

Binge Drinking

Introduction

Over the years alcohol consumption has been accepted as a social thing, but it seems that binge drinking, or heavy drinking occurs more often in both social and non-social settings. There are different ways to identify exactly what is considered to be “binge” drinking, which depends on personal interpretations. Binge drinking could be considered as an individual consuming multiple drinks over a short period of time with the end result being that the person is highly intoxicated and possibly experiencing a black out. In fact “binge” is classified as a male having five or more drinks in a period of two hours, and a female consuming four or more drinks within a similar time period. Some individuals relate binge drinking to heavy drinking but heavy drinking is not considered a binge. Heavy drinking is more than two drinks per day for males and more than one drink per day in females. Binge drinking occurs more in a younger age group whereas heavy drinking is more common in society. A large amount of binge drinking takes place during high school and college years with a majority of the group being under 21 years of age. Although there are laws and regulations regarding age limitations and consequences for providing to minors, it does not prevent it from occurring. This is a serious issue in public health since alcohol consumption and drug abuse contribute to impaired judgment, violence and crimes. Also, in recent news binge drinking has been the cause of multiple fatal accidents and suicide. The effects of binge drinking are dangerous and can be life altering. When binge drinking begins in younger ages, that person can develop brain damage in adulthood. Long-term binge drinking can cause liver damage, cardiac, gastrointestinal, and neurologic issues. Substance abuse is becoming more and more of a problem with prescription drug abuse and alcohol consumption on the rise.

Section 1: Background and Problem Statement

- **Web site #1 Name: Healthy People**
- **Web address:**
<http://healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicId=40>
- **Background Information:**
 - Substance abuse, which includes the use of alcohol, has been an issue in society among people of all ages. It is important to understand that this type of abuse refers to a set of conditions that are associated with consumption of mind and behavior altering substances that have negative outcomes. Social and political attitudes are determining alcohol consumption as the most complex issue in public health. Not only is consumption related to health implications but now it is being argued whether or not abuse is related to genetic and biological functions or if it is personal opinion and choice. In 2005 there was an estimate of 22 million Americans who had struggled with a drug and alcohol problems. This is a growing concern since the use includes those who are underage. Alcohol consumption is related to teenage pregnancy, domestic violence, child abuse, motor vehicle accidents, fights, crime, and much more. Although in recent years the National Institute of Drug Abuse (NIDA) has collected data that concluded that there were observed decrease in binge use of alcohol across 8th graders, 10th graders, and 12th graders, it still remains to be a major concern.

- **Web site #2 Name: Australian Indigenous Health Info Net**
- **Web address:** <http://www.healthinonet.ecu.edu.au/health-risks/alcohol/reviews/background-information>
- **Background Information:**
 - The organic chemical compound, ethyl alcohol or ethanol, is found in beverages. When alcohol is consumed it is rapidly absorbed into the bloodstream and affects organs with the most immediate effects on the brain. Alcohol is the most widely used drug worldwide and is classified as a depressant. This means that alcohol slows down the activity in the central nervous system, affects concentration and coordination, and slows response time to stimuli. In most societies alcohol consumption is accepted in moderate quantities but it becomes a major concern at a local, national, and international level when individuals binge drink. Health consequences as well as social and economic implications can affect the individual, their family, friends, and society. Binge drinking is harmful because of its immediate and severe short-term effects relating to intoxication. Once the alcohol is removed from the body, the individual will experience the unpleasant symptoms of a hangover which include headaches, dehydration, tremors, dizziness and vomiting. Alcohol can become an economic burden if it is used heavily which can impact relationships with family members and friends. Binge drinking can affect interpersonal relationships if the individual becomes aggressive and violent and can impact society by minor acts of vandalism to major contributions which include assaults, domestic violence, child abuse, suicide, financial problems, legal problems, accidents, sexual problems and problems if it affects your ability to work.

- **Web site #3 Name:**
- **Web address:** <http://www.parliament.uk/documents/post/postpn244.pdf>
- **Background Information:**
 - Binge drinking behaviors lead to a rapid increase in blood alcohol concentration and drunkenness. It is predominately seen in individuals aged 16-24 and most visible on weekends. The extent of binge drinking is difficult to identify but it is known that males are more likely to engage in acts of binge drinking rather than women. The effects of the alcohol vary from person to person due to age, weight, and tolerance. This also can affect the type of behavior they experience during a binge. Men are more likely to exhibit violence while women are at an increased risk of sexual assaults. Factors behind binge drinking relates to personal and social factors which differ according to age groups. Teenagers are curious and want to experiment. This leads to social confidence and enjoyment in social and sexual situations. Others do it as a form of rebellion and boredom. In older populations the frequency of alcohol consumption increase but the intake decreases. This relates to availability and affordability. Younger groups are more likely to drink before they go out whereas older groups are more likely to drink while they are out whether it be as a bar or restaurant. Other factors contribute to culture. In European countries they have a lower drinking age and it is socially acceptable for teenagers to have a glass of wine with dinner.

Section 2: Research

Web site #1 Name: PubMed

- **Web address:** <http://www.ncbi.nlm.nih.gov/pubmed/21909303>
- **Summary of the research:**
 - College students participate in hazardous drinking by consuming energy drinks that contain alcohol.
 - There were 706 college students from a university in the US that participated in the web-based survey. Questions regarding alcohol, energy drinks, and AmED (a specific energy drink brand containing alcohol).
 - The results included 81% reporting that they have had at least one energy drink in the past and 36% have consumed at least one in the past two weeks. 37% were classified as binge drinkers while 23% abstained from drinking. 44% reported trying AmED at least once while 9% reported consuming it within the past two weeks.
 - The results concluded that the consumption of AmED is a common trend in U.S. college students and that the motivation of consuming AmED is the reduction of the sedative effects of alcohol.

- **Web site #2 Name: Science Daily (Redirected from Scirus Search Engine)**
- **Web address:** <http://www.sciencedaily.com/releases/2004/07/040708004422.htm>
- **Summary of the research:**
 - The University of Washington completed a study that has found people who began drinking at the age of 13 and continued to drink throughout adolescence.
 - This was a longitudinal study that looked at 800 participants who were interviewed annually starting at age 13 until age 16 again at 18, 21, and 24. The participants were equally divided between males and females with 47% Caucasian, 23% black, 21% Asian-Americans, 6% American Indians and 3% from another ethnic group. They were questioned about their alcohol, tobacco, and drug use. In addition, at age 24, they were asked about health-related behaviors such as safe driving, seat belt use, regular exercise, and about 18 illnesses or health conditions including asthma, high blood pressure, arthritis, and diabetes,
 - The study found that 3% were considered chronic binge drinkers who started at age 13 and continued to binge drink three to five times a month. 4% were considered to be escalators who began drinking at age 15 and began binge drinking about 10 times monthly by age 18; 23% were considered to be late on-setters who began to drink after age 16 with an average of two binge episodes a month by age 18. Lastly, 70% of the group was considered to be non-binge drinkers who never or rarely engaged in binge drinking.
 - In conclusion, it was found that young adults who did not binge drink or rarely did were the most likely to be healthy and practice healthy behaviors. The first warning signs that can be linked to adolescent binge drinking is

being overweight or having hypertension. These could be linked to serious problems in the future such as heart disease, cancer, or diabetes. Also, late on-setters were 50 more percent more likely to have been ill in the past year as well as drive drunk or high. Escalators engaged in more unsafe driving practices and had high levels of anti-social behavior.

- **Web site #3 Name: Binge Drinking and Declarative Memory in University Students**
- **Web address:** <http://www.ncbi.nlm.nih.gov/pubmed/21575014?dopt=Abstract>
- **Summary of the research:**
 - Animal studies have proved that binge drinking (BD) is associated with damage to the hippocampus, the region of the brain that is responsible for learning and memory. The aim of this study is to examine the association between BD and declarative memory in both male and female university students.
 - 122 students between the ages of 18 and 24 were participants in this study. There were 62 binge drinkers and 20 non-binge drinkers. Their declarative memory was assessed by Rey Auditory Verbal Learning Test (RAVLT) and Logical Memory subtest evaluated verbal declarative memory. The Weschler Memory Scale third edition (WMS-III) Family Pictures sub test was used to measure visual declarative memory.
 - Those students who were classified as binge drinkers remembered fewer words and displayed greater proactive inference in the RAVLT, while they performed worse on the Logical Memory subtest. There was not a difference between the groups with the Family Pictures subtest and no interactions between BD and sex.
 - These findings conclude that binge drinking is associated with poor verbal declarative memory. Also, these findings were consistent with the vulnerability of the adolescent hippocampus to the neurotoxic effects of alcohol.

Section 3: Statistics

- **Web site #1 Name: National Institute on Alcohol Abuse and Alcoholism**
- **Web address:** <http://www.niaaa.nih.gov/AboutNIAAA/NIAAASponsoredPrograms/Pages/underage.aspx>
- **Summary of the statistics:**
 - The National Institute on Alcohol Abuse and Alcoholism (NIAAA) provides statistics based on underage drinking. Every year, approximately 5,000 individuals under the ages of 21 die from underage drinking. The alcohol consumption has resulted in 1,900 motor vehicle fatalities, 1,600 homicides, 300 suicides, and the remaining from injuries such as falls, burns, and drowning. Three-fourths of 12th graders, more than two-thirds of 10th graders and two in five 8th graders have consumed an alcoholic beverage. The data concludes that when youth drinkers consume alcohol they are engaging in the act of binge drinking by

consuming four to five drinks at one time; 11 percent of 8th graders, 22 percent of 10th graders, and 29 percent of 12th graders have been classified as binge drinkers. Although these findings do not indicate whether or not the problem is improving or getting worse since the statistics are not compared to findings from previous time periods, but it implies that underage drinking is accepted. Alcohol is not readily available unless it is provided to high school aged teens. Binge drinking is not consumed by taking alcohol from your parents' liquor cabinet.

- **Web site #2 Name: Underage Drinking Research**
- **Web address:** <http://www.centurycouncil.org/learn-the-facts/underage-drinking-research>
- **Summary of the statistics:**
 - The Century Council identified that among 12-20 year olds approximately 6.9 million (18%) engaged in binge drinking while 2.1 million (6%) engaged in heavy drinking. As time progressed the rates began to decline slightly. In 2009 the National Survey on Drug Use and Health indicated that binge drinking began to slightly increase to 18.1% and heavy drinking decreased to 5.4%. Although these are not drastic enough to ensure that the problem is diminishing, the binge drinking issue is beginning to stabilize. When presented with a question regarding punishment if they got caught drinking 87% of 12 year olds said they would not continue to drink, 50% of 13-17 year olds and 46% of 16-18 year olds said they would not continue to drink if caught. The organization also points out that 83% of college students have tried alcohol, 69% reported being in a drunken stupor while 36% reported that they consumed five or more drinks in a row, which is known as binge drinking.

- **Web site #3: Annual High-Risk College Drinking Consequences**
- **Web address:** <http://www.collegedrinkingprevention.gov/StatsSummaries/snapshot.aspx>
- **Summary of the statistics:**
 - Excessive and binge drinking affect virtually all college campuses even if some students do not engage in the behavior. According to the government Web site 1,825 college students between the ages of 18-24 die from alcohol-related unintentional injuries annually. 599,000 students are unintentionally injured, 696,000 are assaulted by another student who has been under the influence, 97,000 are victims of sexual assault or date rape, 400,000 student have had unprotected sex and more than 100,000 reported being intoxicated to know. These numbers are based on annual surveys which were last updated in July 2010. About 25 percent of students reported academic consequences from drinking which include missing class, falling behind, failing exams, and receiving a lower grade overall. These reports have an effect on the overall campus in which the behaviors are occurring; 1.5% indicated that they have attempted suicide and more than 150,000 students develop a health problem related to binge drinking. The largest factor that was reported by college students was drunk driving with a total of 3,360,000 engaging in the act. These findings identify that there is an overall issue especially when binge drinkers are making their surroundings more dangerous for themselves and others.

Section 4: Consumer Information

- **Web site #1 Name: U.S. Food and Drug Administration**
- **Web address:** <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm233987.htm>
- **Summary of the information:**
 - Caffeinated alcoholic beverages (CAB) contain caffeine as an addictive. This has raised concerns at FDA. Warning letters were sent out to these companies in late 2010 stating that they had to make malt versions, advising them that caffeine included as a separate ingredient is an “unsafe food additive”.
 - This is a troubling mix because data and expert opinion proves that caffeine can mask sensory cues that people rely on to determine how intoxicated they are. This can allow them to consume more than they normally do.
 - Included in the category of CAB are: Four Loko, Core Gravity HG Green/Orange, Joose, Lemon Lime Core Spiked, Moonshot, and Max.
 - Consumers should avoid these drinks since they are not within the standards of the FDA.

- **Web site #2 Name: Center For Disease Control & Prevention**
- **Web address:** <http://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm>
- **Summary of the information:**
 - Approximately 79,000 deaths are related to excessive alcohol use each year in the United States. Excessive alcohol is the third leading lifestyle-related cause of death for the US.
 - CDC cites dangers of binge drinking which include, increased risk of car accidents, burns, drowning and falls, assault, domestic violence, alcohol poisoning, having a child with fetal alcohol syndrome, getting pregnant unintentionally, contracting an STD, cardiovascular disease, liver disease, neurological damage, and poorly managed diabetes.

- **Web site #3 Name: Australian Drug Foundation**
- **Web address:** <http://www.adf.org.au/policy-advocacy/consumer-information-and-health-labels-on-alcohol-beverage-containers>
- **Summary of the information:**
 - The Alcohol Policy Coalition (APC) feels as if there is a lack of consumer information on labels of alcohol products, such as nutritional information.
 - The APC believes that labels should also inform consumers about the public health and safety risks associated with consumption.

Section 5: Solutions to the Problem (or Issue)

- **Web site #1 Name: Center for Disease Control**
- **Web address:** <http://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>
- **Summary of the information:**
 - The Center for Disease Control and Prevention, which is a government agency, has used evidence-based interventions to prevent binge drinking. In order to

diminish the problem there has been an increase in the cost of alcoholic beverages and a rise in taxes. Although this has been implemented, the taxes can vary by state. The CDC has been limiting the amount of retail outlets that sell beverages in a given area. Another approach to the issue has been enforcing laws against underage drinking and alcohol-impaired driving. Alcohol consumption is the highest among those under the age of 21 in the form of binge drinking and it is about fourteen times more likely to report impaired-driving. To implement larger consequences is an attempt to impact the individuals as well as reduce the overall reports of binge drinking. When an individual is caught, screening and counseling for misuse of alcohol must be completed.

- **Web site #2 Name: Healthy People 2020**
- **Web address:** <http://healthypeople.gov/2020/topicsobjectives2020/obr.aspx?topicId=40>
- **Summary of the information:**
 - Healthy People 2020 is a multiyear process that involves input from a diverse group of individuals and organizations. They construct objectives and goals to promote change in health behaviors to Americans. The goal for 2020 is to prevent excessive alcohol consumption. Excessive alcohol consumption is identified as either heavy or binge drinking. It is known that excessive alcohol consumption is the third leading preventable death in the United States. Healthy People 2020 provide intervention guidelines to attack the problem by using community interventions. In addition to those mentioned by the CDC, Healthy People 2020 wants continue to work on maintaining limited days of sale and hours. This will decrease the access and availability of alcohol and regulate the hours of purchase in bars, restaurants, and liquor stores. Reducing the Blood Alcohol Concentration (BAC) laws will establish a lower legal limit and higher consequences. Healthy People 2020 recommend implementing interventions with community mobilization. In other words, establish the frequency of check points, education, awareness efforts, and require more training for those working with beverage services. In addition to community education, an increase in school-based programs will educate the youth on consequences, effects, and possibilities that can happen.

- **Web site #3 Name: Binge Drinking on America's College Campuses**
- **Web address:** http://www.hsph.harvard.edu/cas/Documents/monograph_2000/cas_mono_2000.pdf
- **Summary of the information:**
 - From 1993 until today the 44% of students who binge drink has remained stable but the most frequent forms of binge drinking continues to increase. In fact, heavy alcohol use affects more college students than other drugs combined. On nationwide campuses educational programs can be offered to individual students regarding their behavior. Harvard believes that all campuses can include strategies that reshape the social environment and work in the community. Although approaches are made to reduce the amount of binge drinking, nobody has discovered a solution to the problem. In 1999 Harvard developed a twelve-step program for college campuses to help with binge drinking: 1. Colleges must

acknowledge that alcohol problems exists, 2. A systematic effort begins with the president and organizes for the long-term, 3. Involve everyone and think broadly, 4. Student education, 5. Work with the local community, 6. Establish rights of non-bingeing students, 7. Develop a code of conduct, 8. Provide alcohol free living arrangements, 9. Address problem drinking at fraternities and sororities, 10. Provide full-time education for full-time tuition, 11. Encourage problem drinkers to seek help or treatment, 12. Start freshman orientation before students arrive on campus.

Conclusions

Binge drinking is a problem that needs to be addressed by everybody throughout society. Although there are laws, regulations, and attempts at solutions, binge drinking will not go away. Underage drinkers will become of age where they can legally drink and the problem will become progressively worse and eventually turn to other substances. Binge drinkers as well as those who consume the legal amount of alcohol are become more prone to health complications and are endangering others around them when they engage in behavior such as drinking and driving and becoming violent. I knew that binge drinking occurred in high school and on college campuses but I did not realize how extreme the behavior is. Limited alcohol consumption is socially accepted in society for those who are of legal age but I also believe that it is related to maturity and cultural factors. Binge drinking occurs in European countries where it is socially accepted for a young teen to have a wine at a family gathering, but it is clearly understood that with a lower drinking age the overall problem still had not diminished. There is a new trend arising which includes the consumption of caffeinated alcoholic beverages. This drink is promoting binge drinking since the caffeine additive reduces the ability to know how intoxicated you actually are. Consumers are well aware of the risks and consequences of binge drinking, but they continue to drink more than necessary. In fact, labeling on alcoholic beverages should include nutritional information and public health risks because some people do not realize how serious the effects could be. There is an international issue at hand and federal organizations and Healthy People 2020 are making efforts to control and reduce the problem.

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