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Binge Drinking Among College Students: Trends, Consequences and Possible Solutions

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Abstract

This research explores the rates and trends of students' indulgence in excessive or high-risk drinking behaviors on college campuses in the United States. Some of its intents are to assess the prevalence of binge drinking among college students, its effects on the involved drinkers and nondrinkers, identify some of the risk factors associated with binge drinking, and then present mitigating strategies to reduce its incidents. The study found that those who are more predisposed to engage in binge drinking are those with low efficacy to refuse excessive alcohol drinking and those who have low importance of religion. Others include those with a family history of alcoholism, have membership in fraternity/ sorority and poor academic success, and have peers who use alcohol. Among the negative consequences and effects on those who engage in binge drinking identified include falling victim to alcohol-related sexual assault or date rape; drunk driving, high suicide rate, and indulgence in negative acts and behaviors such as rioting, bullying, and vandalism. This investigation concludes with its identification of mitigation strategies and measures necessary to prevent or reduce the high incidents of binge drinking among college students that include raising public awareness using media campaigns on related harms and preventive measures; institution and enforcement of strict campus alcohol policy; banning or restricting alcohol sales near college campuses, in dormitories and during college campus events; training beer and beverage servers on signs and symptoms of overdrinking to take precautionary actions such as denying, suspending or cutting off alcohol services once high-risk behaviors associated with overdrinking is dictated or observed. With the proper and meticulous implementation and enforcement of the above measures, the high incidents of binge drinking among college students in the United States will be drastically, greatly, and significantly reduced.

Keywords: Binge drinking; Secondhand effect; Unsafe sex; Wet environment; Binge rates; High & low drinking level colleges; Planned sex; Episodic drinking; Risk factors; Protective factors; Norms; Domain.

1. Introduction

1993 to 2001, Wechsler and Nelson (2008), conducted an extensive study that spanned from 1993 to 2001. This study is hailed because of its thoroughness and depth. For example, it identified excessive drinking and the secondhand effects it produces, as well as the harm overdrinking, inflicts on other students that interact with binge drinkers. Further, the research explored relevant issues in school alcohol abuse, including the role of college organizations – sororities, fraternities, sports/ athletics, state alcohol policies, impacts of pricing policies, and accessibility. The study also looked at the intersection of alcohol abuse and other high-risk factors among college students such as tobacco use, illicit drug use, violence, behavioral, health, and social problems, sexual harassment, and assault as well as unsafe sex.

The researchers examined four national surveys examining the drinking patterns and practices of American college students. More specifically, the authors critically looked at competing for a College-focused Alcohol Study that identified key individual and environmental factors related to heavy episodic or "binge" drinking and evaluated institutional policies and programs designed to control alcohol problems. Put succinctly, the key findings of the study are as follows:

- 4 in 10 (40%) students attending four-year colleges in the United States are binge drinkers. This result was consistent over the four surveys—1993, 1997, 1999, and 2001.
- Nationally, 2 in 10(20%) college students is a frequent binge, drinkers. Frequent binge drinkers (students who had binged three or more times in the past two weeks) consumed 72 percent of all alcohol consumed by college students.
- The rate of binge drinking remained stable from 1993 to 2001 despite widespread efforts to address the problem through educational and motivational programs aimed at students.
- The alcohol environments in the colleges and their surrounding communities—the availability, price, and marketing of alcohol; college prevention policies; community and state laws; and their enforcement—play a significant role in determining binge drinking rates.
- Binge drinkers, particularly those who do so frequently, experience a range of alcohol-related problems affecting their physical, psychological, social, and educational status.
- The negative impact of college student alcohol abuse is not limited to the drinkers themselves. Students who attended schools with high rates of binge drinking experienced a greater number of secondhand effects, including disruption of sleep or study; property damage; and verbal, physical, or sexual violence, than their peers attending schools with low binge drinking rates.
- Neighbors living in the vicinity of colleges with high rates of binge drinking were also more likely to experience negative effects of heavy drinkings, such as noise disturbances and vandalism, compared with people living near colleges with low rates of binge drinking and with people who did not live near a college. The intents of this research are as follows:
- 1. Determine the prevalence or extent and seriousness of the problem of binge drinking among college students as well as define binge drinking.
- 2. Determine who the likely over-drinkers are based on informed research and why students indulge in high-risk drinking.
- 3. Identify the effects of heavy drinking on student users as well as determine 2nd hand impacts or effects on nondrinkers. That is, affects other students who attend school with the student alcohol abusers and neighbors as well
- 4. Identify and examine other high-risk behaviors associated with excessive drinking, and suggest and recommend possible strategies that should be implemented to help stem the tide of the problem.

For this study, binge drinking will borrow the definition by Wechsler and Nelson (2008) – "*The consistent consumption of five or more drinks in a row for men and four or more for women at least once in two weeks*" Also, the word binge-drinking will be used synonymously with excessive drinking, high-risk drinking, and overdrinking.

2. Prevalence of Binge Drinking

A study by the Center for Disease Control (CDC) /in 2004 found that 28.3% of students in grades 9-12 reported drinking more in a row and within a couple of hours once or more in the thirty days before the survey was administered in 2003.

Also, according to Johnston *et al.* (2003), a nationwide survey of U.S. high school students showed that 30% of 12^{th} graders (> 20% of 10^{th} graders and about 15% of 8^{th} graders reported drinking five or more drinks in a row in the 2 weeks preceding their survey.

A study by the Center for Science in the Public interest of Alcohol Policies Project (2000),

- Roughly 4 in 10 (44%) of U.S. college students engaged in binge drinking during the 2 weeks preceding their survey
- About half (51%) of the men who consumed 5 or more drinks in a row
- Four in ten (40%) of the women drank 4 or more drinks in a row
- White students age 23 or younger and residents of a fraternity or sorority are more likely to binge
- White students age 23 or younger and residents of a fraternity or sorority are 3 times more likely to binge in college if they were over-drinkers in high school
- The % of students who were excessive drinkers was nearly unchanged from freshman to senior years regardless of the 21-year drinking age policy
- More than half (>50%) of binge drinkers abused alcohol three or more times a week.
- One in five (20%) of binge students reported abstaining from drinking.

3. Literature Review

Weitzman and Nelson (2004), used data from the Harvard School of Public Health College alcohol study of 49, 163 students to analyze patterns of alcohol consumption and harm. The researchers found that while the heaviest drinkers are at greatest risk for harm, they are few, and as such only generate a relatively small amount of overall drinking harm. While the risk of harm is not zero, among lower-level drinkers in college they argued, they account for the larger bulk of harm because they make up the majority of drinkers. Hence, the authors suggest moderating alcohol consumption among the majority using environmental approaches.

In another study, Weitzman *et al.* (2004) measured patterns of program implementation and the impacts of the program on frequent, heavy, and binge drinking harms and secondhand effects of alcohol consumption. The researchers found that an environmental prevention program targeting heavy and harmful drinking can be implemented within college communities and that where program implementation emphasized changes to alcohol

availability and larger cultural factors college communities experienced a reduction in levels of heavy consumption of alcohol, including binge drinking and other harms associated with overdrinking, including reductions in secondhand effects. Thus, the researchers proposed an effective public health prevention strategy or program, changing the conditions that influence drinking-related choices, opportunities, and consequences for drinkers, and those who supply them with alcohol.

Rigotti *et al.* (2005) studied young adult exposure to the tobacco industry marketing strategy of sponsoring social events at bars, nightclubs, and college campuses. The authors concluded that attendance at a bar, nightclub, or campus party was associated with a higher smoking and drinking increase among college students; and that promotional events tend to encourage the initiation or progression of alcohol and tobacco use among college students, who under normal circumstances were not regular smokers when they were admitted into college.

Wechsler *et al.* (2004), conducted a study to determine the types of programs and policies used by colleges to respond to students' heavy drinking problems. The authors discovered that colleges that received funding/ grants from government agencies were more likely to conduct targeted alcohol education and social norm programs, and less likely to restrict alcohol use on campus or at college events. The investigators also observed that colleges that focused their anti-binge policies based on demand were less likely to ban alcohol use on their campuses. Hence, the researchers suggested that colleges should reconsider and reevaluate their prevention initiatives that exclusively focus on demand and supply; and the extent to which funding shapes or determines their anti-binge drinking policies.

Weitzman *et al.* (2003), set to identify social groups, persons, and environmental factors that are associated with the rise or uptake of excessive drinking among a national sample of college students. The researchers found that college students who said that they were exposed to wet environments (social, residential, and marketplaces where alcohol was rampant, cheap, and easy to get or buy) were more likely to engage in high-risk drinking than their peers who had no such exposures. The authors further discovered that students who indulged in binge drinking in college were more likely than their contemporaries to report inflated definitions or descriptions of binge drinking. In a nutshell, to exaggerate incidents of high-risk drinking, and to harbor more permissive attitudes (express or show more tolerance) about the appropriate age for legal consumption of alcohol. The authors concluded that binge drinking can either be acquired (learned) or avoided in college by students who reported not drinking in high school; and that reducing the incidents of binge drinking in college would require strategies that emphasize limiting access and availability of alcohol, controlling its prize and declaring alcohol-free environments/ campuses and associations.

Dowdall and Wechsler (2002), studied current developments and trends in the study of heavy college drinking, to understand it. The researchers observed that although factors affecting college alcohol use are discussed across college campuses, most of the studies are clinical, developmental, and psychological variables; and are conducted once in a while or sparingly on individual campuses.

Wechsler *et al.* (2002b), conducted a survey study to determine trends in college heavy alcohol use, alcoholrelated problems and encounters with college and community prevention efforts. The researchers observed that approximately, in the prior year, 44.4% (2 in 5) college students reported binge drinking; with little change in individual binge drinking rate and; an increase in the percentage of abstainers. In contrast, the investigators observed a sharp rise in frequent excessive drinking among students attending all-women colleges. Further, the authors noticed that students living in substance-free housing experienced or encountered more college educational efforts and sanctions resulting from their alcohol use.

Wechsler *et al.* (1995b), conducted a survey designed to assess the impact of campus levels of heavy episode drinking on non-heavy episodic drinking college students. The study surveyed a sample of 17, 592 students with a 69% response rate. The results indicate that residing on campus at high drinking level schools adversely affected students who were not heavy drinkers. Further, the researchers observed that the odds of experiencing at least one problem (such as being hit or assaulted, having one's property damaged, or experiencing sexual advance or assault) from other students drinking – That is (the chance or probability of falling victim to secondhand heavy drinking) from other student drinkers was 3.6 to 1 when no heavy drinking students at high drinking level schools were compared to heavy drinking students at lower drinking level schools. The researchers concluded that any effective college alcohol prevention plan should include a focus on students not engaging in heavy drinking, but may be adversely impacted by other students' heavy drinking – secondhand drinking victims.

Wechsler *et al.* (1995a) conducted a survey whose objective was to examine the individual correlates of college student binge drinking. The results revealed that 44% of the respondents (50% men and 39% women) binged. They also observed that demographic factors such as sex and race were significantly correlated with binge drinking when prior excessive drinking in high school was evident. In other words, many students who turned to heavy drinking in college binge drinking were factors such as belonging to a fraternity or sorority, adopting of party-centered lifestyle, and engaging in other high-risk behaviors. Hence, the authors concluded that intervention must target high school binge drinking and other environmental characteristics of college life, especially fraternity residence. The authors also concluded that the legal drinking age fails to predict binge drinking, thereby raising questions about the effectiveness of the legal minimum drinking age of 21 in Collegealcohol policies.

Nelson *et al.* (2005), whose research measured the relationship between college student and adult binge drinking rates by state and state alcohol control policies. The results of the study showed that state-level College and adult binge drinking rates were strongly associated. Further, the investigators found that attending college in states with the lowest binge drinking rates and more stringent alcohol control policies were independent determinants of student binge drinking habits, after adjusting for factors such as state law enforcement, and individual, college, and state-level covariates. The authors then concluded that state of residence is a predictor of binge drinking among

college students. Also, state-level alcohol control policies may indeed help reduce binge drinking both in the general population and among college students.

Hingson *et al.* (2005), calculated the alcohol-related unintentional injury deaths and other health problems among college students aged 18 - 24, between 1998 and 2001. The authors observed that alcohol-related unintentional injury deaths increased from nearly 1600 to more than 1700 - an increase of 6% per college population. Further, the result findings showed that the proportion of 18-24-year old college students who reported driving under the influence of Alcohol rose from 26.5% to 31.4% - an increase from 2.3 million to 2.8 million students. Further, within two years, more than 500,000 students were unintentionally injured because of drinking, while more than 600,000 experience assault/hit by another drinking student. The investigators concluded that any effective reduction policy for binge drinking and associated harm to students must embrace greater enforcement of the legal drinking age of 21; zero tolerant laws; increases in alcohol taxes; screening and counseling programs and community intervention.

Wechsler *et al.* (1994), examined the extent of binge drinking by college students and the resulting health and behavioral problems that binge drinkers brought on themselves and others on their campus. The survey involving one hundred and forty 4-year college students in the U.S. had 17,592 college student participants. The study results showed that about half (44%) of college students responding to the survey were binge drinkers, with 19% being frequent drinkers. The authors also observed that frequent binge drinkers are more likely to experience serious health and other consequences from their drinking behavior than other no heavy drinkers. Further analyses showed that approximately half (47%) of the frequent binge drinkers experienced multiple (five or more) different drinking-related problems, including injuries, and engaging in unplanned sex, the authors also observed that most binge drinkers do not consider themselves to be problem drinkers, and have not sought treatment for alcohol-related problem or issue. Next, binge drinkers create a problem for classmates who are not binge drinkers. Further, the authors observed that students who are not binge drinkers at schools with higher binge rates were more likely to experience problems such as being hit, pushed, or assaulted or experiencing an unwanted sexual advance than students at schools with lower binge rates.

Anderson *et al.* (2009), found that greater exposure to alcohol-related merchandise is associated with excessive drinking. The authors found that twelve of thirteen longitudinal studies published between 1990 and 2008 discovered a relationship between exposure to alcohol advertising and increased levels of consumption among drinkers after controlling for such factors as family, peer drinking, and demographic relevance.

Borsari *et al.* (2007), who conducted a review of studies on alcohol use among freshmen in college identified moderators of use in addition to specific moderators, including drinking motives, perceived norms, alcohol expectancies, coping mechanisms and skills, and drinking games.

Collins *et al.* (2007), in their study found that short-term effects indicated no reductions in use and a significant increase in inhalants, even though small among the intervention/ experimental group. Further, the authors found that sustained effects among 10th-grade students were small but significant for reductions in cigarettes, alcohol, and binge drinking.

Courtney and Polich (2009), who summarized key findings and viewpoints from selected scientific bingedrinking literature and epidemiological findings concluded that white males are at the highest risk. Other risk factors identified by the authors included social issues (importance of fitting in among college peers and cognitive and physiological effects, such as poor planning and memory.

Stolle *et al.* (2009), in their study summarized key findings and factors related to binge drinking among adolescents in Germany. The investigators found that risk factors across the domain for overdrinking included factors such as impulsivity, drinking among peers, inconsistent parenting styles and use by parents, and drinking motives.

Wicki *et al.* (2010), in their study found that male parents tend to drink more; and that students consume alcohol mainly for social enhancement purposes, especially in social gathering settings. The authors also observed that students living in a less controlled environment or situations, such as those without family obligations and expectations consume more alcohol.

Clapp *et al.* (2006), found that among underage and legal-age students, drinking in a bar was associated with a higher level of consumption relative to drinking in a private setting. For both location and age group types, their study found that there were higher levels of consumption when many intoxicated students were present. They further observed that drinking games, as well as the availability of illicit drugs, were associated with consumption only at private parties.

Donath *et al.* (2012), found the prevalence of binge drinking (52.3%) was higher among males (56.9%) than females (47.5%). Doumas *et al.* (2006), concluded that those with high attachment avoidance used drinking as a coping mechanism and strategy to manage negative emotions in a social situation.

Gilligan *et al.* (2012), in their study found that the age of first intoxication or drunkenness and the number of times of overdrinking before age 16 might be more important than the age of 1^{st} drink for predicting adult alcohol problems and issues.

Jessor *et al.* (2006), found that psychological and behavioral risk and protective factors could account for crosssectional and developmental variations in heavy episodic drinking across gender; and that social and individual controls - parental sanctions, and attitudinal intolerance of deviance, as well as other models of risk, such as peers and behavioral protection (attendance at religious services), predicted heavy episodic drinking.

Neal and Carey (2007), in their study found that heavy-drinking students experienced several alcohol-related negative consequences. The authors recommended using event data to make predictions regarding the likelihood of alcohol-related consequences occurring following specific drinking episodes.

Parra *et al.* (2007), concluded that latent growth curve models show two different periods when the frequency of heavy drinking and perceived peer alcohol involvement occurs. The periods are college and post-college years.

Paschal and Saltz (2007), observed that the highest drinking levels were reported at all settings, except campus events, with most drinks consumed at off-campus parties, followed by residence halls and fraternity/ sorority parties. The authors also observed that the number of drinks before fraternity/ sorority parties was higher than those in other events and settings.

Reed *et al.* (2007), found that among students who identified strongly with reference groups, perceptions of heavy drinking acceptability were positively associated with greater alcohol consumption.

Wechsler and Nelson (2008), found that harmful effects are associated with drinkers themselves, and secondhand effects experienced by other students and neighborhood residents; and that the role of college environments in promoting heavy drinking by students.

White *et al.* (2006), discovered that being male and using alcohol frequently in the 12th predicted higher rates of alcohol use six months later. They also found that having fewer friends who used the substances was a protective factor as well as parental monitoring and higher levels of religiosity.

4. Risk Factors Associated with Binge Drinking

Many factors or variables increase the chances of a person's indulgence in excessive or high-risk drinking behaviors. Certain types of persons are also, more likely to develop into binge drinking. However, not all of them will necessarily turn into that, even though they have a higher chance. Several academic researchers have discussed these tendencies.

Anderson *et al.* (2009), has argued that those exposed to mass media advertising and alcohol merchandise are likely to binge. Borsari *et al.* (2007), argued that impulsive people and sensation-seeking, as well as low importance of religion, are more prone. Collins *et al.* (2007), stated that binge drinkers are likely to be those with perceived risk of use; favorable attitudes toward use; those with peers who abuse alcohol; those whose parents have a permissive style; people with low commitment to school; and those who perform poorly in school. Courtney and Polich (2009) believe that those who are more predisposed to binge are those with low efficacy to refuse alcohol; stop drinking alcohol and have low importance of religion. Others include those with a family history of alcoholism; have membership in fraternity/ sorority and poor academic success and have peers who use alcohol.

Other researchers, such as Stolle *et al.* (2009) observed that binge drinkers are likely to be those whose drinking motives are reduction in negative affect; pleasure, and fun facilitate social ease personality characteristics – impulsive and sensation seeking. To Wicki *et al.* (2010) those likely to abuse alcohol are likely to have drinking motives reduction in negative affect; and trying to fit in with peer group. Clapp *et al.* (2006) believes that those who may be susceptible to binge drinking are those who are located in wet environments in a college setting and also attending lose parties where people require participants to bring their beer (BYOB) Donath *et al.* (2012) added that high-risk drinkers are likely to be those with high school absenteeism/ truancy; candidates for academic failure; suicidal thoughts and have aggressive behavior towards their teachers.

For Doumas *et al.* (2006), excessive drinkers are likely to be those with high attachment avoidance, while Gilligan *et al.* (2012) argues that it is likely to be those whose peers use alcohol. Further, Jessor *et al.* (2006) noted that individuals at high risk of binge drink are those who use cigarettes and marijuana; have perceived ease of access to alcohol; and are under social pressure to drink. Other researchers such as Neal and Carey (2007) believe that those with risk factors include those with drinking motives, impaired control scale, impulsive scale, and reasons for drinking. Included in that list by Parra *et al.* (2007) are those with perceived alcohol use by peers. Moreover, Paschal and Saltz (2007) stated that potential binge drinkers are those with low-grade point average (GPA) in school; scored low in religiosity, and are affiliated with colleges where alcohol is served. Next, Reed *et al.* (2007) expanded the list of people predisposed to engage in overdrinking to include those with the perception of friends' acceptability of their heavy drinking. Also, Wechsler and Nelson (2008) discovered that likely binge drinkers are those who reside in communities with high alcohol outlet density. Finally, White *et al.* (2006) admitted that the most likely candidates for high-risk drinking are those individuals leaving home to transition from high school to college, as well as persons living in student housing/ Dormitories.

	Alcohol	No Alcohol	Percent Alcohol
White	65,309	82,737	44.1%
African American	11,072	12,453	47.1%
Native American	2,197	804	73.2%
Asian/Pacific Islander	1,094	2,942	27.1%
Mexican	7,968	5,387	59.7%
Puerto Rican	529	654	44.7%
Cuban	240	473	33.7%
Central/South American	1,005	961	51.1%
Other Hispanic/Unknown	1,834	1,657	52.5%
Total	91,248	108,068	45.8%

5. Effects OF Binge Drinking 5.1. Alcohol and Non-Alcohol Fatalities by Ethnic Group

Note: Alcohol crash = fatality that occurred in a crash in which at least one active participant had a non-zero BAC.

Source: Pacific Institute for Research and Evaluation, Prevention Research Center, 1999

The consequences of excessive and underage drinking affect virtually all college campuses, and communities, and college students, whether they choose to drink or not. The negative consequences of overdrinking are replete in all areas of human endeavor. Outside vehicular accidents discussed above, excessive drinking may lead to death. A study by Hingson *et al.* (2005) indicated that about 1,700 college students between the ages of 18 and 24 die each year from alcohol-related unintentional injuries, while injuries alone command a figure of 599,000 students between the ages of 18 and 24 are unintentionally injured under the influence of alcohol. Concerning assault, the researchers claimed that more than 696,000 students between the ages of 18 and 24 are assaulted by another student who has been drinking.

Even sexual abuse is not immune as the authors discovered that more than 97,000 students between the ages of 18 and 24 fall victim to alcohol-related sexual assault or date rape. Further, the investigators found that binge drinking may lead to other risk behaviors such as unsafe sex, where, according to them, upward of 400,000 students between the ages of 18 and 24 had unprotected sex, and more than 100,000 students between the ages of 18 and 24 reports having been too intoxicated to know if they consented to have sex.

Further, the researchers observed other high-risk behaviors and consequences associated with overdrinking – drunk driving. The authors claimed that 2.1 million students between the ages of 18 and 24 drove under the influence of alcohol in 2001. They also claimed that binge drinking is a driver of other infractions, including public drunkenness and driving under the influence of alcohol. According to their study, approximately 110,000 students between the ages of 18 and 24 are arrested for alcohol-related violations such as public drunkenness or driving under the influence.

Other studies by Presley *et al.* (1998) argued that excessive drinking leads to high incidents of suicide; and that between 1.2 and 1.5 percent of students indicate that they tried to commit suicide within the past year due to drinking or drug use. Knight *et al.* (2002), also identified alcohol abuse and dependency as a problem associated with alcohol abuse. The investigators said that31 a percent of college students met the criteria for a diagnosis of alcohol abuse and 6 percent for a diagnosis of alcohol dependency in the past 12 months, according to questionnaire-based self-reports about their drinking.

(Hingson and Howland, 2002), included other health problems, including suicide as one of the critical health issues caused by alcohol abuse. The authors stated that over 150,000 students develop an alcohol-related health problem annually. Engs *et al.* (1996); Presley *et al.* (1996a); Presley *et al.* (1996b); Wechsler *et al.* (2002b) identified poor academic performance as another consequence of binge drinking. According to the authors, roughly 25 percent of college students report academic consequences of their drinking including missing class, falling behind, doing poorly on examinations or papers, and receiving lower grades overall.

Another group of researchers, Wechsler *et al.* (2002a) claimed that hooliganism which manifests itself in negative acts and behaviors such as rioting; bullying, and vandalism is a consequence of overdrinking. The authors observed that concerning vandalism, about 11 percent of college student drinkers in their survey report that they have damaged property while under the influence of alcohol. The researchers also indicated that criminal behavior which eventually attracts the attention of law enforcement is a manifestation of high-risk drinking behavior. In their study also, the authors discovered that about 5 percent of 4-year college students are involved with the police or campus security as a result of their drinking. In a follow-up study, Wechsler *et al.* (1995a) linked binge drinking and property damage. The authors observed that more than 25 percent of administrators from schools with relatively low drinking levels and over 50 percent from schools with high

-drinking levels say their campuses have a "moderate" or "major" problem with alcohol-related property damage.

The Center for Science in the Public interest of Alcohol Policies Project (2000) reported that frequent binge drinkers were 21 times more likely than non-binge drinkers to:

- Miss class
- Be hurt or injured
- Fallen behind in schoolwork
- Damage property
- Drive after drinking
- Engage in unplanned sexual activity
- Got in trouble with the campus police
- Indulged in unprotected sex

The negative impact of binge drinking is not limited to the perpetrators, but its 2nd hand effects are as enormous and dangerous. The Center for Science in the Public interest of Alcohol Policies Project (2000) also identified the adverse impacts and toll of binge drinking on third-party bystanders or spectators including:

- Interrupted sleep and study (71%)
- Took care to intoxicate students (57%)
- Had been insulted or humiliated (36%)
- Experience unwanted sexual advance (23%)
- Engaged in serious arguments (23%)
- Fell Victims to sexual assault or date rape (1%)
- Had been pushed, hit, or assaulted (11%)

• Had property damaged (16%)

6. Conclusion

Those most likely to engage in binge drinking are mates, students living on campus; membership holders in fraternities or sororities; first-year post-secondary students and athletes., white post-secondary students, and males (men are more likely than women to binge drink). Personal risk factors include a history of conduct problems; impulsiveness, thrill-seeking, and high levels of sensation-seeking. Others are being unconventional; having little self-efficacy (little belief in a person's capacity to produce an effect); having inflated perceptions of peers' binge drinking levels; and holding wet attitudes (the inflated threshold for defining binge drinking and belief in lowering the drinking age). Environmental risk factors include peer influences; family history of alcoholism; living in a wet setting (alcohol-free college campuses or colleges with high and heavy drinking episodic drinking; and fraternities/sororities.

Negative consequences of heavy episodic drinking include – hangovers, memory loss, school/ class absenteeism, unplanned sexual relationship; drunk driving, vandalism/ hooliganism, getting in trouble with campus police; being hurt or injured, and damaged property.

Some of the reasons why students binge drink include drinking to get drunk (thrill); gaining status associated with drinking; culture of alcohol consumption and abuse on campus; peer pressure and academic stress.

Multipronged approaches to the prevention of alcohol abuse are necessary. While both fall under environmental solutions, their typologies fall under policy and regulation – either on-campus or off-campus or both. Here, we have the interplay of "nature" and "nurture". This is because as much as individuals shape the environment, so does the environment shape the individuals.

Many mitigation strategies against binge drinking should be implemented by campus officials. They include: Using media campaigns to raise public awareness to prevent alcohol-related harm. That is, educate and inform the public by highlighting health risks and services available and how to access them; providing substance/ alcohol-free housing, and substance-free events on campus. Other mitigation strategies to reduce incidents of binge drinking on campus should include restricting advertising, raising academic expectations; enforcing strict campus alcohol policy; instituting drink-driving policies and relevant harm-reduction measures such as placing age limits and verification of identification (ID) cards and instituting measures to control the availability of alcohol (restrict the opportunity) and measures to control or restrict the marketing of alcohol beverages in terms of access and availability through restrictions on advertising, sale near campus, ban in dorms, and restrictions in organizational and college campus events.

There should also be Health sector responses to alcohol-related harm by way of instituting periodic, sustainable, and comprehensive assessment; alcohol detoxification; treatment of co-existing psychiatric and psychological problems; mental health counseling, family therapy, and social work service; organization of self-help group; and referral to health treatment services.

About Off-Campus (neighborhood community) approaches to mitigating the high incidents of excessive drinking, the following steps should be taken -Initiation of pricing policies that involve the increase in the price of alcohol; providing warning labels on drinks and beverages; raising the minimum drinking age; restricting the hours of service and days of alcohol sale; regulating activities of bars; train beer and beverage servers on signs and symptoms of overdrinking to take precautionary actions such as denying, suspending or cutting off alcohol services; restricting licensing and concentration of bars and clubs in college or campus neighborhoods and finally, regulate the density and concentration of alcohol outlets near college campuses. With the implementation and enforcement of the above measures, the high incidents of binge drinking among college students in the United States will be drastically reduced.

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