STRATEGIC AMBIGUITY: THE EFFECTS OF VIEWING AMBIGUOUS ADVERTISEMENTS ON COLLEGE STUDENTS

by

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To the Faculty of Washington State University;

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Abstract

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Objective: Alcohol advertising is self regulated by an internal review board that reviews complaints and issues sanctions when deemed necessary. Previous research has determined that alcohol advertisements may violate the intentions of the guidelines while still strictly adhering to the codes, which could be seen as a form of ambiguity. The purpose of this study is to examine the effect of such ambiguous content and compare it with unambiguous versions of the same advertisements to determine the role ambiguity plays in perceptions, intentions and attitudes related to drinking.

Methods: A 3 (condition) X 3 (level of consumption) pre and post test experiment was conducted with 377 participants. Participants came into a lab, completed a pretest, and then returned a week later. Participants then viewed four advertisements that differed by advertisement ambiguity level and completed a post test questionnaire. The conditions included an ambiguous condition; an unambiguous condition that used the same advertisements as the ambiguous condition but with alterations so the ambiguity was removed; and a control condition of non-beverage advertisements.

Results: Both alcohol consumption and condition did have an effect on a variety of measures. General and personal appeal toward the ads differed by condition, with the

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unambiguous condition having the least appeal. Appeal to people less than 21 also differed by condition. Desirability was also influenced by the advertisements, with the ambiguous and unambiguous advertisements having a greater impact on desirability than the control. Conditions did not influence alcohol expectancies or intentions to consume alcohol.

Conclusions: It is evident that ambiguous advertisements may play a role in opinions related to alcohol consumption, but not necessarily to behavioral intentions when there is only minimal exposure. Exposure to alcohol advertising in general had an effect on desirability. And although participants did not feel the ads appealed to them personally, participants did feel that the ambiguous ads would be more appealing to people who are less than 21 years of age. This could have implications for the advertising industry.

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CHAPTER ONE: Introduction and Literature Review

Alcohol is a \$116 billion a year industry in the United States (National Research Council and the Institute of Medicine, 2004), and each year, the alcohol industry spends an estimated \$4.5 billion on advertising (Howard, Flora, Schleicher et al., 2004) to promote products that can have negative consequences. For example, heavy alcohol consumption is associated with health-compromising behaviors including accidental death, violence, unprotected sexual activity, homicide and suicide. Heavy use is also associated with the use of other substances such as illicit drugs (Galanter, 2005).

Sixty-four percent of Americans ages 18 and older consume alcohol (Striker, 2006), and the 41% of 18 to 20 year olds who attend college consume alcohol at a greater rate than their peers not attending college (NSDUH report, 2006). Additionally, underage drinkers (12 to 20 years old) are estimated to account for nearly 20% of consumer expenditures on alcohol in the United States (Galanter, 2005). Since 2002, rates of alcohol use, binge drinking and heavy alcohol use among full-time college students has been consistently higher than among other 18 to 22 year olds not enrolled in college full time (SAMHSA, 2008). For example, the 2007 National Survey on Drug Use and Health found that 63.7% of full-time college students 18 to 22 years old had used alcohol in the past month compared to 53.5% of 18 to 22 year olds not enrolled full time in college, and 43% of college students reported binge drinking compared to 17.2% of other 18 to 22 year olds.

Although many factors contribute to an individual's decision to consume alcohol, alcohol advertising has been found to play a role (Anderson, de Bruijn, Angus, Gordon &

Hastings, 2009; Atkin, Hocking & Block, 1986; Austin & Meili, 1994; Hust, 2006; Collins et al., 2007). A review of 13 longitudinal studies that examined alcohol advertising found it is linked to the uptake of drinking by young people who do not drink and to increased consumption by those who already drink (Anderson et al., 2009). According to Atkin (1995), "...alcohol advertising stimulates higher consumption of alcohol by both adults and adolescents...and the key question is no longer whether advertising influences drinking, but what degree of impact occurs." Collins and her colleagues (2007) found that adolescents who were heavily exposed to alcohol advertisements and promotional items were 50% more likely to drink alcohol than adolescents who had less exposure, and that higher levels of exposure to alcohol ads were also associated with greater intentions to consume alcohol, even among youth who did not already consume alcohol.

It is important to understand the effects of alcohol advertising because of its prevalence. In a content analysis of alcohol advertisements from November 1999 to April 2000, Austin and Hust (2005) found that alcohol ads outnumbered nonalcoholic beverage ads 4 to 1 in mainstream magazines popular with adolescents such as *Rolling Stone* and *Sports Illustrated* and 2 to 1 on popular television networks. Garfield, Chung and Rathouz (2003) found that out of the nearly 10,000 alcohol ads they counted in 35 major magazines from 1997 to 2001, 82% of the alcohol advertisements were for distilled spirits. They also found that for every additional 1 million readers ages 12 to 19 there were 1.6 times more beer advertisements and 1.3 times more distilled spirits advertisements in each magazine.

Alcohol advertising is self-regulated, which is when a corporation develops rules and then enforces them voluntarily (Haufler, 2001). Alcohol advertising is self-regulated in

an effort to balance the First Amendment rights of freedom of speech with the need to protect consumers (Nelson, 2005). Debates over the regulation of alcohol advertising began around the 1940s after the repeal of prohibition (Pennock, 2007). Battles against government regulation of alcohol advertisements have utilized the First Amendment, which allows for free speech, the Twenty-first Amendment, which grants states jurisdiction over alcohol beverage commerce, and the Fifth Amendment, which prohibits discrimination. Proponents of alcohol advertising believed discrimination was evident when alcohol advertising regulation was proposed because cigarette companies were not being targeted for regulation in a similar fashion (Pennock, 2007). For alcohol advertising to be regulated by the government, it "must be demonstrated that the advertising deliberately or unnecessarily targets youth or the advertisements result in alcohol abuse by youth" (Nelson, 2005, p.40).

Instead of government regulation, the alcohol industry is self regulated, with each sector of the alcohol industry (beer, wine and liquor) having a self-imposed advertising code of conduct. Although the liquor industry's Code attempts to limit alcohol advertisements viewed by underage audiences, 1 in every 6 alcohol ads appear to target underage drinkers, specifically teenagers (Austin & Hust, 2005). Additionally, Jernigan and colleagues (2004) found that underage youth saw 12% more distilled spirits ads in national magazines in 2002 than of-age individuals and 45% more beer and ale advertisements.

Although alcohol advertising codes are in place, scholars have found that some advertisements and practices do not always adhere to the guidelines created by the alcohol industry (Austin & Hust, 2005; Zwarun and Farrar, 2005). For example, Zwarun and Farrar

(2005) found that although alcohol commercials aired during sports programs almost always followed the guidelines literally, the ads often included strategically ambiguous content that could be interpreted as "violating the guidelines' spirit," (Zwarun & Farrar, 2005, p. 347). Such advertisements can have an effect on the perceptions of the viewers (Zwarun, Lina, Metzger & Kunkel, 2006). For example, Zwarun and her colleagues (2006) found that participants who viewed alcohol ads that included people participating in risky behaviors and drinking beer had an increased tolerance for drunk driving.

Although Zwarun's work looks at the presence of ambiguity in alcohol advertisements in certain situations, it fails to look at the effects exposure to such ambiguity may have on broader outcomes related to alcohol advertising. Overall, there is a dearth of research that examines the impact ambiguous advertisements can have on viewers. This study aims to fill that gap by looking at how viewing ambiguous advertisements affects outcome measures including desirability, expectancies and intentions to consume alcohol. It will also examine if there is a difference in these outcome measures between light, moderate and heavy drinkers. The primary aims of the project are:

- To determine how ambiguous alcohol advertisements and unambiguous advertisements differ in their effects on individuals' beliefs about alcohol advertising.
- To determine how ambiguous alcohol advertisements and unambiguous advertisements differ in their effects on individuals' beliefs and behavioral intentions related to alcohol use.

 To determine how ambiguous alcohol advertisements and unambiguous advertisements differ in their effects on people depending on consumption habits.

Regulation

The alcohol industry created codes to try and ensure that alcohol advertisements do not appeal to underage drinkers and do not encourage the abuse of alcohol (Code, 2009). However, industry critics see such regulation as a method being employed to keep the industry free from governmental regulation (Landman, 2008). Government organizations only provide limited supervision of alcohol advertising. The Federal Trade Commission's main goal is to protect consumer interests in the United States (About FTC, 2008); however, its regulatory presence related to alcohol advertising is limited. Only alcohol advertisements that use deceptive acts are regulated by the Federal Trade Commission. Although the FTC monitors regulatory practices, for the most part the commission agrees that the industry's self regulation is acceptable. In a 2008 article (Urken, 2008), the FTC commissioner at the time cited the alcohol industry as an example of effective selfregulation because of its standards to not advertise alcohol in media where more than 30% of the audience is below the legal drinking age. Although the FTC views the self regulation as successful, there are still requests to tighten regulations. In 2008, the U.S. Surgeon General issued a call to action to alcohol marketers and asked them to be more responsible in the prevention of underage drinking by working to make sure youth are not overexposed to alcohol advertisements.

The Distilled Spirits Council of the United States is the organization that oversees liquor advertising and all liquor advertisements are regulated by the Distilled Spirits

Council of the United States' Code of Responsible Practices for Beverage Alcohol

Advertising and Marketing (Code, 2009). According to the DISCUS Web site, DISCUS

oversees advertising practices for 80% of all liquor brands sold in the United States (About,

2008). DISCUS began to oversee alcohol advertising in the 1930s shortly after prohibition,

which is when the first Code of Good Practices was developed "to ensure that distilled

spirits advertising is responsible, dignified and intended for adults" (History of social

responsibility, 2007).

DISCUS still uses the Code today, although it has been updated and revised and now includes more than 30 guidelines related to responsible advertising. The Code includes guidelines that specify appropriateness of outlets. One example of this is that to advertise alcohol in magazines, the magazine must have more than 70% of their audience be older than 21 years of age (Code, 2009). The Code also specifies what type of content should not appear in alcohol advertisements. In general, alcohol ads should not relate alcohol consumption to attainment of success, risky activities or sexual prowess (Code, 2009). Although the DISCUS Code prohibits advertisers from using content that sexually objectifies people or portrays risky behaviors, advertisements have been found to include such content (Atkin et al., 1986; Austin & Hust, 2005; Hust, 2006; Zwarun & Farrar, 2005).

The other two trade organizations, the Beer Institute and the Wine Institute, have similar policies and codes in place but have not been publicly praised as DISCUS has and do not have as detailed or transparent a review process. DISCUS produces semi-annual code reports that allow the public to see what advertisements have received complaints and

whether they have been sanctioned. Because of this, DISCUS will be the trade group focused on in this study.

DISCUS Complaint Review Process. Anyone can make a formal complaint about a liquor advertisement he or she feels violates the guidelines outlined in the Code. In 2008, the DISCUS review board received 13 complaints about advertising placement and content. Out of the 13 ads, 8 were found in violation of the Code. In 2007, the DISCUS review board received 18 complaints about liquor advertisements and found 10 of them in violation. That was an increase in complaints from 2006, in which 16 complaints were filed, nine of which were found in violation. Although the board is finding advertisements in violation and trying to make advertisers adhere to the Code, one issue of the Code is that regulation and sanctions only occur after publications have already been in the media.

DISCUS has a board that reviews complaints and makes determinations on whether advertisements meet the Code, including advertisements produced by non-DISCUS members. The review board then makes a decision after notifying the advertiser so that he or she has a chance to defend the advertisement. If the board agrees the ad violates the Code, the advertiser must take responsive action, which typically involves the removal of the advertisement. DISCUS displays the complaints and board decisions publicly in its published semi-annual reports. These reports document what complaints have been made, what decisions the board has made in response and what action, if any, has been taken.

Regulators and industry watchdogs have cited DISCUS as a model of self-regulation that other industries should follow, including food manufacturers and pharmaceutical companies (Social responsibility program). In a Wall Street Journal article (Urken, 2008)

the commissioner of the Federal Trade Commission said that the alcohol industry is an industry that sets precedents related to effective self-regulation for other industries because of its voluntary standards about the placement of advertisements. Because of the semi-annual code reports and for "making the industry's advertising complaint review process more transparent and understandable to the public," DISCUS was named a finalist for the Best Corporate Social Responsibility Program by the American Business Awards (Social responsibility program). In 2006, DISCUS won a Corporate Social Responsibility award in the business ethics category at the PR News Corporate Social Responsibility Awards Ceremony (Liquor industry). The award is given to an organization that demonstrated "unquestionable business ethics to all stakeholders, in some cases mitigating the crises of confidence that employees, customers and other stakeholders may have had in the wake of recent corporate scandals."

Each year, reports from the three industry groups are reviewed by the Federal Trade Commission in an attempt to oversee the regulatory process. In 2008, the Federal Trade Commission found all three review boards had reviewed complaints about the codes and stated that DISCUS had focused on proper advertising content as well as placement (Federal Trade Commission, 2008). In the report, the commission stated that the industry successfully avoided using advertising techniques that appealed to youth.

Strategic Ambiguity

One possible way that advertisers might try to get around specific regulations on alcohol advertisements is through strategic ambiguity (Zwarun, Linz, Metzger & Kunkel, 2006). Strategic ambiguity is when a person or organization uses ambiguity intentionally to

accomplish specific goals (Eisenberg, 1984). Strategic ambiguity complicates the interpretation of the message for the receiver. It is characterized "by the strategic and purposeful use of messages with high levels of abstraction to simultaneously accomplish multiple, and often conflicting, organizational goals" (Smith, Atkin & Roznowski, 2006, p. 2).

In strategic ambiguity, the message creator can prompt different interpretations from different audiences and can cause individuals to have a variety of interpretations of the sender's goal. Ambiguity typically involves the use of vaguely-worded recommendations for behavior or the presentation of a suggestive portrayal or argument that then requires receivers to draw their own implications (Atkin, 2002). The strategic aspect comes into play when organizations manipulate message content to allow for different interpretations based on the perceptions of the populations.

There is little research on strategic ambiguity in alcohol advertising, but Smith and her colleagues (2006) found that drink responsibly alcohol campaigns could be perceived as strategically ambiguous and that such messages could be a "subtle public relations function that may disarm critics, impress opinion leaders, and engender good will with the general public" (p. 9). Atkin (2002) also claims that alcohol companies use strategic ambiguity "quite shrewdly" (p. 49) in their campaigns that address risky drinking by using vague slogans that can address multiple objectives. Through strategic ambiguity, alcohol companies can combat alcohol problems such as drunk driving without discouraging consumption, impress the public and opinion leaders with social responsibility messages

that target heavy drinkers with moderation messages, and promote the use of alcohol in a noncommercial format (Atkin, 2002).

According to Thorson (1995), strategic alcohol advertising is something that needs to be studied. Most media effects studies show participants alcohol advertisements and commercials without first exploring the intent of the advertisements (Thorson, 1995). Advertisers gear advertisements to specific populations and have a message in mind. For this reason, it is important to understand the effects of advertisements on their intended audiences as well as their unintended audiences. This could be one reason media effects research is sometimes contradictory. Some studies may simply be measuring exposure without concern for the actual content, and therefore finding different results.

Zwarun and Farrar (2005) found in their study of alcohol commercials in sports that alcohol advertisements themselves may be ambiguous because the advertisements may literally meet the Code guidelines but violate the "spirit" or intention of the guidelines. This may be a way for advertisers to meet the expectations of society regarding responsible advertising while still linking alcohol to sexual appeals, risky behaviors or the attainment of wealth and success. One example of this would be a portrayal of a risky behavior in an alcohol advertisement. The DISCUS Code prohibits advertisements from portraying alcohol consumption by a person involved in something that takes "a high degree of alertness or physical coordination" (Code, 2009). However, an ad can include such images as long as alcohol consumption is not shown. For example, an Evan Williams ad that showed bass fishermen on an electric boat and one in a row boat received a complaint stating it violated the Code because "drinking and boating...is frowned upon as a safety hazard" (Semi-Annual

Code Report, 2007). However, the DISCUS Board reviewed the complaint and found that the ad was in compliance with the Code because the image did not show any consumption of alcohol.

In 2008, Dr. Hust and I conducted a study that looked at how awareness of the DISCUS Code of Responsible Practices influenced viewer's perceptions of the alcohol industry's advertising practices and the industry itself. We found that viewers' who read the DISCUS Code were more likely to find advertisements to be responsible. Although participants who viewed the Code rated ads as more responsible than non-viewers, both participants who viewed the Code and participants who did not view the Code believed that the alcohol advertisements included ambiguous content. This supports Zwarun and Farrar's (2005) findings that although alcohol ads appear to follow the guidelines, they sometimes violate the spirit of the guidelines. Because ambiguous advertisements portray content that is frowned upon by the Board and yet not quite in violation of the guidelines, it is important to see if such content has an impact on viewers' perceptions and opinions related to alcohol consumption, as well as their desirability and expectancies related to consuming alcohol. Theory would indicate that advertisements can have an impact on viewers, and alcohol advertisements that use strategic ambiguity could lead to potentially negative attitude and behavior changes. For example, people may see characters in alcohol advertisements rewarded for consumption of alcohol and believe that they can achieve rewards in a similar fashion.

Social Cognitive Theory

Social Cognitive Theory attempts to explain how people acquire and maintain attitudes, values and behaviors (Bandura, 1997; Bandura, 2004). According to Bandura, there are two basic modes of learning: direct experience and social modeling. Since people cannot learn everything through direct experience because of the amount of time that would be required, people learn by watching the actions of others, including actions portrayed in the media (Bandura, 1986).

The modeling people see can instruct and motivate as well as provide social prompting and help construct their understanding of society (Bandura, 1997). Models can transmit knowledge, values, skills and behaviors. They can also model emotional experiences showing how people should feel toward people, places and objects (Bandura, 2004). This is done through a system of awards or punishments. Seeing others experience positive outcomes based on their actions can create positive expectancies, which can be motivators. Watching punishment take place can create negative expectancies that can serve to dissuade certain actions or behaviors.

Observational learning has three main functions. Observational learning can help people acquire the cognitive skills necessary for establishing new patterns of behavior (Bandura, 1986). It can also strengthen or weaken people's inhibitions related to behaviors they have already learned. Additionally, observational learning can act as a social prompt for behaviors people know but have not had sufficient inducement to enact.

There is a difference between acquisition and performance, however, and people do not enact everything they see modeled (Bandura, 1986). People's actions depend on

additional factors including their judgments about their ability to perform the behavior, their perceptions of whether the act was rewarded or punished, and their belief that similar consequences would happen to them. "People are more likely to exhibit modeled behavior if it results in valued outcomes than if it has unrewarding or punishing effects," (Bandura, 1986, p. 68). There are three sources of incentives people can perceive: direct, vicarious or self-provided. These incentives may be material possessions, but they may also be sensations or positive social reactions.

Alcohol advertisements have often been found to portray drinking as related to positive outcomes (Aktin et al., 1986; Austin & Hust, 2005; Finn & Strickland, 1982; Hust, 2006). Such portrayals could lead to a belief that alcohol consumption leads to positive outcomes and could be a motivator for an individual to behave in a similar manner, therefore consuming alcohol. According to Social Cognitive Theory, behavior is also dictated by the expected outcomes a person believes he or she may experience. This can include social approval and disapproval as well as material, pleasurable and aversive effects (Bandura, 2004). This means that characters in alcohol advertisements can serve as models people may want to imitate based on their perceptions of whether the characters in the advertisements are being rewarded for their consumption of alcohol. Additionally, behaviors frequently portrayed without negative consequences are likely to be imitated, and the behaviors are even more likely to be imitated when the models of that behavior are perceived as attractive (Bandura, 1986).

Message Interpretation Process Model

The Message Interpretation Process (MIP) model, which was introduced by Austin et al. in 1990, is a processing theory based primarily on social cognitive theory (Bandura, 1986) as well as expectancy theory and decision making theory. MIP posits that people actively process messages, partially through logic and partially through emotion (Austin & Johnson, 1997). It assumes that receivers "make logical comparisons between their experiences and what they see in the media while at the same time responding affectively to media messages," (Austin, Pinkleton & Funabiki, 2007, p. 485).

The process begins with the receiver determining whether a portrayal seems realistic (Austin & Johnson, 1997) and responding affectively (Austin et al., 2007). The receiver then decides if the portrayal includes perceived similarity. If portrayals are deemed similar, the person must decide if he or she identifies with the portrayal. People may then begin to internalize and develop a desire to emulate the portrayal they are seeing in the media, which can in turn lead to the belief that emulating such a portrayal could lead to positive outcomes for themselves (Austin et al., 2007).

Typically, identification leads to positive expectancies, which is the belief that doing something consistent with what was portrayed will lead to positive outcomes (Austin & Knaus, 2000). This means that if people believe the models in advertisements are similar to people or experiences they have had, they may be more likely to develop positive expectancies related to alcohol, and those expectancies could influence consumption behaviors. Expectancies have been shown to strongly predict behavior (Austin et al., 2007).

Aside from the earlier mentioned steps, however, there is an emotional aspect that also plays a role. Desirability of the portrayal and perceived attractiveness can influence identification. High realism and similarity can also lead to wishful identification, which is when people have a desire to emulate the portrayals they have seen, including portrayals in the media (Austin et al., 2007). Desirability can also influence people's expectancies, especially if similarity is also present (Austin & Knaus, 2000). Together as well as alone, desirability, identification, similarity and perceived realism may lead to changes in alcohol-related outcomes, such as intentions to drink, self efficacy and alcohol expectancies (Austin & Johnson, 1997).

Alcohol Advertisement Effects

As Social Cognitive Theory and the Message Interpretation Process Model show, characters and the outcome a viewer perceives can influence his or her perceptions and possible behaviors. Alcohol advertisements have been found to portray perceived outcomes such as relaxation, adventure and romance (Finn & Strickland, 1982). People in alcohol ads are often depicted as adventurous, successful, young and happy (Atkin et al., 1986). A more recent content analysis found similar results. Alcohol ads emphasized sexual appeals and relaxation (Austin & Hust, 2005) and models in the ads were often rewarded with relaxation, social approval and sexual encounters (Hust, 2006).

Austin and Knaus (2000) found that participants who identified with models in alcohol ads or perceived them as desirable were more likely to hold positive alcohol expectancies. Alcohol expectancies are the idea that seeing drinking portrayed as rewarding can affect people's own expectations about the benefits of alcohol consumption

(Walsh-Childers & Brown, 2009). The greater the expectancies related to alcohol consumption, the more likely people may be to drink in early adolescence or develop drinking patterns that may be problematic (Dunn & Goldman, 1998). Sexual appeals, which are prevalent in alcohol ads, can also have an impact on viewers. Sexual appeals have been found to increase attention to advertisements and positive valence (Lang, Wise, Lee & Cai, 2003), and positive attitudes toward alcohol ads has been found to be associated with increased expectancies and intentions to consume (Fleming et al. 2004).

In a 2004 study, Fleming and his colleagues found that 15 to 20 year olds differed from 21 to 29 year olds when examining how advertising leads to expectancies and their relationship to alcohol consumption. Having positive responses to alcohol ads led to positive expectancies about alcohol, which was a significant predictor of underage individuals' intentions to consume and their consumption behaviors. This follows the MIP model because the model states that young adults at least partially process messages by emotion (Austin & Knaus, 2000). However, of-age individuals' attitudes and perceptions about ads did not lead to positive alcohol expectancies, which suggest that their decisions to consume may be based more on logic (Fleming et al., 2004).

Hypotheses

Based on the current literature and the related theories, the following hypotheses were developed:

H1: Individuals who are exposed to ambiguous ads will be more likely than those who view unambiguous ads or general ads to report that alcohol ads, in general, are more appealing to them.

H2: Individuals who are exposed to ambiguous ads will be more likely than those who view unambiguous ads or general ads to report that alcohol ads appeal to people less than 21 years of age.

H3: Individuals who are exposed to ambiguous ads will be more likely than those exposed to unambiguous ads or those exposed to general ads to view alcohol consumption portrayals as desirable.

H4: Individuals who are exposed to ambiguous ads will hold more positive expectancies about alcohol consumption than individuals exposed to unambiguous ads or individuals exposed to general ads.

H5: Individuals who are exposed to ambiguous ads will report higher intentions to consume alcohol than those exposed to unambiguous ads or those exposed to general ads. All hypotheses will also be examined by consumption level to see if results differ based on drinking habits.

CHAPTER TWO: Methods

A 3 (advertising type) x 3 (drinking level of participant) pre and posttest experiment was conducted in February 2010 at a Northwestern public university, Washington State University, to examine the impact viewing ambiguous advertisements has on viewers' beliefs about alcohol advertising, intentions to consume alcohol, expectancies related to consumption and desirability related to alcohol consumption. Students were selected from a variety of classes that were able and willing to offer extra credit for participation. Classes included introductory sociology, communication and speech classes as well as upper level human development and communication classes. Students received credit in their class and a \$5 gift card to a local merchant for their involvement in the project.

Participants were asked to select a time they would like to come to a lab on campus to take an online pre-test. The respondents who completed the pretest reported their age so that of-age and underage individuals were identified, and then signed up for a time to come in and take the posttest. Participants were then randomly placed in conditions so that each condition had a fairly equal number of people who were under 21 years of age and people who were 21 years of age or older.

The experiment conditions differed by the type of advertisements participants viewed before completing their posttest questionnaires. In one of the groups participants viewed four ambiguous advertisements, which were identified through a series of pre-tests that compared the advertisements to the DISCUS Code guidelines. Some of the ads also had

received public complaints but had been found by the board to follow the guidelines of the Code. The second group of participants completed the same questionnaire but instead viewed digitally altered versions of the ambiguous advertisements that had the ambiguous content altered or removed. The third group of participants was the control group. They completed the questionnaire after viewing four advertisements for non-beverage products. This was done because previous research indicates that non-alcohol beverage ads and alcohol ads use similar appeals (Austin & Hust, 2005).

The project was submitted for approval by the University's Institutional Review Board and received exempt status. A debriefing statement that included a statement about how individuals must be 21 years old or older to legally consume alcohol and tips about how people who are 21 years old or older can drink safely was provided at the end of the questionnaire to all participants. The debriefing statement also included local phone numbers for alcohol counseling services.

Participants

Participants were recruited from a variety of classes in the sociology, human development and communication departments. Classes included Introduction to Sociology, Public Speaking, Media Ethics, Murrow Legacy Class, Foundations of Public Relations, Public Relations Campaigns, Parent Child Relationships, Work and Family, and Learning and Guidance in Early Childhood. For participating in both the pretest and posttest students received extra credit in their class and a \$5 gift card to either a local movie theater or coffee shop. The pretest asked questions on their expectancies and desirability related to

alcohol, their alcohol consumption, and their beliefs and opinions related to alcohol advertisements.

A week after completing the pretest, participants came into the lab a second time at the time of their choosing to participate in the experiment. They viewed a series of advertisements and completed a questionnaire that covered beliefs about alcohol advertising, intentions to consume alcohol, desirability and alcohol expectancies. Before beginning the questionnaire, participants had to view four print advertisements on the computer screen. The post test included questions that examined characteristics of each ad to ensure that participants viewed the ads including a manipulation check that consisted of three items that were used in pretesting to select the stimuli. After participants completed or quit the posttest they were taken to a debriefing script that clearly stated people must be older than 21 years of age to consume alcohol legally and provided information on blood alcohol level and the various effects of drinking. Participants then recorded their participation in the project on a separate form so that answers remained anonymous but they could still receive credit in their classes. Participants then completed an additional sheet to receive their \$5 gift card. Participants were reminded at both pretest and posttest that the project was anonymous and they should therefore answer honestly. Participants were identified in each of the questionnaires through a unique ID number that let the researcher match the datasets but kept the individuals' identities anonymous.

Three hundred seventy-seven undergraduates participated in the experiment. Participants ranged in age from 18 to 42 years old with the median age being 20 (M=20, SD=2.09). The majority of participants were female (67%) and Caucasian (85%).

Participants mainly came from what they classified as a family of middle income (37%) or upper-middle income (42%). Participants spanned grade ranges, with 11% being freshmen, 35% being sophomores, 30% being juniors and 26% being seniors. Participants were fairly evenly split across conditions with 127 in the ambiguous condition, 123 in the unambiguous condition, and 127 in the control condition. One hundred and thirty seven participants were classified as heavy drinkers; 97 were classified as moderate drinkers; 119 were classified as light drinkers.

Stimuli

Alcohol advertisements that the researcher believed to have ambiguous characteristics were pretested with 37 undergraduates at Washington State University during summer 2009. Some of the advertisements had received a public complaint but were not sanctioned by the DISCUS board; however, not enough advertisements that had received complaints could be found in a high enough digital quality to make alterations. Therefore, additional ads besides ads that had received public complaints were used. Because of this, a variety of ads that could be perceived as ambiguous were selected and then pretested for ambiguity with WSU undergraduates in a variety of communication classes (n=37). Participants received some form of participation credit or extra credit for their participation. In the pretest of the stimuli, participants assessed 14 advertisements. The assessment questionnaire included questions that would determine whether content was ambiguous, such as "This ad shows sexual images," "This ad shows people doing something that might be illegal," and "This ad shows that people can be more successful if

they drink alcohol," all issues addressed in the DISCUS Code. (See the appendix for a copy of the ambiguity pretest).

The ambiguity pretest data was then analyzed using SPSS to determine which ads ranked highest on violations of the DISCUS Code, including sexual objectification, risky activities, and portrayals of wealth and success. The ads that had the highest means in those areas were selected to be altered. Two ads that received public complaints reported to DISCUS that were not sanctioned by the DISCUS board were also included in the selection of advertisements to be altered. Only two ads that had received complaints but had not received sanctions could be found in a high enough quality to be digitally altered.

A WSU student studying graphic design manipulated the ads so they looked like advertisements people would typically view but without the ambiguous content. For example, if an advertisement was found to sexually objectify a woman, alterations were made so that the woman no longer was sexually objectified. This included in some cases adding the appearance of additional fabric to her dress, removing ambiguous elements, or changing the positioning of characters. One specific example would be the Bacardi ad that sexually objectified a woman by showing her only from her neck down (See Figure 1). She was dressed in a leopard bra and was tugging on her waistband. This ad was altered so that the background of the ad remained the same, but the woman was replaced by another woman in a leopard print dress who had a face that was clearly visible (See Figure 2). The replacement character was selected based on similarity to the model in the original advertisement. This included matching race and body positioning.

After the alterations, both the ambiguous and unambiguous versions of each advertisement were pretested in four focus groups that compared the altered and unaltered versions of the advertisements in September 2009. Focus group participants were recruited from WSU classes and offered class participation credit for their time and participation in the focus groups. Participants were shown both the altered and the original ads at the same time and asked if the ads were clearly different from each other, if the advertisements seemed realistic or similar to other ads they had seen, and if they liked the ads. Results from the focus groups led to additional changes in advertisement content.

A second round of focus groups (5 additional ones) was conducted in early October 2009 to look at the advertisements individually to see if the altered advertisements were clearly not ambiguous and if the unaltered ads were clearly ambiguous. Participants were shown a random selection of the ads that included half original versions and half altered versions. They were then asked what the advertisements included, what the overall feel of the advertisements were, and what they liked/disliked about the ads. Focus group results were then compared for each advertisement pair to see that each ad had a similar feel and perceived objective.

Based on the responses of the focus group participants, additional alterations were made and the top 8 pairs of advertisements were pilot tested quantitatively with another group of individuals (N=87) to identify which ads were perceived as the most ambiguous and which ads were seen as the most unambiguous. Participants for the pilot test were recruited from WSU communication classes in October 2009 and were asked to complete an online questionnaire that measured the ads' adherence to the DISCUS regulatory

guidelines. The five pairs of advertisements that had ambiguous ads receiving the highest scores, indicating the greatest level of ambiguity, and the non-ambiguous versions receiving the lowest scores, indicating the lowest levels of ambiguity, were used as the stimuli in the experiment. This was examined by comparing one standard deviation above and below the mean for each ad to find the ads with the least amount of overlap (See Table 1 and Table 2). Advertisements were displayed digitally in an online survey in both the ambiguity pretests and in the actual experiment.

Experimental Treatment Conditions

Condition 1. Ambiguous Ads: Participants viewed four advertisements that were determined ambiguous through a pretest and a pilot test and that had previously appeared in mainstream magazines. These advertisements included ambiguous content that did not adhere strictly to the DISCUS Code regulatory guidelines.

Condition 2. Unambiguous Ads: This group viewed the four manipulated advertisements that were considered unambiguous. These advertisements were similar to those in condition one except the ambiguous content was changed and corrected so that the ads strictly met the DISCUS Code regulatory guidelines.

Condition 3. Non Alcoholic-Beverage Ads: The third group of participants served as the control group. Participants viewed four advertisements that did not advertise liquor before completing the questionnaire.

Procedures

In June 2009, a review of the regulation reports for each alcohol industry sector was completed to identify potentially ambiguous advertisements. The liquor institute reports

yielded the only reasonable selection of ads. The Beer Institute had not received a number of print advertisement related complaints and the Wine Institute did not report findings in an easily accessible online report. The researcher then attempted to locate the advertisements that had received a complaint related to content but had not been sanctioned. The majority of the ads could not be found in a high enough quality to allow for alterations, so ads that had similar characteristics (scantily clad women or men, portrayals of wealth, etc.) were selected from a collection of alcohol advertisements that appeared previously in mainstream U.S. magazines. Fourteen potentially ambiguous advertisements were selected and pretested for ambiguity, and from that, those with the highest ambiguity scores were the ads that were manipulated.

The advertisements were then pretested in focus groups. After the focus groups four ads were removed from the sample, and participants were recruited from WSU classes to quantitatively evaluate the eight advertisements that remained. The ads that had the unaltered version with the highest ambiguity scores and the altered ads with the lowest ambiguity scores were used as stimuli in the experiment. Ambiguity scores were compared by looking one standard deviation above and below the mean. Ads that had less than a .5 overlap were included in the final sample. (See Table 2).

The final experiment was conducted in February 2010. Participants first completed an online pretest that established baseline information in a campus computer lab at a time of their choosing. Participants then indicated a time that was convenient for them to come in and participate in the experiment. Participants then received an email reminding them about their selected time. Participants come into the campus computer lab again and

completed an online questionnaire that began with them viewing four advertisements.

Participants then completed a series of posttest questions related to their beliefs about alcohol advertising, expectancies and desirability related to alcohol consumption, and behavioral intentions related to alcohol consumption. After participants completed or left the posttest they were taken to the debriefing script.

Measures

Independent Measures

Exposure to the strategically ambiguous ads or the manipulated advertisements: Exposure to the advertisements was based on condition. Participants in the original or ambiguous condition were coded as 1; participants in the altered or unambiguous condition were coded as 2; participants in the control condition were coded as 3.

Manipulation check: The manipulation check consisted of three items that had been used in the previous ambiguity pretests to determine ambiguity and were based on issues present in the DISCUS Code. Items included "This ad includes sexual images," "This ad shows that alcohol can lead to more success with sex," and "This ad sexually objectifies someone." $(\alpha=.95)$

Level of alcohol consumption: Alcohol consumption levels were assessed with the question "In the past two weeks, how many times have you had five or more drinks in one sitting?" with the options none through 10 or more times. The measure was then recoded into three groups of relatively equal sizes, low level drinkers, moderate drinkers and heavy drinkers. Low level drinkers included people who indicated none to three times, moderate drinkers

were people who indicated four to nine times and heavy drinkers were people who indicated they have binge drank 10 times or more in the past two weeks.

Dependent Measures

Appeal was measured in three categories. The first category, general ad appeal, was measured with three items on a 7 point Likert scale from strongly disagree to strongly agree: "Alcohol ads appeal to people like me," "I think alcohol ads are appealing," and "I do not like alcohol ads." The last item was a reverse worded item that was recoded before analysis. (α =.85).

<u>Personal ad appeal</u> was measured with a single item: "The ads I viewed would appeal to the following: Me" on a 7 point Likert scale.

Appeal to people under 21 was also measured with a single item: "The ads I viewed would appeal to the following: People under the age of 21."

<u>Desirability</u> was measured on a 7 point Likert scale from strongly disagree to strongly agree with 6 items that included the statements "People in alcohol ads: seem happy," "are attractive," "are good looking," "seem to be having fun," "seem to have a lot of friends," and "seem popular." (α =.92). Items were based on items previously found reliable (Austin, Miller, Silva, Guerra, Geisler et al., 2002).

Expectancies were measured on a 7 point Likert scale from strongly disagree to strongly agree with 8 items that looked at positive expectances. Items included "After three or four drinks I would...feel confident," "feel friendly" "have fun" "easily express myself" "feel more at ease around people" "feel outgoing" and "feel relaxed." (a=.95). Items have been used previously and were found reliable (Austin, Chen & Grube, 2006; Austin et al., 2002).

<u>Intentions to consume</u> were measured with the question "What is the average number of drinks you intend to consume PER SITTING in the next three months?" The question was based on an item previously used (Earleywine, 1995).

Data Analysis

Data was analyzed using PASW Statistics 18. Hypotheses were tested using an Analysis of Variance through General Linear Modeling. According to Cohen, Cohen, West & Aiken (2003), ANOVA is "particularly applicable to planned experiments," (p. 4). Post test constructs were entered as the dependent measures with the condition and the drinking level entered as the independent variables. For the desirability, expectancies and intentions to consume scales the pretest scores were entered as covariates to control for opinions at pretest. However, in the analysis of the appeal constructs, the researcher did not control for pretest scores. This is because some of the appeal items were specific to the advertisements viewed and were not included in the pretest. In addition to the ANOVA, post-hoc Fisher least significant difference (LSD) tests were analyzed to determine between group differences when covariates were not included in the model. When covariates were included, GLM was run with all conditions comparing across conditions to examine between group differences. See Table 2 for the GLM dependent measures outcomes.

CHAPTER THREE: Results and Discussion

Results

In terms of the manipulation, conditions were found to differ significantly, F (2, 375) = 858.4, p = .000. Manipulation items addressed non-adherence to the DISCUS Code. For the ambiguous ads, the mean was 6.2 (SD=.89); for unambiguous ads the mean was 4.8 (SD=1.2); for the control ads the mean was 1.3 (SD=.77). Hypotheses

The first hypothesis, that appeal would be higher for people in the ambiguous condition than in the unambiguous or control conditions, was not supported. General appeal of advertisements differed significantly by condition, but not in the direction it was hypothesized, F(2, 351) = 6.07, p = .003. Participants in the control condition found the ads most appealing (M=4.86, SD=1.41) followed by participants in the unambiguous ad condition (M=4.33, SD=1.43) and then the ambiguous ad condition (M=4.0, SD=1.44). Drinking level also significantly affected appeal, F(2, 351) = 17.95, p = .000. Participants who were classified as heavy drinkers were significantly more likely to find the advertisements in each of the conditions more appealing than moderate and light drinkers, and moderate drinkers were significantly more likely to find the ads in each condition more appealing than light drinkers (M=4.84; M=4.27; M=3.77 respectively).

Personal appeal toward the advertisements also differed significantly by condition, F(2, 352) = 21.9, p = .000. Participants in the control condition again found the advertisements most appealing (M=4.87, SD=1.9), followed by participants in the

unambiguous ad condition (M=3.96, SD=1.84) and the ambiguous ad condition (M=3.29, SD=1.78). Personal appeal also differed significantly based on drinking level, F (2, 352) = 4.71, p = .01, again with heavy drinkers finding the advertisements most appealing no matter what condition. However, there was not a statistically significant difference on levels of personal appeal for moderate and light drinkers.

When examining hypothesis two, which was that ambiguous advertisements would appeal more to people under the age of 21 than the other advertisements, there were significant differences based on condition, F(2, 351) = 16.5, p = .000. Participants found that the ambiguous ads would appeal most to people under the age of 21 (M=5.21, SD=1.53), followed by control ads (M=5.14; SD=1.6) with the unambiguous ads having the least appeal to people under the age of 21 (M=4.19, SD=1.95). When looking at the post-hoc analysis, the difference between the ambiguous and unambiguous condition was significant, as was the difference between the unambiguous and control condition, but the control and the ambiguous condition did not significantly differ on appeal to people less than 21. There was also a significant interaction effect by condition and drinking level, F(4, 351) = 4.26, p = .002. Low level consumption individuals in the ambiguous condition reported higher appeal to people under 21 than moderate and heavy drinkers did, yet in the unambiguous condition heavy drinkers reported higher appeal to people under the age of 21 than the lighter drinkers. (See Figure 3).

The third hypothesis, which was that people exposed to ambiguous ads would be more likely than those exposed to unambiguous ads or general ads to view alcohol consumption portrayals as desirable, was partially supported. Desirability differed

significantly by conditions when controlling for desirability scores at pretest, F(2, 347) = 4.39, p = .013. Participants in the ambiguous ad condition had a mean desirability score of 6.2 (SD=.83) as did participants in the unambiguous ad condition (M=6.2, SD=.76) and did not significantly differ from each other. However both the ambiguous and unambiguous conditions significantly differed from the control condition (p<.01), which had a mean desirability score of 6 (SD=.93). Therefore, the ambiguous and unambiguous ad conditions did not differ significantly, showing that exposure to alcohol ads in general increased desirability. (See Figure 4).

Hypothesis 4, which was that people exposed to ambiguous ads would hold more positive expectancies about alcohol consumption than individuals exposed to the unambiguous ads or the control ads, was not supported. There were no significant differences on expectancies by condition or by alcohol consumption.

Hypothesis 5, which stated that ambiguous advertisements would have a greater effect on intentions to consume alcohol, was not supported. Intentions to consume did not significantly differ based on condition. Consumption level did have a significant effect on intentions to consume, F(2, 351) = 4.24, p = .015. Light drinkers differed significantly from moderate drinkers (p<.05) and heavy drinkers (p<.01) on intentions of the amount of drinks to consume per sitting. Surprisingly, moderate and heavy drinkers did not differ in their intentions to consume. Both moderate and heavy drinkers intended to consume, on average, about 5 drinks (M=5.29 and 5.49 respectively). Light drinkers intended to consume, on average, about 4 drinks (M=4.83).

Discussion

This study was designed to look at the effect viewing ambiguous advertisements has on college students. This is important because the DISCUS Code has marketing guidelines that are meant to help alcohol companies advertise responsibly (Code, 2009). However, advertisements may literally follow the Code while not really adhering to the spirit the guidelines were written in (Zwarun & Farrar, 2005), leading to a form of ambiguity in alcohol advertisements. This study showed that the type of advertisement, specifically ambiguous or unambiguous, can have an impact on perceptions related to the ads.

In this study, participants reported a greater appeal, in general, toward the control advertisements than the alcohol advertisements, and more appeal toward the unambiguous advertisements than the ambiguous advertisements. This pattern was repeated when looking at personal appeal, with control being the most appealing, followed by unambiguous ad, and lastly ambiguous ads. Part of this can likely be attributed to the characteristics in the advertisements. The ambiguous advertisements often placed emphasis on women as sex objects, and the unambiguous advertisements removed the content that was most blatantly objectifying. In this study, it seems participants who viewed advertisements with sexual objectification felt less appeal toward the ads than people in the unambiguous and control condition. This is contradictory to the popular belief that "sex sells." According to Brooke (2003), the idea that sex sells "is very nearly a given" because it is "impossible to verify or disprove," (p. 134). The idea behind using sex in ads is that it creates a "false desire linking the product to the seemingly irresistible image of sexuality," (Brooke, 2003, p. 134). Brooke contends that it is not truly sex that sells, however. Sex in advertisements is really more of a spectacle companies use to compete for

the attention of consumers (Brooke, 2003). In this study, it would appear that using sex may have gotten the attention of participants, but it certainly did not engender appeal. It is possible that in a normal viewing situation such an ad would simply have grabbed the attention of the reader. However, since viewers saw multiple sexual images in a row in a controlled experimental setting, perhaps the images were viewed more as offensive rather than appealing. It should be noted, however, that appeal for all ads in the study was relatively low.

There was also an effect on personal appeal based on consumption level.

Participants who were classified as heavy drinkers were more likely to find the advertisements in each of the conditions more appealing to them than moderate and light drinkers, and moderate drinkers were more likely to find the ads in each condition more appealing to them than light drinkers. This shows that previous experience with alcohol can affect perceptions of appeal. Future alcohol advertising studies should take this into account. Since consumption levels play a role in how participants interpret the ads, researchers should examine differences based on previous consumption patterns.

More interesting, however, is that participants felt the ambiguous advertisements would appeal to people under the age of 21. The Code requires advertisers to avoid advertising techniques that would appeal to underage drinkers and to avoid placing advertisements in media in which the majority of the audience is underage (Code, 2009). Although they have these requirements, participants in this study felt the ambiguous ads would appeal to people who are under the legal drinking age. These findings, as well as the previous ones, have implications for the industry. Participants report feeling less appeal

toward advertisements that use sex as a selling feature, but they also report that such ads appeal more highly to people under the legal drinking age. This shows that using sex to sell alcohol may not be the best option for advertisers when trying to appeal to people. This also shows that although advertisers purport they are advertising to people 21 years of age or older, the ads that are strategically ambiguous appear to appeal more to people who are less than 21 than clearly responsible ads. This supports previous findings that alcohol advertisements in magazines tend to target people less than 21 years of age (Austin & Hust, 2005). For advertisers to truly adhere to their own Code, they should try to remove sexual ambiguity from their advertisements so they appeal less to people who are underage.

Desirability was also influenced by viewing advertisements, but unlike appeal, exposure to the different alcohol advertising conditions did not have an effect. Participants reported higher levels of desirability based merely on exposure to alcohol advertisements, which suggests that in this study, the different levels of ambiguity did not affect desirability. This shows that simply viewing alcohol advertisements affects desirability, which supports previous findings. Kelly, Slater and Karan (2002) found that viewing beer and cigarette image advertisements, which are those that show people in social situations, increased people's perception that the product category was desirable. This study showcases the importance of restricting alcohol advertising content in mediums in which the majority of the audience is less than 21 years old, which the DISCUS Code already attempts to do. Since just looking at alcohol advertisements increases desirability, it would seem important to keep youth away from such content to not influence them. Additionally, it is important to note that although ambiguity did not have an effect on desirability in this

study, it does not mean that ambiguity does not affect desirability levels. Perhaps future studies should examine this further.

This study did not find changes in expectancies or intentions to consume alcohol based on condition, although previous drinking levels did have an impact on intentions to consume. This is not necessarily surprising, however. Previous drinking habits would likely influence intentions to consume. Additionally, both expectancies and intentions to consume questions were based on behavioral intentions, and changing behaviors and intentions is difficult, especially when participants are only exposed to a brief intervention. In this study, participants viewed 4 advertisements and answered a questionnaire. It is not likely that such an intervention would greatly influence behavioral intentions. Additionally, some alcohol expectancies level off with age and tend not to change (Christiansen, Goldman & Brown, 1985) including expectancies related to global effects of alcohol and sexual enhancement, which some of the items used in this study included. Although expectancies and intentions to consume did not change, viewing alcohol advertisements did affect desirability, which can play a role in the formation of expectancies according to the Message Interpretation Process model (Austin & Knaus, 2000). Social Cognitive Theory posits that watching others receive rewards can lead to positive expectancies (Bandura, 2004) and desirability could be perceived as people's interpretations of awards and punishments. Therefore, extended exposure to alcohol advertisements could potentially affect people's expectancies related to drinking alcohol, which could then affect behavior.

However, both Social Cognitive Theory and the Message Interpretation Model suggest that appeal plays a role, so it is not surprising there are no subsequent effects on

behavioral intentions given that people did not perceive the ads as appealing to them. Since the participants believed the ads would appeal to others, but not to them, perhaps examining alcohol advertising effects from a Third Person Effects standpoint could be beneficial. The Third Person Effect in communication posits that a person exposed to persuasive media may see the media as having a greater effect on others than on oneself (Davison, 1983). This could have played a role in this study because the majority of participants were less than 21 years of age, yet they personally did not find the ads appealing but did feel the ads would appeal to people less than 21 years of age. Perhaps participants viewed themselves as more sophisticated than how they imagine the average person less than 21. Social desirability also could have influenced appeal findings. Social desirability occurs when participants deny socially undesirable traits and claim socially desirable ones (Nederhof, 1985). Perhaps participants felt that admitting they found the ads appealing would not be socially desirable because of the amount of sex and sexual objectification that was present.

Overall, this study shows that alcohol advertising can play a role in people's opinions about alcohol advertising, specifically levels of appeal and desirability. It shows that the DISCUS Code's rules for content placement are beneficial because exposure to alcohol advertisements increases participants' levels of desirability, so keeping youth away from alcohol advertisements in general is important. It also shows that although the DISCUS Code asserts that alcohol advertisers should not target underage drinkers, participants in this study felt that the unaltered alcohol advertisements would appeal more to underage individuals than unambiguous advertisements and control advertisements.

And although this study addressed the role of strategic ambiguity, additional research should be done on the topic to see the role ambiguous advertisements have on individuals as well as the prevalence of ambiguous advertisements.

Limitations

This study is not without its limitations. First, the sample consisted primarily of females (67%). This could be problematic since the majority of advertisements sexually objectified women. This could also be problematic because people of different genders tend to interpret alcohol advertisements differently (Andsager, Austin & Pinkleton, 2002). The sample also consisted mainly of drinkers (94%). It would be interesting to see how ambiguous and unambiguous advertisements affected people of a substantially different level of consumption, such as comparing non-drinkers and drinkers. Also, this was a lab experiment and is therefore not representative of what may be experienced in a naturalistic setting. Participants were brought into a lab and asked to view four alcohol advertisements that were either ambiguous, unambiguous, or control in one sitting. Since adolescents and young adults tend to use multiple forms of media at once (Rideout, Foehr & Roberts, 2010) this may not be a realistic situation. Additionally, advertisements are not necessarily presented in a similar fashion in a magazine. Participants viewed four advertisements from one category. It is possible that in a magazine, advertisements would be a mix of ambiguous and unambiguous advertisements.

Although many content analyses of alcohol advertising have taken place, they primarily look at what is present in such ads. A content analysis that looks at whether alcohol advertisements are ambiguous in terms of their regulatory code to examine the

prevalence of ambiguous alcohol advertisements could be beneficial. Additionally, this study looked at advertisements that included sexual objectification or perceived success with sex as measures of ambiguity. Research should look at the role other forms of ambiguity may play, specifically recreational activities or activities that require coordination. Advertisements that are ambiguous in this way may have a different effect on viewers.

Conclusion

Overall, this study shows that viewing alcohol advertisements can have an effect on viewers and that there are some differences perceived by viewers based on the level of ambiguity in the advertisement. This study also shows that the self regulation of alcohol advertising is on the right track, but that there are improvements that can still be made. For example, desirability increased for people who viewed alcohol advertisements regardless of ambiguity level. This shows that simply viewing alcohol advertisements can affect individuals. Since desirability has been linked to increased expectancies (Austin & Knaus, 2000), which can then lead to behavior change, it is important to restrict access to alcohol advertisements. DISCUS is already doing this through guidelines that discourage the placement of alcohol advertising content in mediums where the majority of participants are underage. Increasing these restrictions and monitoring them to see that they are followed in a different way than the post-publication sanctions would be one way DISCUS could increase their efforts.

The target audience of the advertisements is also something to consider.

Participants felt advertisements that used ambiguity would appeal more to people less

than 21 years old. This is problematic because the DISCUS Code dissuades advertisers from targeting underage drinkers. However, advertisements seem to target such a population. In a content analysis of mainstream magazines, Austin and Hust (2005) found that 1 in every 6 alcohol ads appeared to target underage drinkers, and participants in this study felt the ads that used ambiguity would appeal more to people who are underage. This can be especially problematic because of the interpretations that ambiguity can influence. If ambiguous advertisements, which appear to appeal more to people who are under the legal drinking age, are an intentional effort by advertisers to target people less than 21, then the Code is not successful at limiting such behavior. Perhaps instead of making sure advertisements adhere to the literal guidelines, board members should see that the intentions the guidelines were written with are followed.

Table 1

Quantitative pretest results

	Unambiguous			Ambiguous	
	ad means	Ambiguous ad	Unambiguous	ad mean	Overlap of
Advertisement	(SD)	means (SD)	ad mean range	range	ad means
Jim Beam*	2.41 (1.24)	5.49 (1.19)	1.17-3.65	4.3-6.68	-0.65
Skyy					
Cabana*	2.68 (1.37)	5.53 (1.18)	1.31-4.05	4.35-6.71	-0.3
Kahlua	1.63 (1.19)	3.93 (1.36)	.44-2.82	2.57-3.93	0.25
Bacardi*	4.11 (1.43)	6.35 (1.30)	2.68-5.54	5.05-7.65	0.49
Sauza*	2.56 (1.45)	4.84 (1.29)	1.11-4.07	3.55-6.13	0.52
Skyy Money	5.50 (1.20)	5.26 (1.26)	4.3-5.50	4-6.52	1.5
Skyy					
Camera	4.70 (1.42)	4.97 (1.37)	3.28-6.12	3.6-6.34	2.52

^{*}Refers to an ad used in the experiment

^{**}Items used included: This ad includes sexual images; this ad shows that you can have more success with sex if you drink alcohol and prevalence of sexual objectification

Table 2 Descriptives of outcome measures

	Ambiguous Advertisements		Unambiguous Advertisements			Control			
	Low M(SD)	Medium <i>M(SD)</i>	High <i>M(SD)</i>	Low M(SD)	Medium <i>M(SD)</i>	High M(SD)	Low M(SD)	Medium <i>M(SD)</i>	High <i>M(SD)</i>
Appeal (general)	3.71	3.76	4.41	3.83	4.48	4.74	3.77	4.70	4.68
	(1.46)	(1.40)	(1.38)	(1.43)	(1.38)	(1.37)	(1.40)	(1.13)	(1.41)
Appeal	3.02	3.03	3.83	3.44	4.04	4.43	4.88	4.61	5.02
(Personal)	(1.79)	(1.79)	(1.68)	(1.72)	(1.77)	(1.90)	(1.90)	(1.66)	(1.79)
Appeal (under	5.44	5.05	5.10	4.16	3.19	4.84	4.88	5.48	5.09
21)	(1.47)	(1.49)	(1.65)	(1.89)	(1.78)	(1.88)	(1.80)	(1.35)	(1.60)
Desirability	6.22	6.09	6.27	6.01	6.14	6.49	5.94	5.92	6.06
	(0.67)	(1.05)	(0.76)	(0.82)	(0.90)	(0.51)	(0.85)	(1.04)	(0.91)
Expectancies	4.58	4.97	5.08	4.64	5.08	5.53	4.60	5.26	5.18
	(1.31)	(1.27)	(1.23)	(1.28)	(1.13)	(0.89)	(1.02)	(0.80)	(1.26)
Intentions to consume	5.72	6.49	8.97	5.70	7.22	9.05	5.24	7.45	8.65
	(3.28)	(2.80)	(2.91)	(2.75)	(2.56)	(2.59)	(2.70)	(2.45)	(2.83)

Table 2

General Linear Model on Dependent Variables

Dependent Variable: General Appeal			
Source of variation	df	F	<pre>p-value(two-tailed)</pre>
Condition	2	6.07	<.01
Consumption	2	17.95	<.001
Condition * Consumption	4	1.42	0.228
Error	343		
Total	351		
R Squared=.144 (Adjusted R Squared=.124)			
Dependent Variable: Personal Appeal			
Source of variation	df	F	<pre>p-value(two-tailed)</pre>
Condition	2	21.9	<.001
Consumption	2	4.71	<.01
Condition * Consumption	4	0.89	0.47
Error	344		
Total	352		
R Squared=.149 (Adjusted R Squared=.129)			
Dependent Variable: Appeal to under 21			
Source of variation	df	F	<i>p</i> -value (two-tailed)
Condition	2	16.53	<.001
Consumption	2	1.91	0.15
Condition * Consumption	4	4.26	<.01
Error	343		
Total	351		
R Squared=.121(Adjusted R Squared=.10)			
Dependent Variable: Desirability			
Source of variation	df	F	<i>p</i> -value (two-tailed)
Condition	2	4.39	<.05
Consumption	2	0.60	0.55
Condition * Consumption	4	0.57	0.69
Error	338		
Total	347		
R Squared=.295 (Adjusted R Squared=.276)			
Dependent Variable: Intentions to consum	е		
Source of variation	df	F	<i>p</i> -value (two-tailed)
Condition	2	0.39	0.68
Consumption	2	4.24	<.05
Condition * Consumption	4	1.26	0.29
Error	342		
Total	351		
R Squared=.646 (Adjusted R Squared=.636)			

Figure 1: Example Original/Ambiguous advertisement

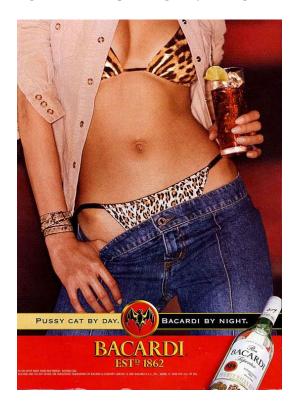


Figure 2: Example Altered/Unambiguous advertisement

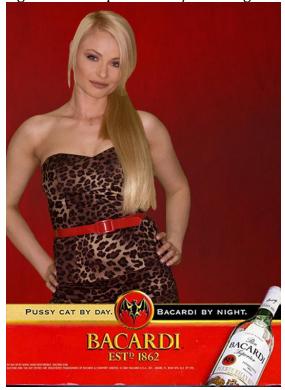


Figure 3: Estimated Marginal Means of Ad Appeal to People less than 21 years of age

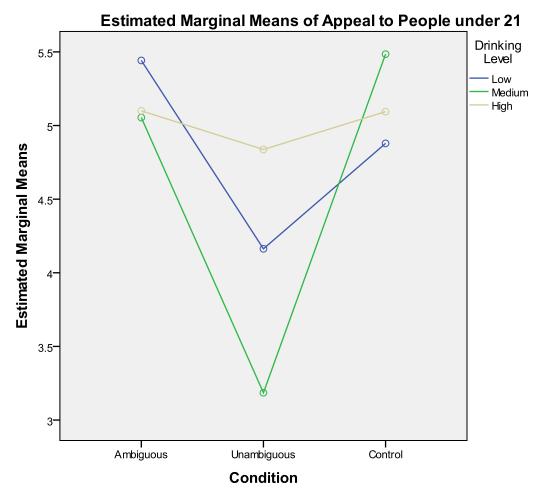
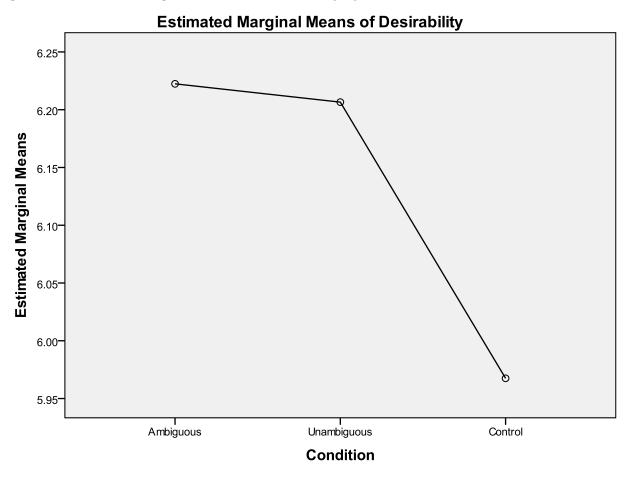


Figure 4: Estimated Marginal Means of Desirability by Condition



Covariates appearing in the model are evaluated at the following values: Pretest desirability

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APPENDICES

Ambiguity Pretest

Are you 18 years of age of older? Yes No

Do you agree to participate in this study? Yes No

Please view the following ad.

For the ad you just viewed, please answer the following questions. Please keep the ad you just viewed in mind when answering the questions.

For this ad, please select the number that represents your opinion about each statement on a scale of 1 to 7, where 1 means strongly disagree and 7 means strongly agree.

This ad encourages me to drink a lot of the product.

Only people who are old enough to drink legally are in this ad.

This ad shows women as sex objects.

This ad shows men as sex objects.

This ad shows people who are drinking too much alcohol.

This ad shows a person or people doing something that could get someone hurt.

This ad shows sexual images.

This ad shows people doing something that might be illegal.

This ad shows violence against someone.

This ad is especially appealing to me.

This ad makes drinking alcohol seem fun.

This ad is similar to other alcohol ads I've seen.

This is an ad I would look at if I saw it in a magazine.

This ad shows that people can be more popular if they drink alcohol.

This ad shows that people can be more successful if they drink alcohol.

This ad is offensive.

This ad draws attention to people's private body parts.

This ad is disrespectful to certain groups.

This ad shows nudity.

This ad shows that you have more success with sex if you drink alcohol.

This ad shows that the product contains a lot of alcohol.

This ad shows that the product can help you party longer.

Please indicate how prominent (noticeable or evident) you think the following elements are in this advertisement with 1 being not at all prominent and 7 being very prominent.

Female nudity

Male nudity

Sexual activity

Romance

Financial success

Career success

Sexual Objectification

Intentions to consume alcohol

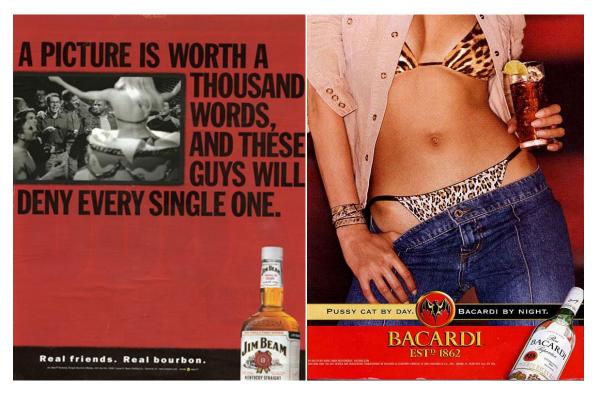
Risky activities

A focus on specific body parts

Possible illegal activities

People under the influence

Ambiguous Condition





Unambiguous Condition

