print and broadcast advertising variables were significantly related to per-capita consumption of beer, with print advertising being the most significant. Their findings were contradictory to a later study

that indicated no significant relationship between beer consumption and total advertising (Franke & Wilcox, 1987).

Franke and Wilcox's (1987) objective was to develop a database to find variables with reasonably frequent observations from 1964 through 1984 that reflected not only advertising and consumption levels but also other factors that might affect alcohol consumption. The database included three alcoholic beverage consumption variables (beer, wine, and distilled spirits), 15 advertising variables, one socio-economic variable, and several trend and seasonality variables. A model building approach indicated that total advertising is not significant in the beer consumption model. The major finding was that in the United States, during the years 1964 and 1984, advertising and consumption were related in two alcoholic beverage categories (i.e., wine and distilled spirits). The authors concluded that it is difficult to show that advertising leads to consumption.

Conclusions from two other studies have indicated that the advertising of three alcoholic beverages (beer, wine, and spirits) is not related to per-capita consumption of alcohol (Bourgeois & Barnes, 1979; Ogborne & Smart, 1980). It has also been noted in an extensive review of literature about alcohol and the media that the per-capita consumption of alcohol in the United States is hard to isolate because the causal link between advertising and consumer behavior are so complex (Blane & Hewitt, 1980). Bourgeois and Barnes (1979) also pointed out that it was impossible to single out one particular variable, that many factors influence alcohol consumption.

Alcohol Advertising in Magazines

Alcohol advertising in magazines has also been studied. Breed and De Foe (1979) conducted a study to describe the contents of alcohol advertisements appearing in 13 national

magazines. The total sample consisted of 156 magazines. The primary objective was to measure the frequency and distribution in themes for each beverage. Most of the alcohol ads (70%) were either a full page or two pages, and only 14% were smaller than half a page. They concluded that alcohol ads present an unrealistic picture of alcohol and drinking, that it only mirrors the pleasant and relaxed side and not the alternative. The researchers also found the quality of the product and cautions about excessive use were seldom mentioned.

In another study, misleading advertising was measured based on consumer beliefs (Russo et al., 1981). Ten allegedly misleading magazine advertisements were selected for testing. The 100 consumers selected to read and evaluate the advertisements identified two advertisements as incrementally misleading and four others as excessively misleading. An advertisement was considered misleading if it created, increased, or exploited a false belief about expected product performance.

Strickland, Finn, & Lambert's objective of a 1982 systematic study was to describe a variety of dimensions of magazine alcohol advertising. The sample consisted of 42 magazines, with a total of 3,131 alcohol advertisements appearing in 494 issues. Structurally, advertisements for distilled spirits predominated the sample (88%), with wine (7.5%) and beer (4.5%) falling behind. This finding was quite different from analysis studies in college newspapers where beer predominated (Breed et al, 1990; Hunnicutt et al., 1995). The researchers concluded their study by noting the complexity of linking alcohol advertising exposure to alcohol consumption and misuse.

Alcohol Advertising and Youth

Youth who drink have been one of the most widely studied age groups. Because alcohol can be addictive, a person who drinks heavily as a teenager may develop a habit that is difficult

to shed in later years. Alcohol advertising present in various media outlets creates an impression that young people can relate to, through the advertisement of fantasy places, lifestyle, and personality characteristics. In turn, this resulted in more positive expectancies about alcohol, which can change actual consumption behavior. For a community of youths, such as a campus, alcohol advertising could increase alcohol consumption for the community (Saffer, 2000). It was mentioned by Strasburger (1997) that youthful drinking would remain problematic as long as industries continue to attract teenagers by advertising stars such as frogs and party dogs.

Cook and Moore (1993) used data from the National Longitudinal Survey of Youth to explore the effect of youthful drinking on years of schooling and on the likelihood of college graduation. They identified two mechanisms in which drinking interacts with the schooling decision: (1) heavy drinking may interfere with learning and classroom performance, in turn lessening the chances a student would attend an additional year of school, and (2) to the extent that higher education is measured according to past scholastic performance and reputation, heavy drinking may have consequences. Cook and Moore (1993) were the first to demonstrate that youthful drinking affects schooling decisions, particularly the likelihood of attaining a four-year college degree.

In a research study by Strickland (1982), data were collected by administering a self-report questionnaire to a sample of 7th, 9th, and 11th grade students. The total number of students participating in the study was 1650. The purpose was to examine the relationship between alcohol advertising exposure and alcohol consumption. The empirical evidence indicated that there was no relationship of exposure to alcohol advertising on the level of consumption among teenagers. Certain orientations such as social utility, a means of conforming to the perceived

expectations of others, were found to be of influence to youth. Similarly, those teenagers who looked to alcohol advertisements with models and life-styles appeared to consume more alcohol.

Alcohol Advertising: Attitudes, Beliefs, and Memory Recall of College Students

The alcohol beverage industry is a major advertiser. In 1998, alcohol advertising media (print, outdoor, radio, and television) was over \$1.2 billion dollars, according to the Competitive Media Reporting. Zinser's et al. (1999) study concerning memory recall and attitude ratings towards alcohol, cigarette, and other product advertisements revealed that college students recall alcohol advertisements, particularly beer advertisements more than any other ads. Another study by Parker (1998) examined how college students perceived alcohol advertisements. Using a meaning based model of advertising to understand the role of alcohol advertising, students' life themes, personal conflicts, view of self, and view of others were assessed in hopes of revealing and understanding the ways college students experience alcohol advertisements, not statistically, but in the context of their lives. The researcher found that alcohol advertisers were able to tap into the life themes and myths on the products and services offered and those college students were able to identify these life themes and myths. The life themes identified to college students as most important involve danger and mystery.

Survey Methods

Survey methods have been helpful in supporting the widespread speculation that alcohol advertising contributes to drinking. People exposed to greater amounts of alcohol advertising tend to engage in heavy drinking, problem drinking, and hazardous drinking (Atkin, Neuendorf, & McDermott, 1983; Bruum & Edwards, 1975; Mosher & Wallack, 1981). Of those studied, 33% who had a "high exposure" to alcohol advertising reported having five or more drinks in a single day, compared to 16% who had low exposure (Atkin et al., 1983). Based on this study,

mass media advertising of alcohol played a significant role in shaping young people's attitudes and behaviors regarding excessive and hazardous drinking.

Summary

It is evident that undergraduate drinking is clearly a problem on today's college campus. Since 90% of students reported in the College Alcohol Study (Weschler, 2001) that drinking was an important part of campus social life, attention towards this age group is needed. One important source promoting or encouraging drinking that deserves attention is alcohol advertising in newspapers. Students tend to recall alcohol advertisements more than any other advertisement in the paper (Parker, 1998; Zinser et al., 1999). The Robert Wood Johnson Foundation (1999) believes that alcohol advertising is a factor in the environment that can help create problems associated with college binge drinking. This area of study is of concern because the prevalence of alcohol by college students' use was 84.2% in 1997, and 45.5% of the students had binged in the last two weeks (CORE Institute, 1998).

The two studies that have specifically focused on alcohol advertising in college newspapers as it relates to college students found that there has been a sizable decrease in alcohol advertising, approximately 70% over the years (Breed et al., 1990; Hunnicutt et al., 1995). It is important to note that alcohol advertising exists in college newspapers, and accounts for approximately half of all advertisements. Survey methods have also been helpful in supporting that alcohol advertising contributes to drinking. Atkin et al. (1983), Bruum & Edwards (1975) and Mosher & Wallack (1981) have all demonstrated that people exposed to greater amounts of alcohol advertising tend to engage in heavy, problem, and hazardous drinking.

Research on alcohol advertising in magazines (Breed & De Foe, 1979; Russo et al, 1981; Strickland, 1982) has concluded that alcohol ads present an unrealistic picture of drinking. Advertisements for distilled spirits seemed to predominate in magazines, whereas beer was the predominately advertised beverage in newspapers.

Researchers have also investigated youthful drinking since the effects tend to carry over into adulthood. This in turn can affect one's schooling decision to attend college, or if attending college the likelihood graduation. Cook and Moore (1993) were the first to demonstrate that youthful drinking can affect schooling decisions, particularly the likelihood of attaining a four-year college degree. Likewise, Strickland (1982) found that teenagers who attend to alcohol advertising as a means of identifying models and life-styles are more likely to experience the significant effect of advertising on consumption.

Although some research has demonstrated alcohol advertising influences consumption, there are studies that reveal the opposite. Studies that have investigated the influence of advertisements on per capita consumption of alcohol beverages (beer, wine, and spirits) have indicated that there is no relationship (Bourgeois & Barnes, 1979; Franke & Wilcox, 1987; Ogborne & Smart, 1980). In turn, Blane & Hewitt (1980) in an extensive review of literature stated that per capita consumption of alcohol is hard to determine because the causal link between advertising and consumer behavior is too complex. Several researchers have concluded that many factors are involved in the use and abuse of alcohol (political, cultural, social, and character), and that no simple answer offers a reduction of alcohol abuse (Bourgeois & Barnes, 1979; Strickland, 1982; Thorner, 1986; Treise, Wolburg, & Otnes, 1999).

If the goal of campus alcohol abuse prevention is to reduce high-risk drinking, then all activities, including careful consideration of alcohol advertising in campus newspapers, should

ultimately contribute to achieving that goal. At present, research is not comprehensive and consistent in showing that alcohol advertising influences a person's decision to consume alcohol, especially among college students. Difficulty also lies in detecting and measuring the influence of alcohol advertising on one's consumption. Thus, a strong need for further investigation of the topic exists, particularly an investigation that uses the environmental approach as previously discussed.

Chapter 3

Methodology

In September 1998, Louisiana State University was selected as one of ten universities to participate in a national program called “A Matter of Degree: the National Effort to Reduce High-Risk Drinking Among College Students.” The program is funded by the Robert Wood Johnson Foundation, administered by the American Medical Association, and evaluated by the Harvard School of Public Health.

Upon receipt of the grant, the *LSU Campus-Community Coalition for Change* was formed. Its primary mission is to reduce high-risk drinking and its associated negative consequences by changing cultural norms, policies, and practices within LSU and the community of Baton Rouge. The program is predicated on the environmental change model, meaning that to change a person, culture or social norm, the environment must first be changed. In this case, change efforts are directed at policies and practices rather than individual behavior. One aspect of this project involves changing media policy. The proposed methods were developed to investigate if students’ consumption of alcohol increased following a change in the alcohol advertisement policy in the campus newspaper *The Reveille*.

The Data

Data for the study were drawn from the Harvard School of Public Health College Alcohol Study (CAS). The CAS is an ongoing national survey of over 14,000 students at 120 four-year colleges in 40 states. The principal investigator, Weschler, has randomly selected undergraduate students at the same four-year colleges four times: in 1993, 1997, 1999, and 2001. The colleges and students selected for each study are a nationally representative sample. The purpose of the CAS is to examine factors and groups of people associated with alcohol abuse

such as traditions of binge drinking on college campuses; the role of fraternities, sororities, and athletes; and the effects of state, local, and college policies. The study also looks at other high risk behaviors including tobacco, illicit drug use, unsafe sex, and violence that may be affecting today's college student.

LSU was involved in the national study in 1993 and 1997. After receiving funding in 1998 from the Robert Wood Johnson Foundation to participate in the "A Matter of Degree" program, LSU would then be surveyed for the years 1999, 2000, 2001, and 2002. Respectively, LSU would continue to be a part of the national study. A sample from the larger project "A Matter of Degree" would be used for the national analysis. To collect the data, a request by Weschler was made to the Registrar at LSU to draw a random sample of full time undergraduate students between the ages 18 and 25. The actual number of respondents and return rate for the years were:

Table 1. Number of Respondents and Return Rate for the CAS

Year	Respondents	Return Rate
1993	137 Respondents	71%
1997	91 Students	45%
1998	Not Surveyed	N/A
1999	310 Students	51%
2000	358 Students	55%
2001	244 Students	45%
2002	Has not been drawn	N/A

Note. National study conducted in 1993, 1997, 1999.

While 2002 will be first the year that the survey is delivered electronically to students via email, in the past years it has mailed directly to students (paper and pencil survey). Each time the CAS is sent out, it is accompanied by a series of letters and postcard reminders to reinforce the response. At the end of the process, if a student still has not responded, he or she is sent a brief, one-page version of the CAS as an incentive to submit something. For this proposed study, data from years 1997, 1999, and 2000 were used.

Sample and Procedure

Demographically, in all three sample years (1997, 1999, and 2000) participants were similar. In terms of gender, more males than females responded (54.9% in 1997; 61.9% in 1999; and 60.1% in 2000). The students ranged from 18 to 25 years of age. In the 1999 survey over half of the respondents were 21 years of age, which was not the case in 1997 or 2000. The ethnic composition was primarily white, at least 81% percent each year sampled. The majority of the sample was single, Catholic, lived off campus, and had no Greek or athletic affiliation with the school. Respondents classification in school typically varied from an undergraduate freshmen to an undergraduate senior.

Table 2. Demographic Statistics

Variable	1997	1999	2000
Gender			
Male	50	192	215
Female	41	118	142
Race			
White	74	263	292
African-American	9	24	28
Asian	4	12	18
American Indian	3	9	1
Other	0	0	0

Table 2 continued.

Age			
18	8	51	59
19	21	81	69
20	16	62	71
21	15	53	72
22	2	23	40
23	4	9	21
24	4	7	7
25	20	22	19
Marital Status			
Never Married	73	288	337
Married	12	19	17
Divorced	4	2	3
Separated	1	1	1
Religion			
Catholic	44	165	191
Protestant	17	110	131
Judaism	0	1	2
Other	13	9	9
None	8	18	20
Housing			
Off campus	79	207	237
Single sex dorm	3	63	71
Co-ed dorm	0	1	5
Greek house	5	12	22
Other university housing	0	9	12
Other	0	16	11
Year in School			
Freshmen	18	79	85
Sophomore	20	81	75
Junior	20	75	90
Senior	15	54	67
5 year	14	21	40
Graduate school	3	0	1
Greek Affiliation			
Yes	17	49	64
No	74	260	293

Table 2 continued.
Athletic Affiliation

Yes	10	33	29
No	79	274	326

The years 1997, 1999, and 2000 were used for several reasons. In 1997 a new advertising policy change occurred in *The Reveille*, that no alcohol advertisements would be accepted. The year, 1999, was selected as a pre-policy change data point so that alcohol consumption, prior to a reversal in advertisement policy, could be assessed at more than one point in time. Using these two waves of data, rather than one, will allow stronger evidence of the relationship between advertising and alcohol consumption. The year 2000 was chosen as the post-change policy data collection period. This is the first year of the CAS immediately following the reversal in the alcohol advertising policy (to accept alcohol advertisements).

Table 3. *The Reveille* Alcohol Advertising Policy

Year	Advertising Policy
1997	No alcohol advertisements accepted in <i>The Reveille</i>
1999	No alcohol advertisements accepted in <i>The Reveille</i>
2000	Alcohol advertisements accepted in <i>The Reveille</i>

The CAS was critically reviewed for questions that most accurately reflected personal alcohol consumption. The ensuing five variables were selected.

The questions were:

1. 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)

2. 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)
3. The last time 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)
4. 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)
5. 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)

Data Analysis

Following frequency analyses, the hypotheses were tested using a t-test analysis. Paired t-tests or difference in means is an acceptable statistical test for hypothesis with two variables measured at the quasi-interval level (Spatz, 2001). The three waves of data were compared as follows: 1997 to 2000 and 1999 to 2000.

Chapter 4

Findings

The campus newspaper, *The Reveille*, established a new policy (Fall 2000) to accept alcohol advertising and marketing. This new policy is the antithesis of the old policy, established in 1997 that did not allow any advertisements that encouraged excessive or binge drinking. The purpose of this project is to investigate the relationship between alcohol advertising policies in the campus newspaper, *The Reveille*, and students' reported consumption of alcohol.

This study was guided by five questions from the CAS survey that most accurately reflected personal alcohol consumption: (a) How many times have you had five or more drinks in a row? (b) During the last two weeks, how many times have you had four drinks in a row, (but no more than that?) (c) The last time you had four or more drinks in row, how many drinks did you actually have? (d) On how many occasions have you had a drink of alcohol in the past 30 days? (e) In the past 30 days, how often did you drink enough to get drunk? The questionnaire defined a "drink" in equivalent amounts of alcohol: a 12-ounce bottle or can of beer; a 4-ounce glass of wine; or a shot of liquor, either straight or in a mixed drink. This section will present the overall frequencies for the five questions or variables selected for review as well as findings from the paired t-test analysis.

Table 4 through Table 8 presents the frequencies for the five questions analyzed. Students binge drinking behavior, as analyzed in Table 4 and Table 5, ranged from 55% to 66% for all three years assessed. This binge drinking rate is above the national average, as measured by the CORE Institute (1998), which was 45.5% among college students within a two week period. It was based upon how many times a student had five or more drinks in a row. When examining changes across the survey years, there was a slight increase in the number of drinks

consumed within a two week period for 1999, then a decrease in 2000 (see Table 4 and Table 5). The pattern that emerged in 1999-2000 for students consuming four or more drinks in a row was found to be statistically significant ($< .05$), thus partially supporting the hypothesis that a relationship exists between students' binge drinking and the alcohol advertisements that were present in *The Reveille*. At the same time, a higher percentage of students engaged in frequent binge drinking. In 1999, more drinkers could be observed as drinking to excess based on the measures of frequency of drinks actually consumed, frequency of drinks within a 30 day period, and frequency of drunkenness.

Table 4. Frequencies and percents of five or more drinks

Response	1997		1999		2000	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
None	50	54.9%	200	64.7%	196	54.9%
Once	12	13.2	33	10.7	65	18.2
Twice	7	7.7	37	11.0	43	12.0
3 to 5 times	17	18.7	27	8.7	39	10.9
6 to 9 times	4	4.4	12	3.9	10	2.8
10 or more times	1	1.1	0	0	4	1.1

Table 5. Frequencies and percents of four or more drinks

Response	1997		1999		2000	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
None	59	64.8%	203	65.9%	215	60.2%

Table 5. continued

Once	15	16.5	52	16.9	65	18.2
Twice	7	7.7	31	10.1	39	10.9
3 to 5 times	7	7.7	16	5.2	31	8.7
6 to 9 times	3	3.3	4	1.3	6	1.7
10 or more times	0	0	0	0	0	0

Table 6. Frequencies and percents of drinks actually consumed

Response	1997		1999		2000	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Never had four or more drinks in row	21	23.3%	95	31.0%	91	25.6%
4 drinks	7	7.8	49	16.0	69	19.4
5 drinks	9	10.0	40	13.1	49	13.8
6 drinks	15	16.7	48	15.7	52	14.6
7 drinks	10	11.1	26	8.5	22	6.2
8 drinks	11	12.2	18	5.9	32	9.0
9 drinks	4	4.4	8	2.6	13	3.7
10-14 drinks	10	11.1	16	5.2	24	6.7
15 or more drinks	3	3.3	6	2.0	4	1.1

Table 7. Frequencies and percents of drinks in the within a 30 day period

Response	1997		1999		2000	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Did not drink in last 30 days	0	0%	3	1.4%	0	0%
1 to 2 occasions	20	31.7	72	34.8	64	24.0
3 to 5 occasions	18	28.6	58	28.0	76	28.5
6 to 9 occasions	9	14.3	37	17.9	70	26.2
10-19 occasions	10	15.9	32	15.5	45	16.9
20-39 occasions	6	9.5	5	2.4	12	4.5
40 or more occasions	0	0	0	0	0	0

Table 8. Frequencies and percents of people who drank enough to get drunk

Response	1997		1999		2000	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Not at all	19	30.2%	76	37.6%	100	37.7%
1 to 2 occasions	27	42.9	96	42.6	89	33.6
3 to 5 occasions	6	9.5	24	11.9	38	14.3
6 to 9 occasions	5	7.9	12	5.9	26	9.8
10-19 occasions	6	9.5	4	2.0	9	3.4
20-39 occasions	0	0	0	0	0	0
40 or more occasions	0	0	0	0	0	0

Students also exhibited high levels of frequency of drinking and frequency of drunkenness. As reported in 1999 (n=310), approximately 36% reported consuming alcohol on 6 or more occasions during the within a 30 day period. Not surprisingly then, approximately 64% of students drank enough to get drunk on one or more occasions, with the reported high being 10-19 occasions. The year 2000 (n=358), college students level of drinking was remarkably similar in that 48% reported drinking on 6 or more occasions in within a 30 day period. However, it is also important to note that all students reported drinking on at least one occasion. Even more notable in 2000 was that over half of the college students, 62%, got drunk on one or more occasions in the last month.

The paired t-test analysis demonstrated statistically significance for the previously discussed variables in 1999-2000. Therefore, based on these findings, a relationship can be said to exist between the frequency of alcohol consumption within a 30 day period, and the alcohol advertisements in *The Reveille*. Also supported are the students' reported occurrences of getting drunk and the alcohol advertisements in *The Reveille*. The findings from the 1997 data, and the 1997-2000 paired t-test analysis yielded no significance.

Table 9. One-tailed paired samples test for 1997-2000

Variable	t Test Statistic	Level of Significance
Binge drink: 5 drinks	1.01	.16
Binge drink: 4 drinks	-.70	.24
4 or more: how many actually had	1.38	.09
30 days: how many times drink	-.84	.20
30 days: how many times drunk	.56	.29

Table 10. One-tailed paired samples test for 1999-2000

Variable	t Test Statistic	Level of Significance
Binge drink: 5 drinks	-1.59	.06
Binge drink: 4 drinks	-1.75	.04
4 or more: how many actually had	-.95	.17
30 days: how many times drink	-2.06	.02
30 days: how many times drunk	-1.17	.04

Chapter 5

Discussion and Conclusions

The purpose of this project was to investigate the relationship between alcohol advertising policies in the campus newspaper, *The Reveille*, and students' reported consumption of alcohol. As part of a larger study, students' consumption of alcohol was identified in 1997, 1999, and 2000. In 1997 a policy was established in the campus newspaper *The Reveille*, that no alcohol advertisements would be accepted. The year, 1999, was selected as a pre-policy change data point so that alcohol consumption, prior to a reversal in advertisement policy, could be assessed at more than one point in time. The year, 2000, was the first year the CAS was administered following a change in *The Reveille*, to once again accept alcohol advertisements. The typical respondent profile was white, single, Catholic, lived off campus, and had no Greek or athletic affiliation. In all three waves of data, more males completed the survey than females.

The findings from this study indicated that students' consumption of alcohol may have increased following a change in the alcohol advertisement policy of the campus newspaper *The Reveille*. This finding is consistent with the CAS binge drinking rate among LSU students, which increased from 44.1% in 1999 to 50% in 2000.

The paired t-test analysis was found to be statistically significant in 1999-2000, but not in 1997-2000. In 1999-2000, students who reported drinking four or more drinks in a row were likely to be influenced to drink by the presence of alcohol advertisements in *The Reveille*. The same held true for students who reported drinking alcohol within a 30 day period, and for the number of occasions students reported getting drunk. The statistical significance in 1999-2000 may be attributed to several factors. When a new policy change is first instituted, such as *The Reveille's* alcohol advertising policy in 1997, it is well publicized and then may be in the minds

of students. Over time, however, the policy may recede from the consciousness forefront and previous behaviors such as binge drinking and getting drunk may reemerge. Student turnover may provide another explanation for the significance in 1999-2000. College students are continually graduating, transferring to other schools, and dropping out of college. Therefore, the cohort of students changes, which can lead to shifts in ideas and behaviors, such as drinking, and knowledge about policy changes.

Further examination of the results showed that drinking enough alcohol to get drunk was significant, a finding that is consistent with previous research that has demonstrated alcohol advertising contributes to heavy, problem, and hazardous drinking (Bruum & Edwards, 1975; Mosher & Wallack, 1981; Atkin et al., 1993). The reported mean of drinking alcohol in the within a 30 day period was significant in 1999 and 2000 and consistent with past research concerning the prevalence of alcohol consumption by college students (Tyron, 1986; CORE Institute, 1998).

Limitations and Strengths

At present, research in this area is not plentiful, comprehensive, or consistent in demonstrating that alcohol advertising influences ones decision to consume alcohol, especially among college students. Researchers agree that it is difficult to detecting and measuring the influence of one single isolated factor in the consumption of alcohol (Bourgeois and Barnes, 1979; Blane & Hewitt, 1980; Franke & Wilcox, 1987) and that the causal link between advertising and consumer behavior is too complex (Bourgeois and Barnes, 1979). Perhaps, this is a limitation in interpreting the results of this study. In the current study, the possibility that factors such as politics, culture, society, and personality attributes contribute to binge drinking cannot be excluded, thus limiting the findings of the current study. For example, it might be

difficult to generalize these results to other colleges or universities that do not have the cultural mores of south Louisiana, with its plethora of festivals especially Mardi Gras, in which alcohol consumption is an ingrained part of the experience. The low response rate of the Greek population also could have affected the results of the present study. For example, Greeks choosing not to respond could have raised or lowered the binge drinking rate. Lastly, the timing of the data collection could have influenced the results. Because the CAS was conducted around known periods of high alcohol consumption, Mardi Gras and Spring Break, the responses may have been distorted.

Using existing data from the CAS is also a limitation of the current study. Unfortunately, hypotheses with multiple independent variables that could better take into account political, cultural, societal, and personality attributes could not be tested due to restrictions of the data, which is owned by Harvard School of Public Health.

On the other hand, the strength of the present study was that data were drawn from the Harvard School of Public Health College Alcohol Study. The CAS is a notable, national on-going survey, under the direction of Weschler, a renowned researcher and publisher in the field of high-risk drinking. Therefore, data-gathering techniques, and the size and representativeness of the subject pool was scientifically rigorous.

Future Research

Future research is needed in the area of alcohol advertising and its effects on alcohol consumption, particularly, as it relates to college students. Literature relating specifically to college students is not voluminous, thus attention is needed since high-risk drinking appears to be a common characteristic among this group. Further investigation of the topic is also recommended using the ecological or environmental model. The model proposes that individual

change occurs by changing the social environment or social norms that surround people, rather than aiming at individuals through traditional methods such as lectures, speeches, and counseling and therapy. Because the model has shown to be effective in the fields of Human Ecology and Public Health, it should be adopted as the theoretical framework that guides studies in other disciplines as well.

In addition, future research should take into account central variables such as gender, age, race, residence, current year in school, Greek affiliation, and athletic affiliation from the CAS, which could further extend the present study. A content analysis of the campus newspaper *The Reveille*, as well as measurement of alcohol advertisements in the newspaper could also provide stronger evidence supporting the hypothesis. A content analysis might consist of daily charting of alcohol advertisements including: type of alcohol advertised, location (bar or restaurant), time (happy hour, midnight special), product (beer, wine, liquor), drink special (\$1.00 calls, penny pitchers), target audience (women, Greeks), and whether it was promoting a name brand alcohol, or an event (holiday or band) in order to better understand the complexity of the problem. The measurement of alcohol advertisements could include measuring column inches of all advertisements in the campus newspaper, and comparing to the column inches devoted towards alcohol advertisements thus conveying the prevalence of alcohol in the culture. Lastly, alternative newspapers specifically targeting college students, such as the *Tiger Weekly* that is distributed on the campus of LSU, should also be analyzed for alcohol advertising content.

Implications

The results of the present study have implications for individuals and groups including campus administrators, educators, students, community policy makers, advocates, coalitions and task forces, practitioners, public health services, and the hospitality industry. Because of the

high-risk drinking behavior among today's college students, it is recommended that there be continued and expanded efforts in monitoring alcohol advertising in campus newspapers. Each college and university has a reputation for either promoting or discouraging alcohol use; therefore each should develop, make explicit, and actively enforce its own policies on alcohol advertising. Students, as well as faculty and administrators, should be actively involved in the policy formulation and implementation process. In sum, if one of the goals of campus alcohol abuse prevention is to reduce high-risk drinking, then all activity, including alcohol advertising in campus newspapers, should ultimately contribute to the achievement of that goal.

Community policy makers and advocates can focus their attention on the alcohol industry's most powerful tool, advertising. By decreasing the exposure to alcohol advertising and increasing advertising that counters alcohol's appeal, the link between alcohol consumption, particularly binge drinking is likely to decrease. Increases in alcohol beverage prices and excess taxes are another way policy makers can help reduce alcohol consumption. In fact, past research supports that aggressive policies aimed at restricting the availability of alcoholic beverages to college students lead to significant reductions in binge drinking (Chaloupka & Wechsler, 1996).

Lastly, task forces or coalitions, as well as public health services can use the research-based information on alcohol advertising to develop better prevention strategies and programs. For example, The LSU Campus Community Coalition for Change has collaborated with the hospitality industry in forming a panel comprised of university-area bar and restaurant owners. The Hospitality Resource Panel has voluntarily increased the price of drink specials advertised thus reducing consumer demand of alcohol.

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Vita

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