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Wasting the Best and the Brightest: Substance Abuse at America's Colleges and Universities

March 2007

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Accompanying Statement by
Joseph A. Califano, Jr., Chairman and President

This report, *Wasting the Best and the Brightest: Substance Abuse at America's Colleges and Universities*, reveals an alarming public health crisis on college campuses across this nation. Since CASA's *Commission on Substance Abuse at Colleges and Universities* first examined substance use and abuse among college students in 1993 and 1994, the situation on America's campuses has deteriorated. Accepting as inevitable this college culture of alcohol and other drug abuse threatens not only the present well being of millions of college students, but also the future capacity of our nation to maintain its leadership in the fiercely competitive global economy.

- Each month, half (49.4 percent) of all full-time college students ages 18-22 binge drink, abuse prescription drugs and/or abuse illegal drugs.

- In 2005, almost one in four of these college students (22.9 percent or approximately 1.8 million) met the medical criteria for substance abuse or dependence, almost triple the proportion (8.5 percent) in the general population.

- From 1993 to 2005, there has been no significant decline in the proportion of students who drink (70 to 68 percent) and binge drink (40 to 40 percent). Even more troubling, rates of excessive drinking have jumped. From 1993 to 2001 the proportion of students who:

  - binge drink frequently (three or more times in the past two weeks) is up 16 percent.

  - drink on 10 or more occasions in the past month is up 25 percent.

  - get drunk three or more times in the past month is up 26 percent.

- drink to get drunk is up 21 percent.

- Abuse of controlled prescription drugs in the past month has skyrocketed. From 1993 to 2005, the proportion of students who abuse prescription painkillers like Percocet, Vicodin and OxyContin shot up 343 percent to 240,000 students; stimulants like Ritalin and Adderall, 93 percent to 225,000; tranquilizers like Xanax and Valium, 450 percent to 171,000; and sedatives like Nembutal and Seconal, 225 percent to 101,000.

- From 1993 to 2005, the proportion of students who:

  - are daily marijuana users more than doubled (1.9 percent to 4.0 percent, or 310,000 students).

  - use illegal drugs other than marijuana, such as cocaine and heroin, went up 52 percent (5.4 percent to 8.2 percent, or 636,000 students).

Rates of smoking increased from 25 percent of students in 1993 to 31 percent in 1999 and then declined to 24 percent in 2005. Rates of daily and heavy daily smoking have declined. This still leaves almost 1.8 million college students who smoke. Since 1993, women have surpassed men in daily smoking and heavy daily smoking. This particularly is troubling since one cigarette for a woman has the carcinogenic impact of nearly two for a man.

The explosion in the intensity of substance abuse among college students carries devastating consequences:

- Student deaths from unintentional alcohol-related injuries rose by six percent from 1998 to 2001, to 1,717.

- The proportion of students injured as a result of their own drinking went up 38 percent between 1993 and 2001.

- The average number of alcohol-related arrests per campus increased 21 percent between 2001 and 2005.

- In 2001, 97,000 students were victims of alcohol-related sexual assaults or date rape.

College presidents, deans and trustees have facilitated a college culture of alcohol and drug abuse that is linked to poor student academic performance, depression, anxiety, suicide, property damage, vandalism, fights and a host of medical problems. Too many assume a Pontius Pilate posture, leaving the problem in the hands of the students.

When administrators receive young people into colleges and universities, they no longer can shirk responsibility on these issues. Too much evidence exists of the harmful consequences of substance use.

It is time to take the "high" out of higher education. Rather than the few and disconnected education and policy strategies schools now employ, school administrators and trustees must step up to the plate. But school administrators cannot do it alone. This growing public health crisis reflects today's society where students are socialized to consider substance abuse a harmless rite of passage and to medicate every ill. To change this culture, college and university presidents will need help from parents, alumni, students, Greek and athletic organizations, and state and federal governments. And, to solve this problem the aggressive practices of the alcohol and tobacco merchants marketing to teens and young adults must cease.

Parents and high schools bear a significant measure of responsibility. Available evidence suggests that nearly two-thirds of college student drinkers began in high school and another eight percent began in junior high. Parents who provide the funds for their children in college to purchase alcohol and drugs and party at substance-fueled spring breaks are enablers of the college culture of abuse.

Because substance abuse among college students is so firmly embedded in our culture, school leaders and policymakers may be tempted to throw up their hands and say we can't change these behaviors. Quite the contrary; by failing to become part of the solution, college presidents, deans, trustees and alumni, and parents of today's students have become a big part of the problem. Their acceptance of a status quo of rampant alcohol and other drug abuse puts the best and the brightest--and the nation's future--in harm's way.

Substance abuse-free campuses should be the rule, not the exception. Television broadcasts of college athletic events should not be opportunities for beer merchants to hawk their products to underage undergraduates. The admission to elite clubs and fraternities should not carry the risk of alcohol poisoning. Drunkenness should not mark the half-time of college football games. Ritalin and Adderall abuse should not be the price of performance.

This report contains many thoughtful and specific recommendations. But at the core, the key is a willingness of college administrators, trustees, alumni and parents to accept responsibility for tossing the nation's college students into the high seas of alcohol, tobacco, prescription and illegal drugs that so many college campuses and their surrounding communities have become. Also essential is that the NCAA eliminate alcohol advertising at their events and during broadcast of them, and that the alcohol and tobacco merchants cease all advertising and marketing to attract student users.

For institutions of higher learning, this is not just an issue of public health: it is one of self-interest. Failure to act in the face of foreseeable harm places schools at increasing risk for damage to their academic standing and liability lawsuits in the millions of dollars.

Many individuals and institutions made important contributions to this work. We wish to thank the late James Emison, former Chief Executive Officer and Chairman of the Board of Western Petroleum Company and a trustee at DePauw University, who together with Mr. Norval Stephens, Chairman of the Board of Directors of Delta Tau Delta Educational Foundation, and Mr. Norman R. Carpenter, Esq., a Dartmouth graduate active in the issue of college drinking, raised funds from the Hillswood Foundation, Stephens Charitable Trust, the University of California at Irvine, DePauw University and 18 fraternities and sororities[*] to conduct an in-depth look at alcohol abuse on college campuses and a reconnaissance of current and best practices regarding alcohol control among college students.

We greatly appreciate the generous grant from Sally Engelhard Pingree and The Charles Engelhard Foundation to conduct an in-depth review of the literature on substance abuse, mental health and engaged learning, a series of focus groups with college students from across the country and a nationally representative survey of 2,000 college students. We thank Donald W. Harward, President Emeritis, Bates College; Project Director, *Bringing Theory to Practice*; and Senior Fellow, Association of American Colleges and Universities for his invaluable input in this endeavor, and Schulman, Ronca & Bucuvalas, Inc. (SRBI) for their work on the college student focus groups and survey. The information gleaned from this research is presented throughout this report.

We thank the National Institute on Drug Abuse (NIDA) for funding a review of evidence-based actions that can be taken to reduce smoking and illicit and prescription drug abuse among college students; a review of national organizations currently involved in attempting to reduce smoking and drug abuse at the college level; and focus groups with college students and parents to understand their perceptions of the nature and extent of substance abuse on college campuses,

[*] Alpha Chi Omega, Alpha Gamma Delta, Alpha Tau Omega, Beta Theta Pi, Chi Omega, Delta Delta Delta, Delta Gamma, Delta Tau Delta, Delta Zeta, Gamma Phi Beta, Gamma Phi Beta Foundation, Kappa Alpha, Kappa Alpha Theta, Kappa Delta, Kappa Kappa Gamma, Kappa Kappa Gamma Foundation, Phi Kappa Psi Charitable and Education Fund, Phi Kappa Psi Endowment Fund, Phi Mu and Pi Beta Phi.

actions their schools' administration takes to prevent or reduce such abuse and their perceptions of the efficacy of these actions. The findings from this work are incorporated into this report.

We extend special thanks to Cheryl Healton, DrPH, and the American Legacy Foundation for their financial support of this work, particularly our research on tobacco-related issues among college students.

We express sincere appreciation to the distinguished members of CASA's *Commission on Substance Abuse at Colleges and Universities II* for their long-standing commitment to this issue and for their hard work over the past 13 years. We are especially indebted to Reverend Edward (Monk) Malloy for serving as Chair of the *Commission*. His work and that of the *Commission* members, contributed significantly to the quality of this product.*

For appearing before the *Commission* to present their research and offer their expertise, we thank Mark S. Goldman, PhD, Associate Director of the National Institute for Alcohol Abuse and Alcoholism (NIAAA) and Distinguished Research Professor and Director of the Alcohol and Substance Use Research Institute, University of South Florida; Henry Wechsler, PhD, Director of the Harvard School of Public Health College Alcohol Studies Program; William DeJong, PhD, Professor of Social and Behavioral Sciences at the Boston University School of Public Health; Richard A. Yoast, PhD, Director, Office of Alcohol and Other Drug Abuse, American Medical Association (AMA); Donald W. Ziegler, PhD, Deputy Director, A Matter of Degree, AMA's Office of Alcohol and Other Drug Abuse; Peter F. Lake, JD, Charles A. Dana Chair and Director, Center for Excellence in Higher Education Law and Policy at Stetson University, College of Law; Robert Turrisi, PhD, Professor, Department of Biobehavioral Health Prevention Research Center, Pennsylvania State University; Cheryl Presley, PhD, Executive Director, Core Institute Center for Alcohol and Drug Studies, Southern Illinois University; and Kimberly Jeffries Leonard, PhD, Technical Vice President and Director of the Center for Technical Assistance, Training and Research Support at The MayaTech Corporation.

Susan E. Foster, MSW, CASA's Vice President and Director of Policy Research and Analysis, directed this effort. Linda Richter, PhD, former senior research manager and now a CASA consultant, was the Principal Investigator. CASA's Substance Abuse Data Analysis Center (SADAC℠), headed by Roger Vaughan, DrPH, CASA Fellow and associate clinical professor of biostatistics at Columbia University, was responsible for the data analysis. He was assisted by Elizabeth Peters. Other CASA staff who contributed to this effort are research assistants Sally Mays, Rachel Adams, Kristin Lupfer, Angela Frank, Ann Boonn, Elisabeth Henry, Kelly Morgan, Michele Eichorn, and Elyse Novikoff; CASA librarian David Man, PhD, MLS, and library research specialist Barbara Kurzweil; Joven Jose, Information Systems manager; and bibliographic database manager Jennie Hauser. Jane Carlson handled administrative responsibilities.

While many individuals and institutions contributed to this effort, the findings and opinions expressed herein are the sole responsibility of CASA.

* *Commission* member Pamela Rymer did not participate in the legal consequences sections of this report.

Chapter I
Introduction and Executive Summary

In 1993 and 1994, The National Center on Addiction and Substance Abuse (CASA) at Columbia University released its first reports on substance abuse at America's colleges and universities. These reports drew attention to the widespread problems of student smoking and drinking, and highlighted the escalating problem of dangerous drinking among college women. More than a decade later, CASA's exhaustive examination of the current situation reveals an intensified student culture of abuse of addictive substances in colleges and universities across America and a range of harmful academic, health and social consequences that extend into the surrounding communities.

The main drug of abuse on college campuses remains alcohol. Unfortunately, the proportion of students who drink today has remained high (between 65 and 70 percent) since the early 1990s. Of even greater concern, students who drink and binge drink now are more likely to do so frequently, become intoxicated and drink just to get drunk than students more than a decade ago.

But the drug abuse problem goes far beyond alcohol. Since the early 1990s, the proportion of students abusing controlled prescription drugs has exploded: abuse of painkillers like Percocet, Vicodin and OxyContin has increased by more than 300 percent and abuse of stimulants like Ritalin and Adderall is up more than 90 percent. The proportion of students who are daily marijuana users has increased 110 percent. The percent using drugs like cocaine and heroin is on the rise as well.

This culture of abuse is taking its toll in student accidents, assaults, property damage, academic problems, illnesses, injuries, mental health problems, risky sex, rape and deaths.

Students turn to alcohol or prescription drugs to relieve stress, improve mood or enhance performance. Alcohol and tobacco companies and retailers aggressively market their products to young people. Alumni set bad examples by excessive drinking at campus homecomings and athletic events. Trustees choose not to examine the nature and extent of substance abuse among students and not to demand action to address it. And, parents may enable student drinking and other drug use by paying for it, supplying alcohol and prescription drugs, simply choosing to look the other way when their children start drinking or using other drugs in high school, and underwriting substance-fueled occasions like spring break.

In the face of this widespread enabling behavior, many college administrators shy away from drawing attention to the problem or cracking down on this culture of abuse. This failure to act has led some parents and students to seek redress in the courts for injuries and deaths.

Research has shown what it will take to face this problem: strong administrative leadership; comprehensive campus-community prevention, intervention and enforcement; controls on advertising and marketing of alcohol and tobacco; and parental engagement. But we have not yet mustered the collective will to act. Meanwhile, the college culture of abuse worsens and threatens the health and future of some of our most promising young adults.

This report reveals the serious nature of the problem of substance abuse at America's colleges and universities and how it has intensified. It lays out the factors that drive student use and abuse as well as the damaging consequences. It summarizes what research shows can be done to prevent and reduce the problem, and describes the chasm between this knowledge and what schools, parents and communities are doing.

This report explores the barriers schools face in implementing effective substance use prevention and control policies and programs and how to overcome them. It provides concrete recommendations for college administrators and trustees, parents, alumni, students, policymakers and the tobacco and alcohol industries.

The Call for Leadership

Amid this college culture of substance abuse, only one-fifth of college and university administrators say their schools bear primary responsibility to prevent substance abuse among students. Two-thirds say that responsibility belongs to students.

This CASA report concludes that institutions of higher education have an obligation to take on the problem of student drinking, smoking and other drug use and abuse for three primary reasons:

S*tudent substance abuse compromises academic performance*. Continuing to pass such behavior off as a harmless rite of passage and subtly condoning it--for example, by canceling Friday classes or allowing on-campus student bars--place institutions of higher learning in jeopardy of failing to achieve desired standards of academic excellence.

Educational institutions have a public health obligation to protect students, faculty and administrators from exposure to smoking and from alcohol and drug abuse, just as they would protect them from exposure to environmental toxins such as asbestos, lead or radon, or to other dangerous or unhealthy living conditions. They cannot ignore this obligation, given the compelling and growing body of evidence of the devastating health and social consequences of use and abuse of these drugs--both to the students who use them and to those around them.

S*ubstance abuse has significant legal implications*. First, it is against the law for students under age 21 to drink and for any student to use illicit drugs or take controlled prescription drugs without a valid doctor's order. Second, school failure to employ comprehensive evidence-based practices to prevent student alcohol and other drug abuse places colleges and universities at increasing risk for liability

lawsuits potentially costing millions of dollars as parents and students seek redress for the damages, including wrongful death from alcohol poisoning or accidents, caused by substance abuse at colleges and universities.

The need for leadership extends beyond college and university administrators to faculty and staff, trustees, alumni, parents, students and policymakers.

The Study

More than a decade ago, CASA convened its landmark *Commission on Substance Abuse at Colleges and Universities* to understand better the issues surrounding substance abuse at our nation's colleges and universities. The *Commission* issued two reports: *The Smoke-Free Campus: A Report by the Commission on Substance Abuse at Colleges and Universities* (1993) and *Rethinking Rites of Passage: Substance Abuse on America's Campuses* (1994).

In 2002, CASA reconvened and expanded the *Commission on Substance Abuse at Colleges and Universities II*, again chaired by Reverend Edward (Monk) Malloy, now President Emeritus, University of Notre Dame. Using the findings from our original research in this area as a backdrop, over the past four years CASA, with guidance from the *Commission*, has conducted a comprehensive analysis to examine what progress, if any, has been made and to determine what can be done to reduce alcohol, tobacco and other drug use among college students.

CASA's analysis included a nationally representative telephone survey of 2,000 students; surveys of approximately 400 college and university administrators; extensive in-depth analyses of six national data sets; interviews with key researchers and other leaders in the field; eight focus groups; and a review of approximately 800 articles. (See Appendix A for an overview of the key components of the study.)

The Size and Shape of the Problem

From 1993 to 2005, there has been no significant reduction in the levels of drinking and binge drinking among college students. In 2005, 67.9 percent of students (approximately 5.3 million students) reported drinking in the past month and 40.1 percent (approximately 3.1 million students) reported binge drinking.[*] However, from 1993 to 2001 rates of riskier drinking--frequent binge drinking,[†] being intoxicated, drinking to get drunk--have increased.

The proportion of students reporting frequent binge drinking increased 15.7 percent (from 19.7 percent to 22.8 percent). Other indicators of increased risky drinking showed even greater increases over that period: a 24.9 percent increase in drinking on 10 or more occasions in the past month (18.1 percent to 22.6 percent); a 25.6 percent increase in being intoxicated three or more times in the past month (23.4 percent to 29.4 percent); and a 20.8 percent increase in drinking for the purpose of getting drunk in the past month (39.9 percent to 48.2 percent).

Between 1993 and 2005, there has been a 342.9 percent increase in the proportion of students abusing prescription opioids like Percocet, Vicodin and OxyContin in the past month (0.7 percent to 3.1 percent, approximately 240,000 students); a 93.3 percent increase in those abusing prescription stimulants like Ritalin and Adderall (1.5 percent to 2.9 percent, approximately 225,000 students); a 450 percent increase in those abusing prescription tranquilizers like Xanax and Valium (0.4 percent to 2.2 percent, approximately 170,000 students);

[*] Binge drinking is defined as five or more drinks on any one drinking occasion in the past two weeks. Estimated numbers of students presented in this section are derived from 2005 U.S. Census data on full-time college students, ages 18-22 (7,760,130 in 2005).

[†] The source of these data is the *College Alcohol Study* (CAS) which defines "binge drinking" as consuming at least four drinks in a row for women and five drinks in a row for men in the past two weeks. "Frequent binge drinking" is defined as binge drinking three or more times in the past two weeks.

and a 225 percent increase in those abusing prescription sedatives like Nembutal and Seconal (0.4 percent to 1.3 percent, approximately 101,000 students).

Between 1993 and 2005, the proportion of students using illicit drugs other than marijuana in the past month increased 51.9 percent from 5.4 to 8.2 percent (approximately 636,000 students). The proportion of students who are daily marijuana users[*] increased 110.5 percent, from 1.9 percent to 4.0 percent (approximately 310,000 students).

During the 1993 to 2005 period, smoking among college students rose and then leveled off at about the same rates as they were a decade ago. More than 1.8 million full-time college students still are current smokers.[†] One positive note is that reported rates of daily smoking (15.2 percent in 1993, 12.4 percent in 2005, approximately 960,000 students) and daily heavy[‡] smoking (8.9 percent in 1993, 6.7 percent in 2005, approximately 520,000 students) showed declines.

In 2005, 69.0 percent or 5.4 million full-time college students reported drinking, abusing controlled prescription drugs, using illicit drugs or smoking in the past month; 49.4 percent or 3.8 million reported binge drinking,[§] abusing[**] controlled prescription drugs or using illicit drugs in the past month. Almost one-half (45 percent or 2.3 million) of those who drink engage in two or more other forms of substance use (binge drinking, illicit drug use, prescription drug abuse or smoking).

[*] The *Monitoring the Future* study defines "daily marijuana use" as having used marijuana 20 or more days in the past 30 days.
[†] Smoking in the past 30 days.
[‡] Half a pack or more per day.
[§] The *National Survey on Drug Use and Health* (NSDUH), the survey on which these analyses of poly-substance use were conducted, defines "binge drinking" as having five or more drinks on the same occasion on at least one day in the past month.
[**] Defined in the NSDUH as use of prescription-type psychotherapeutic drugs nonmedically.

Gender

When definitions of binge drinking are adjusted for differences in female physiology,[††] virtually the same proportion of male and female students binge drink on a typical drinking occasion. The relative increase between 1993 and 2001 in frequent binge drinking, being drunk three or more times and drinking on 10 or more occasions in the past 30 days was greater for college women than it was for college men. Rates of controlled prescription drug abuse and illicit drug use increased more sharply for college men than for college women between 1993 and 2005. College women are somewhat likelier than college men to be daily smokers and daily heavy smokers.

Race and Ethnicity

White students are likelier to use and abuse all forms of drugs than are minority students. Students attending historically black colleges and universities (HBCUs)--regardless of their race/ethnicity--use all forms of substances at much lower rates than other students.

The Consequences

The harmful consequences linked to college student substance abuse are on the rise. There is no one data source for these consequences so CASA has assembled the best and most up to date information available from a variety of sources.

Between 1993 and 2001, there has been a 37.6 percent increase in the proportion of college students hurt or injured as a result of their alcohol use (9.3 percent vs. 12.8 percent). In 2001, 1,717 college students died from unintentional alcohol-related injuries--up six percent from 1998.

[††] Defined as four drinks in a row for women vs. five in a row for men, because of certain biological sensitivities to intoxication in women including lower body weight, higher fat-to-water ratios and slower metabolic processing.

Compared to 22 other countries,* college students in the U.S. who drive have the highest rate of drinking and driving (50 percent of male drinkers and 35 percent of female drinkers). In 1993, 26.6 percent of college students drove under the influence of alcohol; in 2001 29 percent did so.

The average number of alcohol-related arrests per campus increased 21 percent between 2001 and 2005. In 2005, alcohol-related arrests constituted 83 percent of campus arrests.

When drunk or high, college students are more likely to be sexually active and to have sex with someone they just met. More than three-fourths (78 percent) of college students who have used illicit drugs have had sexual intercourse compared to 44 percent of those who never used drugs. In 1993, 19.2 percent of college students who used alcohol in the past year reported engaging in alcohol-related unplanned sexual activity; in 2001, 21.3 percent of student drinkers did so.

The most common secondary effects of college student drinking are property damage and vandalism, fights, rape and other sexual violence and disruption to other students' quality of life. Financial costs include damage to campus property, increase in security staff and counselors, lost tuition from dropouts and legal costs of suits against the college for liability. Residents living within a mile of college campuses report more incidents of public drunkenness, drug use, crime, vandalism and loitering than those living more than a mile away.

Young people who report current alcohol use give significantly lower ratings of their own health than do alcohol abstainers or past users. Depression, anxiety and personality disturbances in young adulthood are associated with marijuana and other illicit drug use during the teen years. In recent years, there has been a sharp increase in the number of students in need of mental health services. Young smokers are three times more likely than non-smokers to have consulted a doctor or mental health professional because of emotional or psychological problems and almost twice as likely to develop symptoms of depression.

College students who report seriously having considered attempting suicide in the past 12 months are likelier than other students to engage in current binge drinking (41.9 percent vs. 39.6 percent), marijuana use (23.2 percent vs. 16.1 percent), other illicit drug use (6.7 percent vs. 2.8 percent), and smoking (31.9 percent vs. 19.9 percent), even after taking into consideration age, gender and race.

Student drinking and drug use are linked to lower grade point averages (GPA). Drinking impairs learning, memory, abstract thinking, problem solving and perceptual motor skills (such as eye-hand coordination). More than five percent of binge-drinking students report having been suspended; 50.6 percent have gotten behind in their schoolwork and 68.1 percent report missing classes. Alcohol and drug law violations by students also can mar their academic and legal records, compromising their career options.

Almost one in four (22.9 percent or 1.8 million) full-time college students already meet the DSM-IV diagnostic criteria† for alcohol and/or drug abuse (12.3 percent for alcohol abuse; 2.5 percent for drug abuse) or alcohol and/or drug dependence (7.7 percent for alcohol dependence, 4.7 percent for drug dependence) in the past year. This is compared to less than one in 10 (8.5 percent) in the general population who meet the DSM-IV diagnostic criteria for alcohol and/or drug abuse or dependence.

Non-smokers exposed to secondhand smoke are at a 25 to 30 percent increased risk of developing heart disease and at a 20 to 30 percent increased risk of developing lung cancer.

* Including, for example, Colombia, England, France, Germany, Greece, Iceland, Italy, Portugal and Spain.

† According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)--the main diagnostic reference of mental health professionals in the United States.

Factors Driving College Student Substance Use and Abuse

For many students, their college environment normalizes and encourages rather than restricts substance use and abuse. Some college students have inherited a genetic or biological propensity. Others model the behaviors of parents and peers. Still others try to relax, reduce stress or self-medicate negative moods, feelings or psychiatric problems and some students turn to controlled prescription drugs in an attempt to improve academic performance. Research has identified these ingredients in a student's life that increase their risk of substance abuse--the more ingredients, the greater the risk.

Genetics and Family History

Genetics and family history play a significant role in the risk for and development of addiction. Environmental factors appear to play a larger role in whether an individual starts to smoke, drink or use drugs, but genetic factors are more influential in determining who progresses to problem use or abuse.

Parental Attitudes and Behavior

CASA's survey of college students found that 70 percent say that their parents' concerns or expectations influence whether or how much they drink, smoke or use other drugs. Those students who say they are more influenced by their parents' concerns or expectations drink, binge drink, use marijuana and smoke significantly less than those less influenced by their parents. Most underage students (71.6 percent) obtain alcohol from other college students who are over the legal drinking age; however, between 1993 and 2001[*] there was a 34.5 percent increase in the number of underage students who reported acquiring alcohol from parents or relatives (16.8 percent vs. 22.6 percent).

[*] Latest available data.

Substance Use in High School[†]

Two-thirds of college students who drink (64.8 percent) began drinking alcohol in high school; 8.3 percent began in junior high school.[‡] Students who began drinking in junior high school drink more often and in greater amounts (7.8 drinks per occasion) than those who begin drinking in high school (6.1 drinks per occasion) or college (4.5 drinks per occasion).

Of students who have ever abused controlled prescription drugs, over half (55.8 percent) started before age 18.

Two-thirds of college students who use illicit drugs (67.5 percent) began using them in high school; seven percent in junior high school. College students who began using drugs in junior high school use them twice as often as students who began using them in high school (6.2 days per week vs. 3.2 days per week) and one-third more often than students who began using them in college (4.0 days per week).

The overwhelming proportion of college students who are current smokers initiated smoking before the age of 18 (81.4 percent). Those who initiated regular (daily) smoking before age 18 report smoking on twice as many days in the past month and smoking four times as many cigarettes as those who initiated smoking at age 18 or older.

Expectations of Positive Effect

CASA's survey of college students found that the most common reason given by students to explain why they drink (47 percent), smoke (38 percent) or use other drugs (46 percent) is to relax, reduce stress or forget about problems. Other reasons include to get drunk or high or to fit in socially. College students report abusing

[†] See CASA's 2001 report, *Malignant Neglect: Substance Abuse and America's Schools* for a complete analysis of the problem of substance use and abuse in primary and secondary schools.

[‡] Response options were elementary school, junior high, senior high or college with no further definition.

controlled prescription stimulants such as Adderall and Ritalin as study aids because they believe these drugs will enhance concentration and increase alertness.

Mental Health Problems

Clinical mental health disorders such as depression, which often emerge in late adolescence and young adulthood (the college years), are strongly linked to substance use, as are sub-clinical symptoms of these disorders.

CASA's national survey of college students found that 12 percent have been diagnosed with depression, six percent with an anxiety disorder such as panic disorder or generalized anxiety disorder and two percent with an eating disorder.[*] Six percent of students report currently being in treatment or therapy for a psychological or emotional problem and seven percent report that they are currently taking prescribed medications for their psychological or emotional problems. In the past year, 52 percent of students have felt mentally exhausted; 32 percent have felt "very sad"; 31 percent have felt very anxious or panicked; 19 percent have felt "that things were hopeless"; and 11 percent have felt "so depressed that it was difficult to function."

CASA's survey found that students diagnosed with depression are likelier than those who have not been diagnosed to have abused prescription drugs (17.9 percent vs. 12.5 percent), ever used marijuana (42.3 percent vs. 33.3 percent) or other illicit drugs (9.2 percent vs. 6.3 percent); and to be current smokers (26.2 percent vs. 18.9 percent) or frequent smokers (19.5 percent vs. 8.6 percent).

Social Influences

Direct social pressures to engage in substance use--particularly drinking--are common in the college years and students' impressions of how much their fellow students smoke, drink or use drugs also appear to have an impact on their own use of these substances. Certain events and times are marked by particularly high rates of drinking among college students, including freshman year, weekends, athletic events, spring break and holidays, and 21st birthday celebrations.

Sorority and Fraternity (Greek) Membership

CASA's analysis of data from the *National College Health Assessment* survey indicates that fraternity or sorority members are likelier than non-members to be current drinkers (88.5 percent vs. 67.1 percent), binge drinkers[†] (63.8 percent vs. 37.4 percent) and to drink and drive (33.2 percent vs. 21.4 percent). They also are likelier to be current marijuana users (21.1 percent vs. 16.4 percent), cocaine users (3.1 percent vs. 1.5 percent) and smokers (25.8 percent vs. 20.7 percent). Other research finds that fraternity and sorority members are twice as likely as non-members to abuse prescription stimulants such as Adderall, Ritalin and Dexedrine.

Religion and Spirituality

Spirituality and religion have some buffering effects on college students' use of some substances. However, the influence of spirituality and religion on students' behavior decreases during their years in school. The greater a student's level of religiosity--as measured by outward manifestations such as hours spent in prayer and attendance at services--the less likely the student is to drink, smoke or use other drugs.

Student Engagement

CASA's survey of college students found that students who report higher levels of engagement

[*] Categories are not mutually exclusive.

[†] Defined in this study as consuming five or more alcoholic drinks at a sitting during the past two weeks.

in the learning process[*] are less likely than those who report less engagement to be binge drinkers (31.3 percent vs. 38.2 percent) or heavy drinkers (14.7 percent vs. 19.2 percent). Other research finds that students who report spending six or more hours in a typical week engaged in non-required campus or community service activities, such as tutoring, counseling or volunteering are significantly less likely than those who spend five or fewer hours to be binge drinkers (26.3 percent vs. 36.1 percent), frequent drinkers[†] (19.0 percent vs. 26.1 percent) and to have ever used marijuana (27.4 percent vs. 35.2 percent) or abused prescription drugs (7.3 percent vs. 13.8 percent). Unfortunately, many students in CASA's survey report never or rarely having engaged learning experiences while in college.

An exemplar of the benefits of student engagement comes from historically black colleges and universities (HBCUs) that have a strong emphasis on character development, engaged learning and service and significantly lower rates of student substance use than non-HBCUs.

Athletic Participation

Approximately 13 percent of female college students and 23 percent of male college students are involved in athletics. College athletes drink at higher rates than non-athletes but are less likely to use illicit drugs, including marijuana, or to smoke.

Campus and Community Environment

Colleges and their surrounding communities often tolerate if not facilitate an environment that enables or even promotes substance use and abuse among students. Alcohol, tobacco and other drugs--both prescription and illicit--are relatively easy to obtain and hard to avoid during college athletic events. Bars encircle many campuses. Student residences often are stocked with alcohol. Tobacco and alcohol merchants heavily market to students. Campus and community anti-substance use policies and laws often are weak, ignored by students or unenforced by campus and local authorities.

What Colleges Should Do and Are Doing to Prevent or Reduce Student Substance Abuse[‡]

More than a decade of research exploring what works in substance abuse prevention for college students has found that *comprehensive, environmental management approaches are essential to address the problem of student substance abuse*. Yet, few schools have adopted such approaches. While some schools incorporate evidence-based practices into their prevention programming, most take a superficial and scattershot approach. Moreover, although smoking and drug use--particularly marijuana use and prescription drug abuse--are widespread on college campuses, school efforts have focused almost exclusively on student drinking.

Changing the Prevailing Climate

Effective strategies for preventing and reducing student substance use must include efforts to change the prevailing campus and community climate that facilitates student smoking, drinking and drug use. Some schools have implemented elements of this approach. For example, CASA's survey of college administrators found that 68.9 percent report school alliances with local police; 31.1 percent with community alcohol retailers; 26.1 percent with neighborhood organizations and 20.6 percent with landlords.[§] One-fifth (21.3 percent) report

[*] Engaged learning pertains to any situation in which student learning is fostered by active participation in the educational process and in which students have an opportunity to feel connected to the subject matter and derive meaning from their experience.

[†] Drinking on 10 or more occasions during the past month.

[‡] Unless otherwise noted, the data presented on college administrator responses come from CASA's 2005 survey of college administrators. (See Appendix C.)

[§] These data come from CASA's 2002 survey of administrators.

holding Friday or Saturday morning classes or exams.

Changing Students' Attitudes and Expectations

The main approach used by most colleges and universities to prevent or reduce students' substance use involves attempts to change their attitudes, beliefs and expectations about drinking, smoking or using other drugs. The primary strategies for accomplishing these goals are educational and informational approaches that often consist of brief online courses, some of which are endorsed by the alcohol industry. When education is a part of a larger, multi-component strategy, it can be of some help in reducing student substance use. Unfortunately, when used on its own (which it often is), this strategy has proven to be relatively ineffective.

Many schools have turned to social norms marketing campaigns that try to bridge the gap between students' reported rates of substance use and their perceptions of the extent to which their peers use various substances. This approach is predicated on the assumption that students' reported rates are accurate and student perceptions of peer use are overestimates when in fact self-reports, particularly among underage students, often underestimate the extent of substance abuse. The aim of this strategy is to persuade students to behave more in accordance with reported than perceived rates. Evidence of the efficacy of this approach is mixed.

Two-fifths (39.6 percent) of college administrators report that social norms marketing is used at their school to prevent alcohol use, 2.3 percent to prevent prescription drug abuse, 15.8 percent to prevent illicit drug use and 18.6 percent to prevent tobacco use. Another large-scale survey found that half of the schools used social norms marketing programs, and that the percentage of schools using such programs increased by 30 percentage points (from 20 percent) since 1999. One study found that 21 percent of colleges and universities receive funding for their prevention programming from the alcohol industry and these schools are likelier than other schools to rely on social norms marketing initiatives rather than restricting alcohol use on campus or at college events.

Engaging Parents

Some schools attempt to educate parents about student substance abuse and some include parents in campus task forces aimed at prevention. One-third of administrators (34.4 percent) report involving parents in their alcohol prevention strategies, 5.9 percent do so for prescription drugs, 13.6 percent for illegal drugs and 3.2 percent for tobacco. Some schools notify parents if their children are found to have violated the school's alcohol or drug control policies. Between 30 and 40 percent[*] of college administrators report that they notify parents of substance-related disciplinary action.

Emerging research suggests that even brief discussions between parents and their children--about parental expectations and dangers of use and abuse--prior to students entering college can make a difference in whether and how much a student engages in substance use once in college.

Reducing Availability

The ease with which students can obtain alcohol, cigarettes or other drugs is one of the most important factors within the campus or community environment influencing student substance use. Students at schools that ban alcohol are more likely than those at those without such bans to abstain from alcohol (29.1 percent vs. 16.1 percent, less likely to report binge drinking (38.4 percent vs. 47.8 percent) and less likely to report current marijuana use (12.5 percent vs. 17.5 percent among on-campus residents. They also are less likely to report getting hurt or injured (10.2 percent vs. 13.4 percent).

CASA's 2005 survey of college administrators found that less than one-quarter (23.1 percent) of schools report having policies completely prohibiting alcohol on campus for everyone,

[*] Rates vary depending on the substance.

including students, faculty, staff and alumni, regardless of age; 51.4 percent ban alcohol in common areas; 45.7 percent prohibit alcohol at sporting events and 53.6 percent do not allow beer kegs on campus. While 56.7 percent of schools prohibit alcohol only for students under age 21, 15.8 percent prohibit it for all students regardless of age. Another national survey found that 43 percent of colleges report banning alcohol in residence halls and 81 percent report offering alcohol-free floors or dorm rooms.

While not within the direct control of schools, restrictions on alcohol retail density in the community surrounding the campus also help to reduce availability and are linked to reduced drinking. Restrictions include making it more difficult to obtain an alcohol retail license or limiting the number of alcohol establishments around the school.

Whereas no data are available on the link between smoking bans on college campuses and reduced student smoking, the strong evidence of the health risks posed by even minimal amounts of exposure to environmental tobacco smoke highlights the clear-cut benefit of complete bans. CASA's 2005 survey of college administrators found that only 13.6 percent of respondents reported that their entire campus is tobacco-free, but the majority (71 percent) said that all indoor areas are smoke-free.

Identifying Students at High Risk

Despite the benefit of early detection of students at high risk, most schools identify students only when they already have a full-blown problem. Only 39.6 percent of schools report any screening of students for alcohol problems through health services and less than 30 percent reported doing any screening for prescription drug (27.1 percent), illicit drug (29.9 percent) or tobacco (29.9 percent) problems.

Targeting High Risk Times and Events

Certain times of the year and certain traditional college events are tightly linked to high-risk drinking and other substance use. CASA's 2005 administrator survey found that 41 percent of schools report targeting some type of prevention activity to the risky time of spring break; approximately 20 percent or fewer target other known times or events such as 21st birthday celebrations, spring weekend, Greek pledge or rush periods or homecoming.

Providing Services

Few evidence-based, targeted programs or interventions have been developed for college students known to be at high risk for substance abuse or to have a substance use disorder. Programs that do exist and the ones being developed largely focus on alcohol use. Approximately two-thirds of college administrators (65.3 percent) report having some type of program or programs that target freshmen, 56.1 percent that target athletes and 39.0 percent that target fraternity or sorority members.

Administrators were likelier to report that their schools provide referrals to off-campus treatment services (68.8 percent for alcohol problems) and self-help programs (57 percent for alcohol problems) than to have on-campus treatment services (41.3 percent) or on-campus self-help programs (31.4 percent). There is no evidence, however, indicating that the treatment services (or the self-help programs) are specifically tailored to the needs of college students.

Barriers to Implementing Successful Programs and Policies

In order for colleges and universities to implement successful substance abuse prevention and intervention policies and programs, it is important to understand what stands in their way. CASA's analysis has identified six key barriers:

A College Climate Promoting Substance Abuse

Nearly four in 10 (37.8 percent) college administrators say that the most prominent

barrier to implementing more effective policies, programs and strategies is public perception that student substance use is a normal rite of passage.

Administrative Failure to Accept Responsibility

When asked to indicate their schools' position regarding who bears primary responsibility to prevent substance use among students, two-thirds (65.5 percent) of administrators said that students themselves were primarily responsible and only 20.2 percent said that the school is primarily responsible.

Failure to Appropriate Needed Resources

More than one-third (34.3 percent) of college administrators said that limited financial resources is the most prominent barrier to implementing more effective policies, programs and strategies. Many of the administrators identified as the key staff member responsible for addressing alcohol and other drug problems on campus are new to their position, have limited knowledge of their school's programs and policies or are overwhelmed with other responsibilities.

Failure to Evaluate Efficacy of Interventions

Most schools do not evaluate their substance abuse prevention and intervention programs. Since colleges and universities spend considerable resources analyzing and evaluating numerous forms of data, including new student profiles, enrollment projections, alumni accomplishments and other program outcomes, it is unfortunate that when it comes to appraising their substance-use control strategies, evaluations often either are nonexistent, limited or poorly executed.

Student Resistance

Many students report being aware of the adverse consequences of substance use, including lower academic performance, date rape and other sexual violence; however, such knowledge often fails to dissuade them from abusing alcohol, smoking or using other drugs.

Limited Parental Engagement

Parents typically are not engaged in college efforts to prevent or reduce student substance use. Parents themselves often feel that they have little role to play or even are resistant to helping to reduce or prevent their college children's substance use, yet they still may be critical of how college officials handle the problem.

Stigma

Only 6.2 percent of students who meet medical criteria for alcohol or drug abuse or dependence seek help. CASA's survey of students demonstrates that while 88 percent feel that school resources and services for helping students deal with substance abuse problems are accessible, 37 percent report a fear of social stigma--being embarrassed and scared that someone would find out--as a factor that might keep students from seeking help.

Legal Liability

Should schools fail to make a concerted effort to change the way they approach the problem of student substance use and abuse, they may be forced to do so by the courts. The courts increasingly are holding colleges and universities accountable for alcohol-related harm caused to students where the risk of harm was foreseeable. For example:

- In 1999, the Nebraska Supreme Court, in an off-campus student alcohol-related case, determined that the University of Nebraska, Lincoln, had a duty to protect students from the "foreseeable acts of hazing…and the harm that naturally flows therefrom." The University settled the lawsuit to avoid admitting liability.

- In 2005, MIT settled a lawsuit brought "for failing to properly supervise students and neglecting evidence of drug abuse in the dorm."

In 1999, the average settlement in college alcohol-related claims was $500,000; however, costs can and do run much higher, such as an MIT settlement for $6 million and a court ordered award of $14 million in a University of Miami suit, both for student alcohol-related deaths.

Given the growing body of research demonstrating the consequences of student substance use as well as what works in prevention, courts may be likelier to find that much of the harm caused by student substance use is in fact foreseeable and that colleges and universities including their trustees should be held liable for harmful consequences resulting from student substance use.

Recommendations

Substance abuse among college students is a worsening public health crisis. There are ways to prevent and stem the harm associated with college student substance use and abuse, but doing so requires strong leadership on the part of colleges and universities. However, they cannot do it alone. Parents, alumni, students, Greek and athletic organizations, community leaders and state and federal governments must all step up to the plate, and the alcohol and tobacco industries must take responsible action.

CASA makes the following recommendations to address this public health crisis:

College Administrators

Implement, in collaboration with surrounding communities, comprehensive, evidence-based strategies for preventing and reducing student substance abuse and it consequences. These strategies should include:

Changing the Prevailing Climate

- Set clear substance use/abuse policies and enforce them in consistent and predictable ways.
- Ban smoking on campus.
- Reduce availability of alcohol to underage students by banning alcohol in dorms, in most common areas, at on-campus student parties, and at college sporting events.
- Prohibit alcohol and tobacco advertisements, sponsorships and promotions on campus.
- Provide increased opportunities for student engagement in the learning process and address factors such as stress that may contribute to student substance abuse.
- Offer substance-free recreational opportunities.
- Incorporate substance abuse information into academic curricula.
- Hold faculty and staff accountable for providing alcohol to underage students.
- Target additional prevention services to times of high-risk substance use (e.g., freshman year, weekends, athletic events, spring break) and hold Friday morning and afternoon classes and exams.
- Work with communities surrounding college campuses to limit the accessibility of alcohol, tobacco and other drugs to students, assure enforcement and enhance the accessibility of appropriate treatment services.
- Engage secondary and graduate schools in efforts to prevent student substance abuse.
- Send a clear and powerful message that preventing substance abuse is a key priority for the administration by allocating sufficient funds to the effort and ensuring that prevention, intervention and treatment programs are coordinated and conducted by trained professionals with knowledge and expertise in the area.

Engaging Students and Their Parents and Changing Attitudes

- Educate students and their parents about school substance use policies and enforcement, and the signs and symptoms of substance abuse.

- Engage students in reducing substance use and abuse among their peers through evidence-based peer education strategies.

- Engage parents in prevention activities, and report all substance use infractions of students under age 21 to parents or legal guardian.

Addressing Needs of High Risk Students

- Identify high-risk students (Greeks, freshmen, athletes, high school users) and target science-based prevention, intervention and treatment services to them.

- Train faculty, staff and student advisors to recognize the signs and symptoms of substance abuse and know how to respond.

- Routinely screen all students for substance abuse problems, providing services and assuring insurance coverage as needed.

Monitoring Progress and Improving Results

- Monitor student rates of drinking, alcohol abuse, prescription drugs abuse, illicit drug use and smoking and of related mental health problems and adjust prevention and intervention efforts accordingly.

- Scientifically evaluate the efficacy of prevention and intervention services, modifying those that do not seem to be working.

Parents

Set good examples for children and young adults, talk with them about substance use from an early age and continue through college; set clear expectations and disapproval of, underage and abusive drinking, smoking and other drug use in high school as well as college; get help fast when children show signs of trouble; and work with schools of higher learning to prevent and reduce drinking and alcohol abuse, smoking and other drug use and their resulting consequences.

Trustees and Alumni

Trustees should insist that schools address the culture of substance abuse in a comprehensive way and track progress in preventing and reducing the problem. Alumni can set good examples for college students when returning to campus by not drinking excessively, smoking, using other drugs or otherwise encouraging such behavior among students, and by supporting college and university policies that aim to curb students' drinking, smoking and other drug use.

Students

Accept responsibility for your own health and respect the rights of others by not drinking if underage, drinking excessively if of age, smoking, using other drugs; learn the signs and symptoms of substance abuse and the health and career consequences; get help fast for peers in need; and get engaged in solving the problem of student substance abuse.

National Greek Organizations

Establish a Greek culture not grounded in substance use and abuse and overhaul and continually monitor pledge programs to eliminate the hazing practices that often involve underage drinking and excessive substance use; enforce consistently the organizations' policies and regulations with regard to substance use and promptly shut down chapters that violate those rules.

The National Collegiate Athletic Association (NCAA)

Heed the call of the American Medical Association, the Center for Science in the Public

Interest, 246 university presidents, more than 180 national, state and local organizations, North Carolina basketball coach Dean Smith and former Nebraska football coach Tom Osborne to eliminate beer and all other alcohol advertising during all NCAA event broadcasts.

State Governments

Assist in changing the culture of campus substance abuse through banning smoking on state college and university campuses and enforcing state substance abuse laws; restricting alcohol outlet retail density around college campuses; raising taxes on alcohol and tobacco; prohibiting alcohol and tobacco advertising, sponsorships and promotions on campus and in broadcasts of state college athletic events, and prohibiting alcohol and tobacco promotions in retail establishments immediately surrounding the campus.

Federal Government

Enforce the provisions of the Drug Free Schools and Communities Act that require institutions of higher learning that receive federal funds to implement a program to prevent the unlawful use or possession of alcohol or illicit drugs by students and employees; provide more funding for the development of innovative, science-based approaches to preventing and reducing student substance use. If alcohol and tobacco industries do not cease advertising and marketing practices designed to attract student users, subject them to rigorous government regulation.

Alcohol and Tobacco Merchants

Cease all advertising and marketing practices designed to attract student users--including on-campus and event advertising, product placements and promotional giveaways--which compromise student health and inflict harm in the quest for profit.

Chapter II
The Growing Problem of College Student Substance Use and Abuse

Despite more than a decade of increasing attention to the issues of college student substance use and abuse, students' substance use habits have become increasingly dangerous, with more students drinking for the sole purpose of getting drunk, abusing[*] controlled prescription drugs, and using illicit drugs like cocaine and heroin. Although rates of student smoking have declined, they remain unacceptably high given the convincing body of evidence we now have about the dangers of tobacco use and secondhand smoke.

The highest rates[†] of alcohol, tobacco and other drug use are among those of college age[1] and nearly half (48 percent) of full-time college students at four-year institutions are under the age of 21.[‡ 2]

Rates of current[§] drinking have fluctuated between 65 and 70 percent over the past 12 years, with no consistent pattern of improvement, while rates of riskier drinking have been on the rise. Between 1993 and 2001, there was a 15.7 percent increase in the proportion of students reporting frequent binge drinking;[**] a 24.9 percent increase in the

[*] The *Monitoring the Future* (MTF) survey, from which these data are derived, asks students if they used various types of controlled prescription drugs without a doctor's order.

[†] Unless otherwise indicated, reported prevalence rates are from the most recently available MTF survey data.

[‡] Alcohol use rates are the highest among those 21-25; heavy alcohol use and binge drinking, among those 18-25; illegal drug use, among those 18-20; and tobacco use rates, among those 18-25.

[§] Defined as use in the past month or past 30 days.

[**] The source of these data is the *College Alcohol Study* (CAS) which defines "binge drinking" as consuming at least four drinks in a row for women and five drinks in a row for men in the past two weeks. "Frequent binge drinking" is defined as binge drinking three or more times in the past two weeks.

proportion drinking on 10 or more occasions in the past month; a 25.6 percent increase in the proportion being intoxicated three or more times in the past month; and a 20.8 percent increase in the proportion drinking for the purpose of getting drunk in the past month.

Controlled prescription drug abuse has increased sharply. Between 1993 and 2005, the proportion of students reporting current abuse of prescription opioids like Percocet, Vicodin and OxyContin was up 342.9 percent; abuse of prescription stimulants like Ritalin and Adderall, up 93.3 percent; abuse of prescription tranquilizers like Xanax and Valium, up 450.0 percent; and abuse of prescription sedatives like Nembutal and Seconal, up 225 percent.

The proportion of students who are daily marijuana users[*] increased 110.5 percent between 1993 and 2005 and the proportion currently using illicit drugs (e.g., cocaine, heroin, Ecstasy) other than marijuana increased 51.9 percent during that time.

Rates of current smoking among college students have climbed and then declined, leaving rates of student smoking about where they were a decade ago (23.8 percent, approximately 1.8 million students[†]). On a positive note, reported rates of daily smoking and daily heavy smoking declined.

Students who use one substance of abuse typically use others as well. Half of full-time college students (49.4 percent, or 3.8 million) reported binge drinking, abusing controlled prescription drugs or using illicit drugs in the past month; 45 percent or 2.3 million who are current drinkers also engage in two or more other forms of substance use (binge drinking,[‡] smoking or other drug use or

Alcohol Use

Since the publication of the CASA Commission's first report on alcohol abuse on college campuses, *Rethinking Rites of Passage: Substance Abuse on America's Campuses*, there has been no clear pattern of overall decline in student drinking, with annual drinking rates ranging between 80 and 85 percent, current drinking rates hovering around 68 percent and rates of binge drinking[§] fluctuating around 40 percent.[3] Yet, at the same time, rates of high-risk drinking are on the rise and drinking patterns among college women are becoming ever more dangerous.[4]

Prevalence Rates

In 1993, 85.1 percent of college students reported drinking alcohol in the past year; 83.0 percent did so in 2005 (approximately 6.4 million students). In 1993, 70.1 percent of college students reported drinking in the past month; 67.9 percent (approximately 5.3 million students) did so in 2005. Reported rates of daily alcohol use were 3.9 percent in 1993 and 4.6 percent (approximately 360,000 students) in 2005. Binge drinking rates were 40.2 percent in 1993 and 40.1 percent (approximately 3.1 million students) in 2005.[5] (Figure 2.A)

[*] The MTF study defines "daily marijuana use" as having used marijuana 20 or more days in the past 30 days.

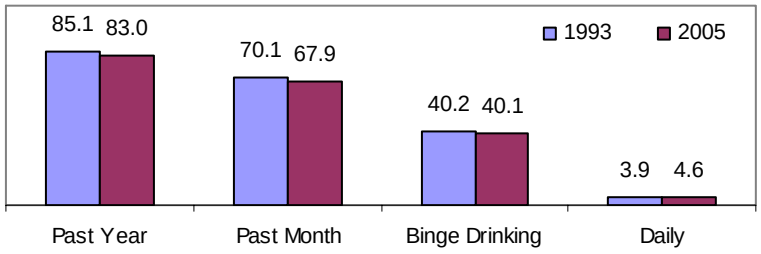
[†] Unless otherwise noted, estimates of the numbers of students corresponding to reported 2005 data are based on 2005 U.S. Census data and represent full-time college students, ages 18-22, attending two- and four-year colleges and universities (total number in 2005 equals 7,760,130; total number of full-time college students attending two- and four-year colleges and universities in 2005 regardless of age is 10,663,506). Reports of CASA's analysis of data from the *National Survey on Drug Use and Health* (NSDUH), like the U.S. Census, are based on full-time students, ages 18-22, attending two- and four-year colleges and universities. MTF data are based on full-time students at four-year colleges and universities only who are one to four years past high school.

[‡] The NSDUH, the survey on which these analyses of poly-substance use were conducted, defines "binge drinking" as having five or more drinks on the same occasion on at least one day in the past month.

[§] The MTF survey, from which prevalence data are derived, defines "binge drinking" as having five or more drinks in a row at least once in the past two weeks.

Figure 2.A

Annual, Past Month and High-Risk Drinking

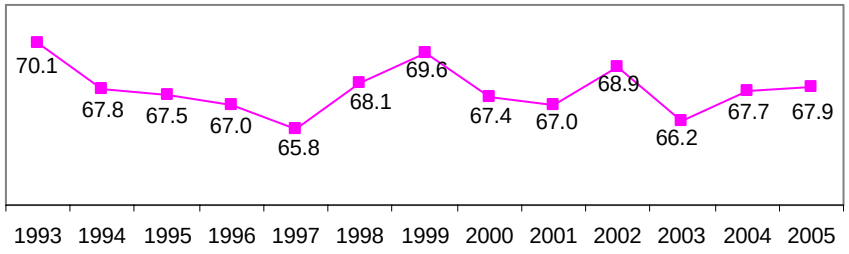


Source: The *Monitoring the Future* Study. (2006).

A closer look at the data on current drinking between 1993 and 2005 demonstrates that rates have fluctuated roughly between 65 percent and 70 percent throughout that time, with no consistent pattern of improvement.[6] (Figure 2.B)

Figure 2.B

Alcohol Use, Past Month



Source: The *Monitoring the Future* Study. (2006).

Other research shows that during roughly the same time period, rates of even riskier drinking--frequent binge drinking, being intoxicated, drinking to get drunk--rose. The proportion of college students reporting frequent binge drinking increased 15.7 percent, from 19.7 percent in 1993 to 22.8 percent.* Other indicators of increases in risky drinking between 1993 and 2001 include a 24.9 percent increase in the proportion of students drinking on 10 or more occasions in the past month (18.1 percent vs. 22.6 percent); a 25.6 percent increase in the proportion who were intoxicated three or more times in the past month (23.4 percent vs. 29.4 percent); and a 20.8 percent increase in the proportion of students drinking for the purpose of getting drunk in the past month (39.9 percent vs. 48.2 percent).[7]

Although binge drinking typically is considered a marker for high levels of college student drinking, one study of 10,424 college freshmen at 14 schools across the U.S. found that a considerable number of students drink at more extreme levels--significantly beyond the definition of binge drinking. Forty-one percent of male students and 34 percent of females admitted drinking at or above the binge-drinking threshold at least once in the past two weeks and nearly one in five (19.9 percent) male students drank 10 or more drinks on one occasion in the past month--twice the binge threshold. Students characterized as frequent binge drinkers were more likely than infrequent binge drinkers to drink at these high levels.[8]

The extent of alcohol use among students may even be greater than reflected in national survey data. Since many college students are unaware of how much alcohol constitutes a single drink, they tend to over-pour drinks and under-report their levels of consumption.[9]

Gender Differences

Between 1993 and 2005, rates of past year drinking among college men and college women were consistently similar and rates of current drinking generally were slightly higher among

* The data comparing 2001 to 1993 drinking rates are derived from the *College Alcohol Study* (CAS) which surveys students at four-year colleges only, with no age specifications.

college men.[*] In 2005, 82.4 percent of college men and 83.4 percent of college women reported past-year drinking and 70.5 percent of college men and 66.4 percent of college women reported drinking in the past month.[10]

When using the same measure of binge drinking for women and men of consuming five or more drinks in a row on one occasion, college men consistently have been likelier than college women to report drinking heavily: for example, in 2005, men were considerably likelier to report binge drinking (50.1 percent vs. 34.4 percent) and daily drinking (8.6 percent vs. 2.3 percent).[11] But, when definitions of binge drinking are adjusted for differences in female physiology[†] to four drinks in a row for women vs. five in a row for men, virtually the same proportion of male and female students binge drink on a typical drinking occasion.[12]

The increase in the proportion of students reporting frequent binge drinking[‡] between 1993 and 2001 was greater for college women (22.2 percent increase; 17.1 percent vs. 20.9 percent) than it was for college men (12.5 percent increase; 22.4 percent vs. 25.2 percent). Between 1993 and 2001, there also was a greater increase in the proportion of students reporting being drunk three or more times in the past 30 days among women (30.2 percent increase; 18.9 percent vs. 24.6 percent) than among men (24.6 percent increase; 28.0 percent vs. 34.9 percent) and a greater increase in the proportion reporting drinking on 10 or more occasions in the past 30 days among women (36.6 percent increase; 12.3 percent vs. 16.8 percent) than among men (22.2 percent increase; 23.9 percent vs. 29.2 percent).[13]

The research is mixed on gender differences among college students in meeting diagnostic criteria for alcohol abuse or dependence. One national data set shows that college men are likelier than college women to meet the diagnostic criteria[§] for alcohol abuse (18.2 percent of men; 11.3 percent of women) or dependence (18.2 percent of men; 9.2 percent of women).[14] A different study found that whereas more than half (54 percent) of college students who meet diagnostic criteria for alcohol dependence are males, more than half (55 percent) of those who meet diagnostic criteria for alcohol abuse are females.[15]

There also are gender differences in the age at which heavier drinking takes place in college. While male freshmen tend to drink less heavily than upperclassmen, female freshmen drink more heavily than female upperclass students.[16]

Over the course of about a decade, frequent binge drinking among women attending all-women's colleges more than doubled (5.3 percent in 1993 vs. 11.9 percent in 2001) while frequent binge drinking among those attending co-educational colleges increased less sharply (17.4 percent in 1993 vs. 21.2 percent in 2001). Women attending all-women's colleges became less likely to abstain from alcohol (25.9 percent in 1993 vs. 20.7 percent in 2001) while those

[*] Precise gender-specific trend data points are not provided in the MTF study report.

[†] Because of certain biological sensitivities to intoxication in women, including lower body weight, higher body fat-to-water ratio and slower metabolic processing.

[‡] Binge drinking three or more times in the past two weeks; four drinks in a row for women and five in a row for men.

[§] According to the DSM-IV, substance abuse is defined as a maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one or more of the following four symptoms occurring within a 12-month period: recurrent use resulting in failure to fulfill major role obligations at work, school, home; recurrent use in physically hazardous situations; recurrent use resulting in legal problems; continued use despite persistent or recurrent social or interpersonal problems. Substance dependence is manifested by three or more of the following seven symptoms occurring within a 12-month period: tolerance; withdrawal; taking the substance in larger amounts or over a longer period than intended; a persistent desire or unsuccessful efforts to cut down or control use; a great deal of time spent to obtain or use the substance, or recover from its effects; important social, occupational or recreational activities given up or reduced because of substance use; continued use despite knowledge of persistent or recurrent physical or psychological problems likely due to the substance use.

attending co-educational colleges became slightly more likely to do so (16.8 percent in 1993 vs. 18.6 percent in 2001).[17]

College women are much likelier than college men to report current drinking of flavored alcoholic beverages (36.3 percent vs. 22.0 percent).[18]

Age Differences[*]

One study found that of college students who drink, most (64.8 percent) began drinking alcohol in high school; 8.3 percent in junior high school and 25.5 percent in college.[† 19] Students who begin drinking in junior high school drink more often and more heavily (7.8 drinks per occasion) than those who begin in high school (6.1 drinks per occasion) or college (4.5 drinks per occasion).[20]

Sixty-three percent of students under age 21 report being current drinkers compared with 74 percent of students over age 21, but underage students are likelier to report binge drinking (42 percent vs. 27 percent).[21]

Race and Ethnicity[‡]

The preponderance of research on racial/ethnic differences in college student drinking has focused on the large gap between white and black students. White students drink and binge drink more frequently and in greater quantities than black students. One study found that 6.7 percent of black college students binge drink compared to 35 percent of white college students.[§ 22] A comparison of findings from four national datasets shows that white students are most likely to drink heavily and African American students the least likely, with Hispanic students falling in between.[23] Asian students also drink less than white students.[24]

In 1995, a comparison of data from 14 historically black colleges and universities (HBCUs) and 14 equally sized, predominately white colleges and universities[**] found that students at HBCUs drink less than students at other colleges (1.8 drinks per week vs. 4.6 drinks per week) and are less likely to binge drink (22.3 percent vs. 37.5 percent). Furthermore, despite the generally higher rate of drinking among white students than black students, white and black students at HBCUs binge drink at the same rates (22.3 percent vs. 22.5 percent). And although black students at non-black colleges drink about the same amount as black students at HBCUs (1.7 drinks per week vs. 1.4 drinks per week), white students at non-black colleges drink more than white students at HBCUs (4.9 drinks per week vs. 2.6 drinks per week).[25]

College vs. Non-College Students

College students drink at higher rates than their non-enrolled peers. In 2005, more students than non-students were current drinkers (67.9 percent vs. 58.7 percent) and binge drinkers (40.1 percent vs. 35.1 percent); however, slightly fewer students than non-students report daily drinking (4.6 percent vs. 5.1 percent). This difference between enrolled and non-enrolled young people has been fairly consistent since 1993.[†† 26]

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[*] Detailed data on age differences in drinking among college students are not provided in the MTF study report or in other national data sets of college students.

[†] Response options were elementary school, junior high, senior high or college with no further definition.

[‡] Detailed data on racial/ethnic differences in drinking are not provided in the MTF study report or in other national data sets of college students.

[§] This study found that 31 percent of Hispanic students binge drink.

[**] Representing more than 12,000 students from 28 colleges and universities.

[††] Precise college vs. non-college trend data points are not provided in the MTF study report.

Perceptions of College Administrators

CASA's 2005 survey of college administrators found that 42.9 percent of the respondents estimate that rates of student alcohol use have not changed much over approximately the past decade.[*] Despite evidence of the relative stability of alcohol use over the past decade, however, one-third (32.9 percent) of the respondents estimate that student drinking has increased and one-quarter (24.1 percent) estimate that it has decreased at their college during that time. Sixty-two percent of the college administrators say that alcohol is a problem[†] on their campuses.

Controlled[‡] Prescription Drug Abuse[§]

Paralleling increases among the rest of the population, student abuse of controlled prescription drugs, including painkiller drugs like Vicodin and OxyContin, stimulant drugs like Ritalin and Adderall, tranquilizers like Xanax and Valium, and sedatives like Nembutal and Seconal, has increased dramatically over the past decade.

Prevalence Rates[**]

In 1993, 2.5 percent of college students reported abusing controlled prescription opioids[††] in the past year; in 2005, 8.4 percent did so. This increase also was seen in the past year abuse of prescription stimulants (4.2 percent vs. 6.7 percent), prescription tranquilizers (2.4 percent vs. 6.4 percent) and prescription sedatives (1.5 percent vs. 3.9 percent).

Current (past month) abuse of controlled prescription drugs also has increased over the past decade. From 1993 to 2005, the rate of student abuse of prescription opioids rose 342.9 percent from 0.7 percent to 3.1 percent. (Figure 2.C) This equals approximately 240,000 full time students. Over that same period, abuse of prescription stimulants rose 93.3 percent to 225,000 students (from 1.5 percent to 2.9 percent); abuse of prescription tranquilizers rose 450 percent to 171,000 students (from 0.4 percent to 2.2 percent); and abuse of prescription sedatives rose 225 percent to 101,000 students (0.4 percent to 1.3 percent).[27]

Rates of all forms of prescription drug abuse among college students now surpass the rates of all forms of illicit drug use (cocaine, Ecstasy, inhalants, LSD, methamphetamine, heroin) except marijuana.[28]

Gender Differences

Whereas in 1993, college men and college women reported relatively equal rates in the past year of abuse of controlled prescription drugs, in 2005 college men were likelier than college women to report abusing prescription opioids (9.6 percent vs. 7.7 percent)--including Vicodin (13.5 percent vs. 7.4 percent); prescription stimulants (7.4 percent vs. 6.3 percent);

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[*] The survey was conducted in 2005; therefore, respondents' referenced time frame when reporting changes in student substance use "over approximately the past decade" was roughly from 1995 to 2005.

[†] For each substance, those respondents who answered "4" or "5" on a five-point scale with "1" indicating not a problem and "5" indicating a major problem, were classified as considering the substance to be a problem on their campus.

[‡] Controlled drugs are drugs or medications classified by the federal Controlled Substances Act (CSA) of 1970 as having the potential for abuse or addiction. The distribution of these drugs is monitored by the federal Drug Enforcement Administration.

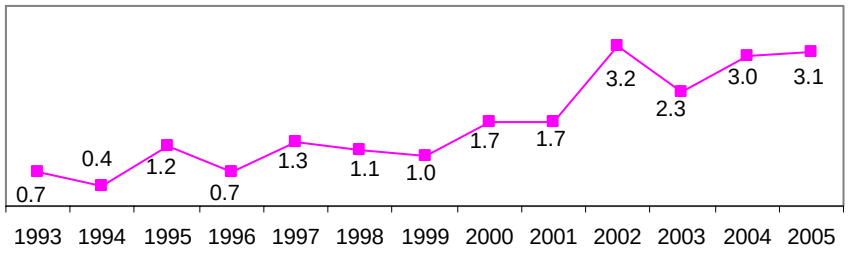
[§] Using a prescription drug not under a doctor's orders (MTF). The available data do not provide overall values for the general category of prescription drugs; therefore, estimates are provided for specific classes of prescription drugs. Trend data are not available from the MTF study on rates of prescription drug abuse.

[**] The MTF study report does not provide cumulative data on overall prescription drug abuse. CASA's analysis of college student data from the NSDUH finds that 15.9 percent of students report past year abuse of these drugs--defined in the NSDUH as use of prescription-type psychotherapeutic drugs nonmedically--and 6.1 percent report current abuse.

[††] Narcotic pain relievers.

Figure 2.C

Past Month Opioid Abuse



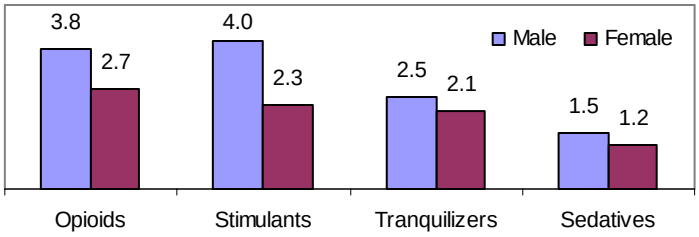
Source: The *Monitoring the Future* Study. (2006).

prescription tranquilizers (7.3 percent vs. 5.8 percent) and prescription sedatives (4.3 percent vs. 3.8 percent).[*] [29]

Similarly, in 2005, college men were likelier than college women to report current abuse of prescription opioids (3.8 percent vs. 2.7 percent), stimulants (4.0 percent vs. 2.3 percent), tranquilizers (2.5 percent vs. 2.1 percent) and sedatives (1.5 percent vs. 1.2 percent).[30] (Figure 2.D)

Figure 2.D

Past Month Abuse of Prescription Drugs



Source: The *Monitoring the Future* Study. (2006).

Age Differences

No significant age differences in controlled prescription drug abuse have been found among college students.[31] CASA's analysis of data from the *National Survey on Drug Use and Health* (NSDUH)[†] finds that of students who have ever abused controlled prescription drugs, more than half (55.8 percent) started before age 18.[‡] [32]

Race and Ethnicity

White students are twice as likely as other students to report past-year abuse of prescription opioids (8.2 percent vs. 4.4 percent of Hispanic, 3.4 percent of black and 2.5 percent of Asian students)[33] and stimulants (4.9 percent vs. 1.6 percent of black and 1.3 percent of Asian students[§]).[34] Like the other forms of substance use, abuse of prescription opioids is less common at HBCUs than at non-HBCUs (2.0 percent vs. 7.2 percent)[35] and one national survey found that no students at HBCUs reported abuse of prescription stimulants in the past year.[36]

College vs. Non-College Students

College students are less likely to abuse most prescription drugs than their non-enrolled peers. In 2005, while the reported current abuse of stimulants was about equal between students and non-students (2.9 percent vs. 3.0 percent), fewer students than non-students reported current abuse of opioids (3.1 percent vs. 5.6 percent), tranquilizers (2.2 percent vs. 3.3 percent) and sedatives (1.3 percent vs. 3.3 percent). This gap appears to have increased slightly since 1993 due to non-student abuse of opioids, tranquilizers and sedatives rising

[*] Precise gender-specific trend data points are not provided in the MTF study report with regard to controlled prescription drugs.

[†] Analyses of college students were restricted to full-time students, ages 18-22, attending two- or four-year colleges or universities.

[‡] Data are not available to assess the relationship between early initiation of controlled prescription drug abuse and the extent of such abuse in college.

[§] Data on Hispanic students are not available.

slightly more precipitously than that of students.[*] [37]

Perceptions of College Administrators

CASA's 2005 survey of college administrators found that, consistent with the evidence of considerable increases in controlled prescription drug abuse since the early- to mid-1990's, 69 percent of the respondents estimate that students' abuse of these drugs has increased at their college over approximately the past decade, 22.4 percent estimate that it has not changed and 8.6 percent estimate that it has decreased. When asked about the extent to which specific types of prescription drug abuse is a problem on their campus, 16.6 percent said that stimulant abuse is a problem, 14.8 percent said that tranquilizer abuse is a problem and 14.7 percent said that opioid abuse is a problem.

Illicit Drug Use

Although rates of marijuana use increased throughout the 1990's and then began to decline slightly, usage rates of other illicit drugs like cocaine and heroin have been rising consistently.

Prevalence Rates

In 1993, 30.6 percent of college students reported using an illicit drug in the past year; 36.6 percent did so in 2005. This increase was seen in the past year use of marijuana (27.9 percent in 1993 vs. 33.3 percent in 2005) and use of illicit drugs other than marijuana (12.5 percent in 1993 vs. 18.5 percent in 2005). Cocaine and Ecstasy use have increased the most between 1993 and 2005. Past year use of cocaine more than doubled from 2.7 percent in 1993 to 5.7 percent in 2005. Ecstasy use increased significantly between 1993 (0.8 percent) and 2003 (4.4 percent) and then declined somewhat by 2005 (2.9 percent).

[*] Precise college vs. non-college trend data points are not provided in the MTF study report. These conclusions are drawn based on graphs representing trends in past-year use of the drugs; no graphs of current use trends are available.

Heroin use tripled between 1993 and 2005 (0.1 percent to 0.3 percent).[38] (See Table 2.1)

Table 2.1
College Student Past Year Drug Use, 1993-2005 (percent)

	1993	2005
Any illicit drug	30.6	36.6
Marijuana	27.9	33.3
Hallucinogens	6.0	5.0
Inhalants	3.8	1.8
Cocaine	2.7	5.7
Ecstasy	0.8	2.9
Heroin	0.1	0.3

Source: Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2005).
Note: 1993 data on methamphetamines not available.

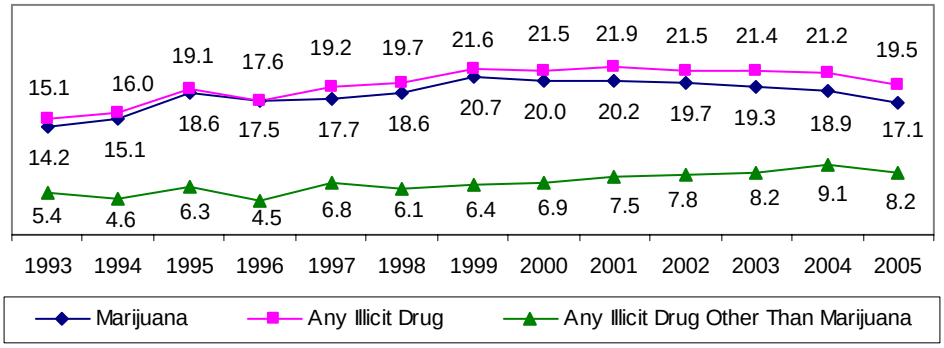
Current (past month) use of illicit drugs also has increased over the past decade. In 1993, 15.1 percent of students reported using an illicit drug in the past month; 19.5 percent did so in 2005 (1.5 million)--a 29.1 percent increase. From 1993 to 2005, rates of student daily marijuana use increased 110.5 percent (from 1.9 percent to 4.0 percent, approximately 310,000 students). The proportion of students using marijuana in the past month increased 20.4 percent (from 14.2 percent in 1993 to 17.1 percent in 2005), with rates increasing over the 1990's to a peak of 20.7 percent in 1999 and then gradually declining. The proportion of students currently using illicit drugs other than marijuana increased 51.9 percent (from 5.4 percent in 1993 to 8.2 percent in 2005, or approximately 636,000 students).[39] (Figure 2.E)

Gender Differences

Whereas in 1993, college men were only slightly likelier than college women to report past year illicit drug use (32.6 percent vs. 29.1 percent), in 2005 this gender gap increased (40.7 percent vs. 34.2 percent). The same is true for current illicit drug use. In 1993 slightly more college men than college women reported current use of any illicit drug (16.0 percent vs. 14.5 percent), but in 2005 the gender gap was wider (22.9 percent vs. 17.5 percent).[40] (Figure 2.F)

Figure 2.E

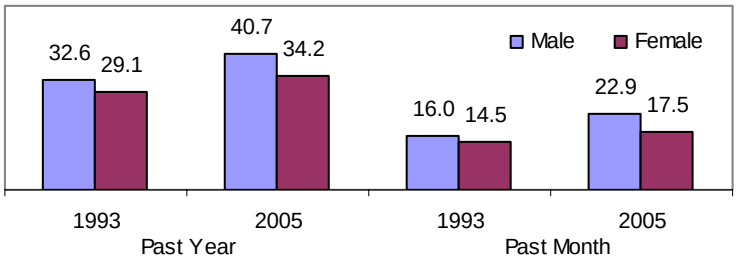
Past Month Drug Use



Source: The *Monitoring the Future* Study. (2006).

Figure 2.F

Gender Differences, Illicit Drug Use



Source: The *Monitoring the Future* Study. (2006).

Age Differences[*]

Younger college students are likelier to use marijuana than upperclassmen. One study found that in 2001, 18.4 percent of freshmen reported current marijuana use compared to 15.5 percent of seniors (17.7 percent of sophomores and 16.3 percent of juniors reported current use).[41]

Most college students who use illicit drugs (67.5 percent) began using them while in high school; seven percent in junior high school and 24.6 percent in college. Those who start younger use more: college students who began using drugs in junior high school use them twice as often as students who began using them in high school (6.2 days per week vs. 3.2 days per week) and one-third more often than students who began using them in college (4.0 days per week).[42] Another study of college students found students who used marijuana before the age of 16 years were more likely to report using other illicit drugs in the past year and to become regular marijuana users.[43]

Race and Ethnicity[†]

White students are more than twice as likely as non-white students to use illicit drugs including marijuana[44] and Ecstasy.[45] Students at HBCUs--regardless of race--are considerably less likely to use illicit drugs than students at non-black colleges.[46] (See Table 2.2)

Table 2.2

Past Year Substance Use by Students at HBCUs vs. Non-HBCUs (percent)

	HBCUs	Non-HBCUs
Marijuana	12.8	22.9
Amphetamines	2.9	5.1
Cocaine	1.8	3.1
Sedatives	1.4	2.4
Hallucinogens	1.0	4.9
Inhalants	0.8	1.9
Designer drugs	0.6	1.7
Steroids	0.6	0.7
Opiates	0.4	0.5

Source: Meilman, P. W., Presley, C. A., & Cashin, J. R. (1995).

[*] Detailed data on age differences in drug use among college students are not provided in the MTF study report.

[†] Detailed data on racial/ethnic differences in drug use are not provided in the MTF study report or in other national data sets of college students.

Student Perceptions of Illicit Drug Use

Marijuana. Marijuana use is perceived to be widespread--some students said it is as widespread as alcohol and is considered by many to be less dangerous.

Cocaine. Because of its cost, cocaine is thought to be used most often by wealthier students. Some students distinguish between marijuana and cocaine, saying, *cocaine is really a drug* or *cocaine can kill you.*

Heroin. Very few students knew of any classmates who used heroin.

Methamphetamine. Methamphetamine is seen as taking the place of cocaine. Its relatively lower cost is perceived to be its main advantage.

Club Drugs. Club drugs are seen as relatively less prevalent on campuses, particularly compared to their perceived prevalence in high school.

--CASA's focus groups with college students

College vs. Non-College Students

College students are somewhat less likely to use illicit drugs than their non-enrolled peers. In 2005, fewer students than non-students were current illicit drug users (19.5 percent vs. 23.9 percent); fewer used marijuana (17.1 percent vs. 20.6 percent) or other illicit drugs (8.2 percent vs. 11.0 percent). With a few exceptions, this difference between enrolled and non-enrolled young people has been fairly consistent since 1993.[*47]

Perceptions of College Administrators

CASA's 2005 survey of college administrators found that three-quarters (75.2 percent) of the respondents estimate that student drug use has increased (32.4 percent) or has not changed (42.8 percent) at their college over approximately the prior decade; 24.8 percent estimate that it has decreased. More than one third (36.8 percent) say that marijuana use is a problem on their campuses and 14 percent say that other illicit drug use is a problem.

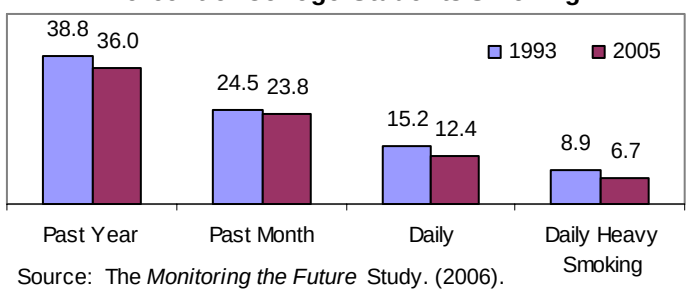
Tobacco Use

Since CASA's first examination of smoking among college students in 1993, reported in *The Smoke-Free Campus*,[48] rates of smoking in this population showed a steady rise and subsequent decline, leaving prevalence rates about the same as they were a decade ago. Encouragingly, the rate of current smoking has declined since the recent high of 30.6 percent in 1999 (vs. 23.8 percent in 2005), but more than 1.8 million full-time college students still currently smoke. Reported rates of daily smoking and daily heavy[†] smoking showed declines as well.

Prevalence Rates

In 1993, 38.8 percent of college students reported smoking cigarettes in the past year; 36.0 percent did so in 2005.[49] In 1993, 24.5 percent of college students reported smoking cigarettes in the past month; 23.8 percent (approximately 1.8 million students) did so in 2005. Reported rates of daily smoking (15.2 percent in 1993, 12.4 percent in 2005, approximately 960,000 students) and daily heavy smoking (8.9 percent in 1993, 6.7 percent in 2005, approximately 520,000 students) showed modest declines.[50] (Figure 2.G)

Figure 2.G



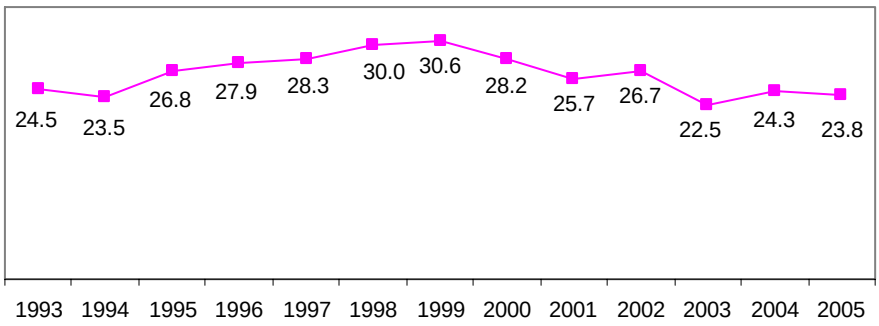
[*] Precise college vs. non-college trend data points are not provided in the MTF study report. These conclusions are drawn based on graphs representing trends in past-year use of the drugs; no graphs of current use trends are available. The gap between college and non-enrolled young people is less consistent for marijuana than for other drugs.

[†] Half a pack or more per day.

A closer look at the data on current (past month) smoking between 1993 and 2005 demonstrates that while rates have increased somewhat and then declined over the past decade, there has been no significant overall improvement in current smoking rates since 1993.[51] (Figure 2.H)

Figure 2.H

Cigarette Use, Past Month



Source: The *Monitoring the Future Study*. (2006).

Although national trend data on college students' use of tobacco products other than cigarettes are not available, data from a 2000 study indicate that more than one-third (37.1 percent) of college students have smoked a cigar in their lifetime and almost one quarter (23.0 percent) did so in the past year. Thirteen percent have used smokeless tobacco in their lifetime and 6.3 percent did so in the past year.[52]

Some college students report that they engage in "social smoking"--smoking only in social settings. One study found that of the 25 percent of students who were current smokers, 51 percent describe themselves as social smokers. Social smokers typically drink alcohol as well.[53]

Gender Differences

With few exceptions (notably 2004, when college men smoked at higher rates than college women), rates of current smoking[*] have remained relatively equal between college men and women since 1993. In 1993 approximately 25 percent[†] of each reported current smoking and in 2005 23.7 percent of college males and 23.8 percent of college females reported current smoking. As in 1993, when slightly more college women than college men reported daily smoking, in 2005 college women were somewhat likelier than college men to report smoking daily (12.8 percent vs. 11.7 percent). And while rates of daily heavy smoking were relatively equal between college men and women in 1993, in 2005 college women were somewhat likelier than college men to report this type of smoking (7.1 percent vs. 6.0 percent).[‡ 54]

While college men are likelier than college women to smoke cigars (15.7 percent vs. 3.9 percent) and use smokeless tobacco (8.7 percent vs. 0.4 percent), one survey found that one in four (25.1 percent) college women has smoked a cigar, and about one-third of these women tried their first cigar at age 19 or older, presumably while in college.[55]

Age Differences[§]

Smoking is more common among freshmen, sophomores and juniors than among seniors or fifth-year students.[56]

CASA's analysis of data from the *National Survey on Drug Use and Health* (NSDUH) finds that most college students (81.4 percent) who are current smokers initiate smoking before the age of 18. Those who initiated regular[**] smoking before age 18 report smoking on twice as many days (24.4 days vs. 12.3 days) and

[*] Data on gender differences in the MTF study report are only available for current smoking.

[†] Precise gender-specific trend data points are not provided in the MTF study report.

[‡] This pattern is notably different from 2004, when more college men than women reported daily smoking (16.2 percent vs. 12.3 percent) and daily heavy smoking (8.9 percent vs. 5.6 percent).

[§] Detailed data on age differences in smoking among college students are not provided in the MTF study report or in other national data sets of college students.

[**] Daily smoking.

smoking nearly four times as many cigarettes (average of 273 cigarettes vs. 73 cigarettes[*]) in the past month as those who initiated smoking at age 18 or older.[57] CASA's 2003 study, *The Formative Years: Pathways to Substance Abuse Among Girls and Young Women, Ages 8-22* found that the greatest increase in smoking among girls takes place during the transition from high school to college, when many girls turn 18.[†] On average, girls who smoke report smoking five more days per month in their freshman year of college than they did in their senior year of high school.[58]

College students who smoke sometimes change their smoking status while in school. One study found that over the course of four years of college, about half (51 percent) of the students who reported smoking every few days, every few weeks or every few months quit, as did 13 percent of daily smokers. Twenty-eight percent of daily smokers cut back. At the same time, other students increase their smoking. Twelve percent of non-smokers started smoking. Nearly half of all smokers who reported smoking every few days, weeks or months and most (87 percent) daily smokers continued to smoke through the end of college.[59]

Race and Ethnicity[‡]

Current cigarette smoking is most common among white students (30.4 percent) followed by Hispanic (25.4 percent), Asian (22.4 percent) and black (13.7 percent) students.[60] Although black students are least likely to smoke, there is evidence that more are doing so than in the past. One study found that compared to an overall increase of 27.8 percent in rates of smoking among college students between 1993 and 1997, there was a 42.7 percent increase among black students during this time (the increase among white students was 31 percent and the increase among Hispanic students was 12 percent).[61] Smoking rates[§] consistently are lower, however, at HBCUs than at other colleges (22 percent vs. 40 percent).[62]

Rates of current cigar use are roughly equal among white and black students (9.2 percent vs. 8.1 percent), while Hispanic and Asian students are less likely to smoke cigars (5.3 percent and 5.0 percent). Smokeless tobacco is likelier to be used by white students (4.4 percent) than by students of other racial/ethnic backgrounds (2.2 percent of Hispanic; 0.4 percent of Asian; and 0.3 percent of black students).[63]

College vs. Non-College Students

College students smoke at much lower rates than their non-enrolled peers. In 2005, fewer students than non-students were current smokers (23.8 percent vs. 35.4 percent), daily smokers (12.4 percent vs. 27.6 percent) or heavy smokers (6.7 percent vs. 17.9 percent). This gap between enrolled and non-enrolled young people has been fairly consistent since 1993.[** 64]

Perceptions of College Administrators

CASA's 2005 survey of college administrators found that nearly half (48.7 percent) of the respondents estimate that student tobacco use has decreased at their college over approximately the past decade. About one quarter estimate that it has increased (27.6 percent) or not changed (23.7 percent). And only 21 percent say that tobacco/cigarette use is a problem on their campuses.

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[*] These numbers are derived from a variable in the data set that represents the product of the number of days a user smoked cigarettes in the past month (frequency) and the average number of cigarettes smoked per day on the days cigarettes were smoked in the past month (quantity).

[†] Other research shows significant increases in smoking between the eighth and ninth grades.

[‡] Detailed data on racial/ethnic differences in smoking are not provided in the MTF study report or in other national data sets of college students. Data reported here are the most recent available.

[§] Past year.

[**] Precise college vs. non-college trend data points are not provided in the MTF study report. The gap in smoking between college and non-college students reflects the generally higher rates of smoking among populations of lower income and education.

Steroid Abuse*

Although most college students do not abuse steroids, college athletes are at increased risk of abusing these drugs. In CASA's 2005 survey of college administrators, almost one in 10 (9.6 percent) reported that steroid abuse is a problem on their campuses.

One study of National Collegiate Athletic Association (NCAA) student athletes from 30 sports competing at 991 NCAA Division I, II and III institutions found that 1.1 percent of respondents reported past-year use of steroids and 47 percent of users said they used them for performance enhancement.[65]

Poly-Substance Use

CASA's analysis of data from the 2005 *National Survey on Drug Use and Health*† reveals that 69.0 percent or 5.4 million full-time college students reported drinking, abusing controlled prescription drugs, using illicit drugs or smoking in the past month; 49.4 percent, or 3.8 million, reported binge drinking, abusing controlled prescription drugs or using illicit drugs in the past month. Almost one-half of those who are current drinkers (45 percent or 2.3 million) engaged in two or more other forms of substance use (binge drinking, prescription drug abuse, illicit drug use or smoking). Fourteen percent were current drinkers but did not binge drink, use drugs or smoke. Approximately one-third (32.5 percent) of college students abstained from all forms of substance use (drinking, drug use, smoking).[66]

Alcohol

Among frequent drinkers,‡ 64 percent of females vs. 52 percent of males are current smokers.[67] College students who binge drink are likelier to report using illicit drugs, including marijuana and cocaine, and smoking cigarettes. Among binge drinking college students, the more days per month a student binge drinks, the likelier he or she is to have ever used marijuana, cocaine, other illegal drugs or cigarettes.[68] Binge drinkers are likelier to have used Ecstasy in the past month than non-binge drinkers.[69]

One study found that students who both binge drink and use illicit drugs are three times likelier to have been drunk six or more times in the past month and almost five times likelier to be heavy cigarette smokers§ than students who binge drink without using illicit drugs.[70] Another study found that college students who were diagnosed in their college years as abusers of alcohol or as alcohol dependent were likelier to be diagnosed as dependent on tobacco three years post-graduation.[71]

Controlled Prescription Drugs

Students who abuse controlled prescription drugs are likelier than other students to report binge drinking (79.4 percent vs. 45.2 percent); past-year marijuana use (79.3 percent vs. 29.0 percent), cocaine use (20.4 percent vs. 1.0 percent), Ecstasy use (18.7 percent vs. 1.4 percent) or other illicit drug use (33.8 percent vs. 2.3 percent); and current cigarette smoking (49.8 percent vs. 15.2 percent).[72]

Students who abuse prescription opioids are more than four times likelier to report frequent binge drinking** and driving after binge drinking, more than eight times likelier to report past-year marijuana use and more than 13 times likelier to report past-year cocaine use than students who do not abuse prescription

* The MTF study does not provide data on steroid abuse among college students.

† Analysis of student poly-substance use could not be performed on the MTF survey data because the complete data set was not available to CASA. The NSDUH includes data on full-time students, ages 18-22, attending two- and four-year colleges and universities.

‡ Defined in this study as drinking on 10 or more occasions during the past month.

§ More than one pack a day.

** Defined as three or more binge drinking episodes in the past two weeks.

opioids.[73] Likewise, students who abuse prescription stimulants are almost seven times likelier to report frequent binge drinking, more than five times likelier to report driving after binge drinking, 10 times likelier to report past-year marijuana use and more than 20 times likelier to report past-year cocaine use than students who do not abuse prescription stimulants.[74]

One study found that students who abuse controlled prescription drugs that they acquire from peers are more than four times likelier to admit to binge drinking. Students receiving controlled prescription drugs from peers concurrently used alcohol and other drugs on more days than those receiving them from family (28 days vs. two days) or than those who do not abuse prescription drugs at all (three days).[75]

Tobacco

Students who smoke cigarettes are more likely to drink, binge drink and use marijuana than students who do not smoke cigarettes.[76] One study found that almost all college students who smoke (98 percent) also drink and that students who drink a lot or admit to having a drinking problem are more than three times likelier to be smokers.[77] Women college students are at higher risk than men of concurrent alcohol use and cigarette smoking. One study found that, compared to past-year abstainers, college students who reported frequent past-year drinking* were 16 times likelier to initiate smoking; those who reported past-year marijuana or other illicit drug use were almost four times likelier to initiate smoking; and those who reported past-year prescription drug abuse† were more than twice as likely to initiate smoking.[78]

Student Perceptions of Poly-Substance Use

Poly-substance abuse is seen as common among students.

Students claim that many of their peers are unaware of the dangers of overdosing on prescription drugs when drinking or using other drugs.

Students who used multiple substances were seen as searching for a high beyond that which can be achieved with the use of a single substance: *The people who were just using one drug, they're like, 'that feels really good so now I'm going to mix weed and alcohol and whatever else'…looking for the ultimate feel-good sensation.*

Poly-substance users were characterized as students who seem to have more family problems and less interest in going to class than other students: *They seem more reckless and they don't care quite as much about reputation or about disciplinary problems.*

--CASA's focus groups with college students

* 40 or more drinking occasions in the past year.
† Use without a prescription.

Chapter III
Increasing Consequences of College Student Substance Use and Abuse

The consequences to students who smoke, drink and use other drugs and to those around them rank substance abuse as one of the greatest public health problems faced by colleges and universities--and one that is getting worse.

Because no one data source reports the consequences of college student substance use and abuse, CASA presents the best and most up to date information from a variety of sources.

Alcohol abuse, the most prevalent form of substance use on college campuses, is responsible for the most damaging consequences--including academic problems, risky sexual behavior, crime and other disturbances in the campus' surrounding community, illness, unintentional injuries, suicide and accidental deaths and increased risks of alcohol abuse and dependence. The increase in risky drinking among college students over the past few years has been matched by increases in serious alcohol-related consequences. For example, in 1998, 1,575 students[*] died from unintentional alcohol-related injuries (1,248 due to alcohol-related traffic fatalities); in 2001 1,717 did so (1,349 due to alcohol-related traffic fatalities), a six percent increase.[†] Between 1993 and 2001, there has been a 37.6 percent increase in the proportion of college students who were hurt or injured as a result of their alcohol use (9.3 percent vs. 12.8 percent.

Few studies have tracked the consequences of college student drug or tobacco use. Because of this fact--combined with perceptions of college administrators that these problems are relatively small, outside the purview of colleges or best

[*] Includes part-time and full-time students, ages 18-24, enrolled in two- or four-year colleges and universities.

[†] Data on longer-term trends are not available for these measures.

kept hidden--the considerable dangers of drug use and smoking often are overlooked. The adverse impact of prescription drug abuse and illicit drug use includes increased risk for addiction, risky sexual behavior, crime, memory and learning impairment, respiratory problems, irregular heart rate, seizure, other health and mental health problems and death. Student smoking impairs students' physical fitness and increases their susceptibility to dental problems, respiratory illness and ultimately heart disease and cancer, and adversely affects the health of others exposed to secondhand smoke.

Academic Problems

Alcohol

Academic problems associated with student alcohol abuse include lower grade point averages, suspensions, falling behind in schoolwork and missing classes.[1] On average, students with an A average drink three to four drinks per week, while students with D or F averages drink almost 10 drinks per week.[2] Students who experienced three or more alcohol-induced blackouts have been found generally to have lower GPAs than students with fewer or no blackouts.[3]

In 1993, 26.9 percent of college students who used alcohol in the past year reported missing a class due to alcohol use; in 2001 29.5 percent of student drinkers did so.[4] More than five percent of binge-drinking students report having been suspended, 50.6 percent have gotten behind in their schoolwork as a result of alcohol use and 68.1 percent missed a class.[5] More than 50 percent of frequent binge drinkers fall behind in their schoolwork or miss class as a result of their drinking.[6]

Prescription Drugs

Students who abuse prescription opioids have lower GPAs than those who do not abuse these drugs.[7] No research to date has linked abuse of the prescription stimulants Ritalin or Adderall with academic performance. Many students however, believe use of these drugs will be academically beneficial and report using them to improve academic performance or efficiency in completing assignments.[8]

Illicit Drugs

Marijuana use is associated with spending less time studying.[9] Students with a B or lower average are more likely to use marijuana than those with a B plus or higher average.[10] One study found that students with lower GPA scores were more likely to have ever tried Ecstasy,[11] while another found no relationship between Ecstasy use and GPA but did find that Ecstasy use was related to spending less time studying.[12]

Tobacco

Little research exists on the link between student smoking and academic performance. One study did find that college student smokers have lower GPA scores than nonsmokers.[13] Another study showed that students whose alcohol or drug use has adversely affected their academics are more likely than other students to use all forms of tobacco.[14]

Risky Sexual Behavior

Alcohol

In 1993, 19.2 percent of college students who used alcohol in the past year reported engaging in alcohol-related unplanned sexual activity; in 2001, 21.3 percent of student drinkers reported doing so.[15] When drunk or high, college students are more likely to report having sex with someone they just met.[16]

A survey of college students found that, as a result of their own drinking during the last school year, 15.1 percent of students had unprotected sex (17.4 percent male, 13.5 percent female).[17]

College students who report getting drunk for the first time before age 13 are twice as likely to engage in alcohol-related unprotected sex as those who report first trying alcohol after age 19.[18]

Illicit Drugs

More than three fourths (78 percent) of college students who have used illicit drugs have had sexual intercourse compared to 44 percent of those who never used drugs.[19] One study found that students who have had five or more sexual partners in the past year are more than four times likelier to report current Ecstasy use than students with no sexual partners.[20]

Legal Offenses

Substance-abusing college students--particularly men--often are violent, commit vandalism and encounter problems with the law.

The average number of alcohol-related arrests per campus increased 21 percent between 2001 and 2005.* In 2005, alcohol-related arrests constituted 83 percent of campus arrests.† Drug arrests declined by two percent between 2001 and 2005.[21] Other involvement with law enforcement related to student alcohol use has increased over the past decade. In 1993, 4.6 percent of students reported getting into trouble with the campus or local police as a result of their alcohol use; in 2001 6.5 percent did so. In 1993, 9.3 percent of college students reported alcohol-related property damage; in 2001 10.7 percent did so.[22]

A national survey of college students found that as a result of their own drinking during the last school year, 6.6 percent of students report being involved in a fight (10.3 percent male vs. 4.3 percent female) and 4.3 percent physically injured another person (7.0 percent male vs. 2.6 percent female).[23]

Students who binge drink have even higher rates of violence and vandalism. One study found that, of binge-drinking students, 13.5 percent have gotten into an alcohol-related fight in a bar (22 percent of men vs. 6.0 percent of women) and 28.9 percent have damaged property (52.8 percent of men vs. 8.2 percent of women). Of binge-drinking students, 19.3 percent have gotten into trouble with campus or local police (28.9 percent of men vs. 10.9 percent of women) and 9.1 percent have been arrested due to drinking or drug use (16.4 percent of men vs. 2.7 percent of women).[24]

Alcohol-Related Student Crime

Luther College sophomore Nick Riedel was charged with four counts of assault and public intoxication for attacking four female students.[25]

A male Oberlin College sophomore who vandalized college property was arrested and charged with disorderly conduct by intoxication, obstruction of official business and resisting arrest. He also was given a summons for underage drinking.[26]

Jonathan R. Duchatellier, a 19-year-old freshman at the College of the Holy Cross got into an altercation with another student, Paolo Liuzzo, that resulted in his death. Reports indicated that the men involved in the fight that led to Mr. Duchatellier's death had been drinking alcohol.[27]

Sexual Assault

In 2001, 97,000 students were victims of alcohol- related sexual assaults or date rape.[28] One survey found that, as a result of their own drinking during the last school year, 1.4 percent of students were forced or threatened by force to have sex (0.8 percent male vs. 1.7 percent female).[29]

CASA's 1999 report, *Dangerous Liaisons: Substance Abuse and Sex,* revealed that in 46 to 75 percent of date-related sexual assaults among college students, the perpetrator, the victim or both had used alcohol.[30]

On days that college women consume alcohol, they are three times likelier to experience sexual aggression than on days when no alcohol is

* Increased arrests may in part be a function of increased enforcement.

† At two- and four-year colleges and universities; arrests, not convictions.

consumed. On days that they consumed heavy* amounts of alcohol, they are nine times likelier to experience sexual aggression.[31]

College women who have been raped report significantly higher levels of binge drinking, drinking and driving, marijuana use, cigarette smoking, and the use of alcohol or drugs before having sex.[32] Rohypnol and GHB, two substances that have received media attention as "date rape" drugs, were shown to be present in less than one percent of rapes for Rohypnol and three percent for GHB, compared to the presence of alcohol in 41 percent of rapes, marijuana in 18 percent, cocaine in eight percent and amphetamines in seven percent.[33]

Driving Under the Influence

In 1993, 26.6 percent of full-time college students† drove under the influence of alcohol; in 2001 29 percent did so.[34] Compared to 22 other countries,‡ college students in the U.S. who drive have the highest rate of drinking and driving (50 percent of male drinkers and 35 percent of female drinkers).[35]

Binge-drinking college students are more likely to drink and drive than those who do not binge drink.[36] Forty percent of binge-drinking college students (52.2 percent of men vs. 30.1 percent of women) report having been pulled over by police on suspicion of driving drunk during the past year.[37] College students who binge drink consider driving after drinking to be less dangerous than college students who do not binge drink.[38]

Despite the fact that college students do not use most illicit drugs at rates higher than their non-enrolled peers, they do drive under the influence of drugs more often (18 percent vs. 14 percent).[39]

Illness, Unintentional Injury and Death

Alcohol

Physical health consequences. Many students suffer from short-term health consequences of alcohol use, including hangovers, nausea and vomiting.[40] Forty-one percent report overdosing on alcohol.§ [41] Heavy alcohol use** in college students is associated with immunological problems and gastrointestinal and upper respiratory conditions.[42] Women who abuse alcohol run the risk of menstrual disorders[43] and even moderate drinking can contribute to infertility in women.[44] Longer-term consequences of heavy drinking include liver disease, stroke, heart disease and certain forms of cancer.[45]

But the health risks for young people who drink are not confined to the distant future. Young people who report current alcohol use give significantly lower ratings of their own general health than do alcohol abstainers or past users and those who engage in frequent alcohol use report having had more overnight hospital stays during the past year than less frequent drinkers.[46]

Mental health consequences. Drinking impairs learning, memory, abstract thinking, problem solving and perceptual motor skills (such as eye-hand coordination).[47] An animal study found that after several days of binge drinking, brain cells could die and the extent of brain damage from episodes of short-term binges is similar to that which occurs after a decade of heavy drinking.[48] The effects of alcohol on mental functioning are more pronounced in teens and young adults than in adults.[49]

Alcohol abuse tends to co-occur with certain mental health conditions, such as eating disorders and mood disorders like depression

* Defined in this study as five or more drinks in the past two weeks.
† Enrolled in four-year colleges and universities.
‡ Including, for example, Columbia, England, France, Germany, Greece, Iceland, Italy, Portugal and Spain.

§ This was a self-report measure and what constitutes an overdose was not specifically defined in this study.
** Defined in this study as consumption of over 28 drinks per week.

and anxiety, particularly among girls and young women. In some circumstances, alcohol abuse precedes these other disorders and in other circumstances, these disorders precede the onset of alcohol abuse or dependence.[50]

Blackouts. Fifty-two percent of students who frequently binge drink report having had blackouts.[52] College women are at higher risk for blacking out because they have a lower physical tolerance for alcohol. One study found that college women who reported experiencing a blackout consumed, on average, 5.1 drinks on a single occasion compared to an average of 9.2 drinks among college men who experienced a blackout.[53]

Students who report experiencing three or more blackouts started drinking at an earlier age, drank more frequently in high school, drank more frequently and heavily in college,* and had more people voice concern about their drinking habits than students who experienced fewer or no blackouts. More than half of students (55.5 percent) who reported having had at least one blackout later discovered that they participated in one or more of the following actions: insulted someone, unintentionally spent money, had an argument or fight, vandalized property, had unprotected or unwanted sex or drove a car.[54]

Injury. Between 1993 and 2001, there has been a 37.6 percent increase in the proportion of college students who got hurt or injured as a result of their alcohol use (9.3 percent vs. 12.8 percent). In 1993, 0.5 percent of students required medical treatment for an alcohol overdose;† in 2001 0.8 percent did so.[55]

More than 30 percent of college binge drinkers have been hurt or injured as a result of drinking.[56] Students who report getting drunk at least once in a typical week (54.4 percent of current drinkers) are at nearly five times the risk of other students of being hurt or injured at least once as a result of their own drinking. These students also are likelier to cause injury to others: nearly twice as likely to cause injury in a car crash, almost three times as likely to cause a burn that requires medical treatment and twice as likely to cause a fall that requires medical treatment.[57]

Death. Drinking is involved in a variety of often-fatal accidents including fires, car crashes, boating accidents and drowning accidents. Alcohol is implicated in up to 50 percent of accidental drowning among teens and adults.[58] In 2001, 1,717 college students died from unintentional alcohol-related injuries--a six percent increase from 1998.[59]

Alcohol poisoning is a serious concern among college students who engage in binge drinking. Alcohol depresses the part of the nervous system that controls breathing which may lead to unconsciousness ("passing out") and the gag reflex which can cause an unconscious person to choke on his or her vomit, leading to death by asphyxiation. Even after a person stops drinking, alcohol continues to enter the bloodstream and circulate throughout the body, increasing the blood alcohol content (BAC) level. Excessive alcohol intake can lead to seizures, hypothermia (low body temperature), slow or irregular breathing, irregular heartbeat and severe dehydration, all of which can result in brain damage and death.[60]

A Burning Issue

A recent study by *USA Today* found that alcohol-related deadly fires are serious problems for college students. Since 2000, 43 fires resulted in college student deaths; in 59 percent of them, at least one of the students who died had been drinking. In 21 of the fatal cases, the median blood alcohol content level of the deceased was 0.12 percent and the highest was 0.304 percent. Most of these fires occur in off-campus housing, which often is older, less well maintained and less well monitored than on-campus housing.[51]

* In the past two weeks.

† This was a self-report measure and what constitutes an overdose was not specifically defined in this study.

College Freshmen at Greatest Risk of Death from Alcohol and Drugs

A recent investigation by USA Today found that freshmen students account for a disproportionate number of college student deaths (35 percent despite comprising only 24 percent of the student population) and, more specifically, of deaths related to alcohol or other drugs. Whereas 11 percent of college student deaths were drug- or alcohol-related between 2000 and 2005, 30 percent of freshmen deaths were drug- or alcohol-related during this time.[61]

Prescription Drugs

Prescription opioids, such as Percocet, Vicodin and OxyContin, which are becoming increasingly popular among college students, can produce drowsiness, cause constipation and depress breathing. Overdose, especially when combined with alcohol, can slow breathing to the point of death.[62]

Ritalin, Adderall and other prescription stimulants, also increasingly abused by college students, can result in irregular heartbeat, high body temperatures and seizure.[63]

College age students are likelier to abuse controlled prescription drugs than any other group.[64] Prescription drugs are involved in almost one in four (23 percent) emergency department (ED) admissions and in an estimated 18 percent of deaths. Between 1994 and 2002, the number of opioid-related ED visits increased by 168 percent. In 2002, prescription opioids were by far the most frequently mentioned prescription drug in all drug-related deaths (17 percent vs. eight percent for tranquilizers and four percent for stimulants). Prescription opioids even surpassed cocaine and heroin as the most frequently mentioned drug involved in multiple-drug-related deaths, the most common type of drug deaths.[65]

Illicit Drugs

Little research exists on the health effects of illicit drug use specifically among college students. General research indicates that marijuana smoke has 50 to 70 percent more cancer-causing chemicals than tobacco smoke, causes respiratory problems, increased heart rate, loss of coordination and can interfere with memory and learning.[66] Heavy use of the hallucinogen LSD may be associated with symptoms of schizophrenia and depression.[67] Cocaine use can cause accelerated heart rate and breathing and, in rare cases, can result in respiratory arrest, seizure and death.[68] Use of Ecstasy, can result in muscle tension, clenching of the teeth, nausea, blurred vision, sweating and chills, and is particularly dangerous for those with circulatory problems or heart disease because it increases heart rate and blood pressure.[69] Inhalant use starves the body of oxygen, causes increased heartbeat, and is associated with headache, nausea, vomiting, loss of coordination and wheezing. Lack of oxygen combined with cardiac arrest may produce sudden death.[70]

Depression, anxiety and personality disturbances in young adulthood are associated with marijuana and other illicit drug use during the teen years.[71]

Tobacco

Physical health consequences. Little research exists on the health effects of tobacco use specifically among college students. However, general research indicates that a smoker does not have to wait until adulthood to experience the negative health consequences of smoking. Compared with non-smokers, young people who smoke are less physically fit and have retarded lung growth and diminished lung function. Young smokers frequently report such symptoms as wheezing, shortness of breath, coughing, and an increase in phlegm production. In general, young smokers have a greater susceptibility to respiratory diseases than nonsmokers. And because they are less

physically fit, they suffer in terms of physical performance and endurance.[72]

Longer-term health consequences of smoking include dental problems (halitosis, tooth discoloration, and tooth loss), respiratory disease (persistent coughing, wheezing, breathlessness, asthma, chronic bronchitis and emphysema), heart disease and cancer.[73]

Females are more vulnerable than males to a variety of health-related effects of tobacco use.[74] Females experience higher rates of nicotine dependence at the same level of use, become dependent more quickly and find it more difficult to quit than males.[75] Nearly 40 percent of teenage girls who use oral contraceptives also smoke cigarettes,[76] putting them at increased risk of heart disease and stroke.[77] Cigarette smoking also may affect menstrual function, increasing the risks for dysmenorrhea (painful menstruation) and menstrual irregularity.[78]

Mental health consequences. Young smokers are three times more likely to have consulted a doctor or mental health professional because of emotional or psychological problems[79] and almost twice as likely as nonsmokers to develop symptoms of depression.[80] In addition to depression, frequent smoking is related to an increased risk of panic attacks and panic disorder in young adults.[81]

Suicide

While data on recent trends in college student suicide rates are not available, between 1988 and 2001, the number of students reporting suicidal thoughts tripled.[82] Although suicide is less common among college students than among their non-enrolled peers,[83] suicide is the third leading cause of death among people ages 15 to 24[84] and the second leading cause of death[*] among college students.[85]

CASA's national survey of college students revealed that 14 percent of students report knowing of instances of suicide in the past year among the students at their school and 20 percent are aware of suicide attempts.

College students who report having seriously considered attempting suicide in the past year are likelier than other students to engage in binge drinking (41.9 percent vs. 39.6 percent) or current marijuana use (23.2 percent vs. 16.1 percent), other illicit drug use (6.7 percent vs. 2.8 percent) and smoking (31.9 percent vs. 19.9 percent) even after taking into consideration age, gender and race.[86]

A study of substance-dependent adolescents who had attempted suicide revealed that 74 percent of them were under the influence of alcohol or illicit drugs at the time of their attempt and 64 percent had tried to kill themselves by means of an overdose of prescription drugs.[87] Although there is little research on the relationship between substance abuse and completed suicides in college students, one older study found that, of students who committed suicide, 56 percent were under the influence of alcohol or drugs during the act; for suicide attempters who did not die, the figure was 35 percent. The study also found that 65 percent of college students who commit suicide and 43 percent of college students who attempt suicide have a diagnosable substance use disorder.[88]

Substance Use Disorders

Almost one in four (22.9 percent, or approximately 1.8 million) full-time college students meet diagnostic criteria[†] for alcohol and/or drug abuse (12.3 percent for alcohol abuse, 2.5 percent for drug abuse) or alcohol and/or drug dependence (7.7 percent for alcohol dependence, 4.7 percent for drug dependence) in the past year. This is compared to less than one in 10 (8.5 percent) in the general population[‡] who meet the DSM-IV diagnostic criteria for alcohol and/or drug abuse or dependence. Half (51.1 percent, or approximately four million) of

[*] Accidents are the leading cause of death among college students.

[†] According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). See description of diagnostic criteria in Chapter 2.

[‡] Individuals ages 12 and older in the *National Survey on Drug Use and Health* (NSDUH) sample.

all full-time college students have engaged in binge drinking, used illicit drugs or met the diagnostic criteria for clinical dependence on nicotine in the past month. This is compared to one third (32.8 percent) of the general population that has engaged in binge drinking, used illicit drugs or met the criteria for dependence on nicotine in the past month.[89] Only 6.2 percent of students who meet medical criteria for alcohol or drug abuse or dependence seek help.

Alcohol

CASA's analysis of data from the *National Survey on Drug Use and Health* (NSDUH) indicate that 20.0 percent (approximately 1.6 million) of full-time college students meet diagnostic criteria for alcohol abuse (12.3 percent) or dependence (7.7 percent) in the past year compared to 7.2 percent of individuals ages 12 and older in the general population (4.1 percent meet criteria for alcohol abuse and 3.1 percent meet criteria for alcohol dependence).[90]

A 1999 national survey of college students found that more than two in five (44.1 percent) students reported at least one symptom of alcohol abuse or dependence. Only 5.7 percent of students who meet medical criteria for alcohol abuse or dependence seek help for their alcohol-related problems. Low figures for help seeking are perhaps a function of student self-perceptions: only four percent of students diagnosed with alcohol abuse and 25 percent of those diagnosed with alcohol dependence describe themselves as heavy drinkers.[91]

College students who are alcohol dependent are at increased risk of developing comorbid mood and anxiety disorders.[92] Extensive research shows that people who initiate regular drinking before age 15 are four times likelier to become alcohol dependent than those who start regular drinking at age 21 or older.[93] Almost all (96.8 percent) adults who abuse or are dependent on alcohol began drinking before age 21.[94]

Illicit Drugs[*]

More than five percent (5.4 percent, or approximately 420,000) of full time college students report symptoms consistent with marijuana abuse or dependence, compared to only 1.5 percent of individuals ages 12 and older in the general population.[95]

Tobacco

Approximately eight percent (8.3 percent) of full-time college students meet diagnostic criteria for past-30-day nicotine dependence compared to 14.7 percent in the general population. One study found that 11 percent of college students meet clinical criteria for tobacco dependence and seven percent meet criteria both for alcohol abuse and/or dependence and for tobacco dependence.[† 96]

Nicotine affects the same brain mechanisms as other drugs of abuse by increasing brain levels of the neurotransmitter dopamine, producing nicotine-induced feelings of pleasure and reward and, over time, leading to addiction and vulnerability to withdrawal symptoms.[97] Even a brief exposure to low levels of nicotine can cause lasting changes in the brain's reward areas, amplifying the pleasing effects and boosting the desire to repeat the exposure.[98] When a person quits smoking, the presence of pleasure-inducing brain chemicals is reduced, altering mood and creating symptoms of withdrawal.[99] Indeed, physical addiction to nicotine is the main barrier to smoking cessation for both women and men.[100]

Risks Associated with Poly-Substance Use

Use of multiple substances increases the risk of negative consequences. Binge drinkers who also

[*] The number of college students meeting diagnostic criteria for abuse or dependence on illicit drugs other than marijuana or for prescription drug abuse or dependence in the NSDUH is too low to provide any meaningful comparisons with the general population .
[†] Based on the Diagnostic Interview Schedule.

use drugs are twice as likely as those who only binge drink to drive drunk, ride with a drunk driver or get into an accident. They also are more likely to get hurt or injured, have unprotected sex, have damaged property and be in substance-related trouble with the law.[101] Students who drink and use marijuana are 3.6 times likelier to experience violence and 4.7 times likelier to experience sexual violence compared to increased risk rates of about double for students who use alcohol alone. The risk of experiencing negative consequences is particularly acute for those who use other illicit drugs in addition to alcohol and marijuana: they are four times likelier than students who only use alcohol to be injured and almost seven times likelier than students who do not use any substances to experience sexual violence.[102]

Demographic Differences in Consequences

Gender Differences

CASA's recent book, *Women under the Influence,* published by The Johns Hopkins University Press, reveals that women are more susceptible to many of the health risks associated with substance use than are men. For example, women metabolize alcohol less efficiently than men, and in part because of the higher fat and lower water contents in most women's bodies, they experience higher alcohol concentration and greater impairment than men after the consumption of identical amounts of alcohol. Women may develop alcohol-related problems more quickly than men and are more susceptible to a variety of alcohol-related diseases including liver disease, cardiac disease and hypertension. Women appear to be more susceptible to cocaine dependence than men and more susceptible to brain damage as a result of heavy Ecstasy use. And women are almost twice as likely as men to become addicted to sedatives and tranquilizers, controlled prescription drugs.[103]

College men are likelier than college women to experience a variety of alcohol-related problems, such as getting into physical fights, being arrested for driving while under the influence of alcohol, being in a car crash and having academic problems including missed class and suspension.[104]

A 2005 survey of college students found that, as a result of their own drinking during the last school year, 18.5 percent of students were physically injured (20.6 percent male vs. 17.1 percent females) and 4.3 percent physically injured another person (7.0 percent male vs. 2.6 percent female).[105]

Age Differences

Although underage students are less likely to drink and drive than those over 21, they experience almost all other alcohol-related consequences at higher levels.[106]

Race and Ethnicity

Consistent with lower rates of substance use, black students nationwide report fewer negative consequences of alcohol and other drug abuse than their white counterparts. Students at HBCUs of all races also report fewer consequences than student at other schools. (See Table 3.1)

White students, regardless of institution type, are twice as likely as black students to report poor academic performance (24.5 percent vs. 12.9 percent), three times likelier to report thinking that they might have a substance use problem (13.1 percent vs. 4.6 percent) and almost twice as likely to report missing classes (32.3 percent vs. 17.3 percent) as a result of alcohol or drug use.[107]

Students at non-HBCUs--regardless of race--are likelier than those at HBCUs to report having a hangover (58.2 percent vs. 38.5 percent), experiencing trouble with the authorities (10.6 percent vs. 4.5 percent) and to miss a class (26.1 percent vs. 14.8 percent) as a result of substance use.[108] (See Table 3.2)

Table 3.1

Past Year Consequences of Alcohol Abuse for Black and White College Students Nationwide (percent)

	Black	White
Hangover	40.0	65.8
Nausea and vomiting	30.7	53.1
Later regretted actions	20.4	20.7
Criticized for using	18.1	30.6
Missed classes	17.3	32.3
Drove under the influence	17.0	21.1
Poor academic performance	12.9	24.5
Arguments and fights	12.7	35.9
Memory loss (blackouts)	11.7	30.6
Sexual misconduct	8.8	15.9
Physically injured	7.0	17.4
Trouble with authorities	5.7	14.6
Thought had a problem	4.6	13.1
Tried but failed to stop	3.8	6.2
Suicidal thoughts or actions	3.1	5.7
Vandalism	2.5	8.7
DUI/DWI arrest	0.7	1.7

Source: Meilman, P. W., Presley, C. A., & Cashin, J. R. (1995).

Table 3.2

Past Year Consequences of Substance Abuse for Students at HBCUs vs. Non-HBCUs (percent)

	HBCUs	Non-HBCUs
Hangover	38.5	58.2
Nausea and vomiting	29.3	45.2
Drove under the influence	20.3	33.1
Later regretted actions	18.7	35.4
Criticized for using	17.5	26.3
Arguments and fights	16.2	29.0
Missed classes	14.8	26.1
Poor academic performance	11.8	19.3
Memory loss (blackouts)	11.1	25.3
Sexually victimized	6.6	11.3
Physically injured	6.1	13.7
Thought had a problem	5.3	9.3
Sexual misconduct	4.5	5.2
Trouble with authorities	4.5	10.6
Tried but failed to stop	3.8	4.2
Suicidal thoughts	3.3	4.1
Vandalism	3.0	7.0
Suicide attempts	1.3	1.2
DWI/DUI arrest	1.0	0.9

Source: Meilman, P. W., Presley, C. A., & Cashin, J. R. (1995).

Collateral Damage: Costs of Substance Use to Other Students and the Surrounding Community

The most common secondary effects of college drinking are property damage and vandalism (both on and off campus), fights, sexual violence and disruption to other students' quality of life. Financial costs include damage to campus property (in dorms, stadiums, etc.), increase in security staff and counselors, lost tuition from dropouts and failures and legal costs of suits against the college for liability. Other costs may include strained ties between the college and the surrounding community and a diminished reputation for academic standing.[109]

In 2001, 696,000 students were assaulted by a student who had been drinking.[110] Students who do not binge drink experience many adverse consequences from their binge-drinking peers: 60 percent had their studying or sleep disrupted; 29.2 percent report having been insulted or humiliated; 19.5 percent experienced an unwanted sexual advance (up from 16.5 percent in 1993); 19 percent had a serious argument or quarrel; 15.2 percent had their property damaged; and 8.7 percent had been pushed, hit or assaulted.[111]

Other research finds that even students who do not binge drink are more likely to have been assaulted, and to have experienced property damage, disturbed studying or sleeping and unwanted sexual advances if they attend schools where binge drinking is common.[112] Even binge-drinking students themselves experience negative consequences from their peers' binge drinking. Fifty percent of students who report having experienced secondary consequences of peer drinking also have experienced negative consequences due to their own drinking.[113]

Communities surrounding college campuses often are affected adversely by student drinking. Residents living within a mile of college

campuses report more incidences of underage drinking, public drunkenness, drug use, crime, vandalism and loitering than those living more than a mile away. They also are more likely to report the presence of an alcohol outlet such as a bar or liquor store within a mile of their home. Residents living within a mile of high binge-drinking schools* report more instances of litter and noise disturbances than do those living within a mile of low binge-drinking schools.[114]

Any exposure to environmental tobacco smoke (secondhand smoke) poses a significant risk to the public health. Nonsmokers exposed to secondhand smoke are at a 25 to 30 percent increased risk of developing heart disease and at a 20 to 30 percent increased risk of developing lung cancer. Even brief exposure to tobacco smoke poses a health risk to nonsmokers.[115]

Legal Liability to Colleges

Schools increasingly are being held legally (and thus financially) responsible for the adverse consequences associated with student drinking and other drug use, including substance-related property damage, injury to other students, accidental deaths and suicide.[116]
(See Chapter VII)

Consequences Beyond the College Years

Heavy drinking during college is associated with heavy drinking, symptoms of dependence and clinically diagnosed alcohol use disorders seven years after graduation.[117] Individuals who were frequent binge drinkers in college are at higher risk of meeting diagnostic criteria for alcohol dependence 10 years after college, having lower educational attainment (e.g., having dropped out of college) and working in less prestigious occupations than individuals who were not high-risk drinkers in college.[118] However, one longitudinal study found that those involved in the Greek system reported no more alcohol use than their non-Greek peers three years after graduation.[119]

Alcohol-related convictions can jeopardize a student's professional ambitions. Examples include carrying or manufacturing a false I.D., driving under the influence of alcohol and providing alcohol to minors. Examples of occupations that may be denied to those with such convictions--many to which students aspire--include accountant, architect, dentist, engineer, police officer, attorney, physician, pharmacist, psychologist and teacher.[120]

Some professional and graduate schools conduct criminal background checks that can bar college students from entering a desired profession. Several medical schools, including Ohio State University, Duke University School of Medicine and the University of Minnesota Medical School, have begun to conduct criminal background checks on incoming students and may deny admission to those with a conviction. The ramifications of student alcohol or drug violations can extend beyond graduate school as well. Nearly one half of the states in the U.S. requires background checks or are considering legislation to require them for physicians applying for licensure.[121]

* Defined in this study of 116 schools as the 30 schools with the highest rates of binge drinking, while low binge drinking schools were defined as the 30 schools with the lowest rates of binge drinking.

Chapter IV
The Recipe for College Student Substance Abuse

Much research over the last decade has identified the ingredients in a student's life that increase their risk of substance abuse--the more ingredients, the greater the risk. For example, some college students have inherited a genetic or biological propensity. Others are modeling the behaviors of parents or peers. Some use substances to reduce sexual inhibitions, control their weight or improve athletic performance. Still others are trying to self-medicate negative moods, feelings or psychiatric problems. And some students are turning to controlled prescription drugs in an attempt to improve academic performance.

For many students, their college environment makes use and abuse of alcohol, tobacco and other drugs seem normal or even encourages it. Colleges and universities may contribute to student substance use through lax enforcement of the schools' substance-use control policies, permitting easy access to alcohol and other drugs or offering limited prevention and intervention services. The alcohol and tobacco industries, including local retailers, contribute to the problem by enticing students with advertising, promotions and sponsorships that prey on young people's desires to fit in, relax inhibitions and reduce stress. Community leaders may contribute by turning a blind eye to underage drinking and other alcohol- and drug-related violations, or failing to enforce the law or to take some responsibility for providing appropriate intervention services. And many parents wash their hands of their responsibility to help protect their college-age children from substance use and abuse and their consequences.

The heartening news is that substance use and abuse can be prevented and treated, and the harmful consequences can be stemmed. Parents can model healthy behavior and continue to play an active role in their children's lives once they enter college. Young people can be educated to take responsibility for their behavior and to be aware of the increased risks they face if they

come from families where addiction is present. Parents, schools and healthcare providers can do a better job of identifying and intervening with students suffering from mental health problems that exacerbate substance use risk. Colleges and universities with the help of community leaders can change the culture on campus and the surrounding community from one in which substance abuse is abided or even winked at to one that provides students with clear and consistent messages that substance abuse will not be tolerated. They also can make clear to students that help is available to those who need it, identify students at high risk and intervene appropriately.

Genetics and Family History

Genetics plays a significant role in the vulnerability to and development of addiction and can be manifested in various ways, from one's tolerance for alcohol or other drugs to one's ability to recover successfully from an alcohol or other drug addiction.

Twin and adoption studies[*] confirm a genetic role in the transmission of alcohol, tobacco and other drug use behaviors from parent to child.[1] Whereas factors in a child or young adult's environment appear to play a larger role in whether an individual starts to drink, smoke or use other drugs, genetic factors are more influential in determining who progresses to problem use or abuse.[2]

Studies on genetic and family history influences on college student substance use have focused almost exclusively on alcohol. Recent research has turned up a specific genetic basis for the risk of binge drinking in college students. A particular short variant of the serotonin transporter gene[†] has been implicated in students who consume more alcohol per occasion, are likelier to drink for the purpose of getting drunk and are likelier to binge drink. Those with the long gene variant may go out to drink as often as other students, but tend to have fewer drinks per occasion. For those college students who drink and have the short variant of the gene, researchers hypothesize a link between anxiety--a trait with which the serotonin transporter gene has been associated--and binge drinking to cope with anxiety.[3]

A more recent study of college students found that students with a particular genetic profile[‡] are protected to some extent from developing alcohol use disorders. These students drink less, but are likelier to experience alcohol-induced headaches and more severe hangovers than those without this particular genetic profile.[4]

Whereas in the general population children who come from families where addiction is present are likelier to experience problems themselves, these findings are less clear when it comes to college students. One national study of college students found that approximately 10 percent reported having a parent with a drinking problem; 23 percent of those students met diagnostic criteria for alcohol abuse.[5] The association between students' substance use and abuse and their family history of substance abuse, however, is not very clear. Whereas several studies find a link between parental alcoholism and students' problem drinking,[6] other research does not find this relationship.[7]

[*] These studies help differentiate between the roles of genetics vs. environment in the propensity to develop a substance use disorder. Studies of adopted children allow researchers to compare the adopted child both to her biological parents with whom she shares genetic features but no environmental experiences and to her adopted parents with whom she shares environmental experiences but no genetic features. Studies of identical (monozygotic) and fraternal (dizygotic) twins allow researchers to isolate genetic similarities from environmental similarities. Identical twins are genetically identical and fraternal twins share an average of 50 percent of their genes, but both types of twins typically experience a shared environment if reared together.

[†] Every person inherits two serotonin transporter genes. They may inherit two short versions, a short and a long version or two long versions. Those with two short versions are at highest risk, followed by those with a short and a long version. Those with two long versions are most protected.

[‡] Those with an ADH1B*2 allele.

Explanations for the inconsistencies in the research findings include methodological differences in measuring a positive family history of alcohol abuse or alcoholism, as well as the notion that only the more resilient students with a positive family history of substance abuse will end up going to college, thereby excluding from the research children of substance abusers who are at the greatest risk for substance abuse.[8]

Another explanation for the inconsistent findings may be that some students with a family history of substance abuse are able to break the pattern of addiction and refrain from drinking whereas others end up following in their parents' footsteps. One national study of college students found that children of problem drinkers were 17 percent likelier than other students to engage in binge drinking. On the other hand, some children of problem drinkers, most of whom used alcohol in their lifetime, were likelier than other students to report abstaining from alcohol during the past year.[9]

Parental Attitudes and Behavior

Research consistently demonstrates that parents hold one of the most important keys to children's decisions of whether or not to drink, smoke or use other drugs.[10] Parents who abuse alcohol, smoke or use other drugs, or who demonstrate permissive attitudes about substance use put their children of all ages at risk for similar behavior.[11]

The influence of parents even extends to older teenagers and young adults in college. Contrary to what most parents believe, CASA's survey of college students found that 70 percent say that their parents' concerns or expectations either somewhat (30 percent) or very much (40 percent) influence whether or how much they drink, smoke or use other drugs. In fact, those students who say they are more influenced by their parents' concerns or expectations drink, binge drink, use marijuana and smoke significantly less than those less influenced by their parents.

Parents consistently underestimate the extent to which their college children drink, smoke or use other drugs and, therefore, many fail to intervene to help prevent or limit their children's substance use.[12] Children tend to model or imitate parental behavior when it comes to substance use, especially if they have a close relationship.[13]

> Students in CASA's focus groups expressed that it is important for parents to establish open lines of communication with their children throughout their childhood and keep those lines open while they are in college. Students also said that parents who are too strict and overbearing in high school will have children who will go wild in college.

Students' behavior also is strongly linked to parents' expectations. One study found that only one-third (35 percent) of students who binge drink in college had parents who disapproved of drinking while they were growing up compared to two-fifths (43 percent) of students who do not binge drink in college.[14] First year college students who perceive greater parental approval for their drinking are more likely to report at least one drinking problem such as memory loss, missing work or school and regrettable sexual situations. The perception of mother's approval is more strongly related to problem drinking than the perception of father's approval.[15]

> One student in CASA's focus group said that his parents encouraged him to get a fake I.D. so that he could go out drinking with them.

There was a 34.5 percent increase between 1993 and 2001 in the number of underage students who report acquiring alcohol from parents or relatives (16.8 percent vs. 22.6 percent). This is in contrast to significant decreases between 1993 and 2001 in other reported sources of alcohol for underage students, including getting it from students who are over the legal drinking age (81.7 percent vs. 71.6 percent), getting it from other underage students (50.6 percent vs. 42.2 percent), using false identification (17.8 percent

in 2001) and obtaining alcohol from a stranger of legal drinking age (6.9 percent in 2001).[*] [16]

> Some parents participating in CASA's focus group seemed fatalistic and resigned when asked how much control they thought they have over their children's drug-use decisions and behavior once in college; others suggested that parents might have more influence than they think. One father commented that parents have financial control and the ability to cut off tuition for children who engage in substance use. A mother felt as if she had little control, saying that she can give her son warnings about overindulging, but cannot be sure that he is paying attention. Yet, she hopes that hers is "the little voice he hears" when he is with his friends making decisions about substance use. *Parents agreed with students that constant parent-child communication was the only way to keep up with and influence students' substance use decisions.*

Substance Use in High School

Students who use and abuse substances while in college were likely to have done so while in high school as well.[17] In fact, most students initiate substance use well before getting to college.

In CASA's study, *The Formative Years: Pathways to Substance Abuse Among Girls and Young Women Ages 8-22*, the largest increase in alcohol use, illicit drug use and cigarette smoking among girls occurred with the transition from high school to college.[18]

One study found that only 13 percent of college students who use alcohol began drinking after the age of 18 (i.e., after entering college).[19] Those who drank at least once a month during their final year in high school are three times likelier than those who did not to binge drink in college.[20]

High school students who go to college generally drink less in high school than those who do not go to college. Once they graduate from high school, however, the rate of college student drinking surpasses the rate of drinking in non-college students of the same age, suggesting a steep increase in use among college freshmen.[21] CASA's survey of college students found that 64 percent said they drink more in college than they did in high school (19 percent drink about the same amount and 16 percent drink less).

Male freshmen who binge drank in high school and who are assigned a roommate who also binge drank in high school average almost four times the binge drinking episodes per month as those assigned a roommate who did not binge drink in high school. Having a roommate who binge drank in high school, however, has no effect on the binge drinking of students who did not binge drink while in high school.[22]

College students who first had the experience of being drunk before age 19 are likelier than those who first got drunk at age 19 or older to be alcohol dependent and to report driving after any drinking, driving after binge drinking, riding with a driver who was high or drunk and sustaining alcohol-related injuries that required medical attention.[23]

CASA's survey of college students found that students were slightly likelier to say they use less marijuana in college compared to high school (40 percent said they use less marijuana, 24 percent use about the same amount and 35 percent use more). Another study found that marijuana use decreases over the transition to college, with fewer college freshmen using marijuana during late fall of their freshmen year than they did during their senior year of high school. However, high school use and college use are still highly related and only eight percent of college marijuana users began their use in college.[24]

Even fewer college students who use cocaine began using in college (two percent).[25] College students who used Ecstasy in high school are more than seven times likelier to report current

[*] Specific 1993 data on the percentage of students using false identification or obtaining alcohol from a stranger of legal drinking age are not provided in the cited article; however, it is noted that the 2001 rates are significantly lower than the 1993 rates.

use of Ecstasy compared to students who did not use Ecstasy in high school.[26]

CASA's survey of college students found that 44 percent said that they smoke more in college than they did in high school (28 percent smoke about the same amount and 27 percent smoke less).

Expectations of Positive Effect

College students report drinking, using other drugs and smoking to achieve specific desired effects. Some students hope to enhance their recreational or social experiences, for example, by reducing social or sexual inhibitions. Others use substances to control weight, reduce stress, negative moods, anxiety or depression or enhance their self-image and feelings of self-worth.[27] Still others abuse prescription stimulants, such as Adderall and Ritalin, as study and performance aids because they believe these drugs will enhance concentration and increase alertness.[28]

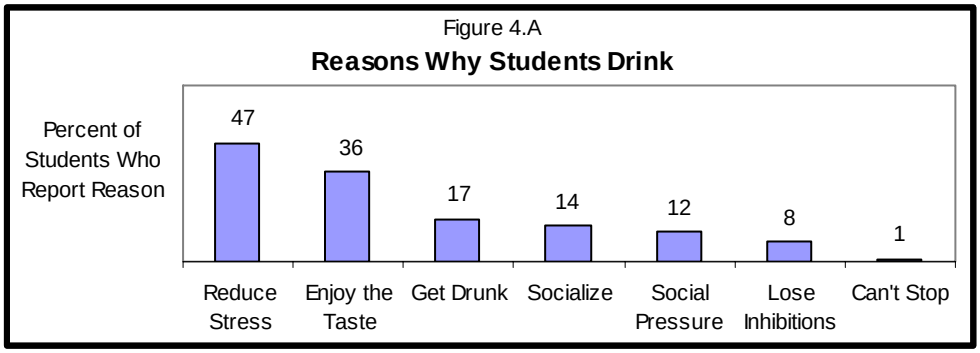
Some students continue to use and abuse these substances, despite knowledge of their danger and adverse effects, because they perceive the short-term benefits to outweigh the short- and long-term costs. For example, students who abuse alcohol typically expect to attain more positive effects (such as feeling relaxed, cool or better about themselves, forgetting school problems, fitting in or being more relaxed about sex) than negative effects (such as having a hangover, missing class, getting behind in school, having unplanned sex, getting in trouble with the police, injuring one's self or overdosing).[29] Other students, however, persist in using dangerous substances simply because they have become addicted to them and cannot stop.

Alcohol

The personal expectations students hold about what alcohol will do play an important role in whether they will drink, and if so, how much and how often.[30] Students who drink are significantly likelier than those who do not drink to have positive expectations for the effects of alcohol, including tension reduction and increased social comfort.[31] Many students believe that drinking helps them fit in when attending social functions; it is seen as a major stress-reliever and as a way to "break the ice" when meeting new people.[32]

CASA's survey of college students found that the most common reason given by student drinkers to explain why they use alcohol is that they do so to relax, reduce stress or forget about problems (47 percent). Other key reasons provided by students were because they enjoyed the taste of alcohol (36 percent), to get drunk (17 percent) and to socialize (14 percent). (Figure 4.A)

Figure 4.A



Although positive alcohol expectations are a distinct risk factor for heavy drinking in all college students, fewer African American college students than white students believe that alcohol consumption yields positive effects,[33] contributing to their overall lower risk of heavy alcohol use. In contrast, students affiliated with the Greek system have more positive alcohol expectations than non-Greeks, such as believing that alcohol helps in social situations and facilitates stress reduction and sexual opportunity.[34]

Problem drinkers are more likely than non-problem drinkers to believe that alcohol will create an overall positive feeling, make them more aggressive, enhance sexual activity, increase sociability and reduce tension.[35] One study found that freshman students who drink in

intimate settings often have stronger expectations about the sex-enhancing effects of alcohol than other students and are likelier to engage in risky sexual behaviors.[36]

Students who use alcohol to cope with problems not only are more likely to abuse it, but also may be less likely to "grow out" of alcohol use once free from the drinking atmosphere of college.[37] Students who use alcohol for coping reasons also drink up to twice as much as those who do not drink to cope and experience significantly more negative alcohol-related consequences such as unplanned sexual activity, trouble with the law and injury.[38]

Students who choose not to drink tend to think that alcohol is not a legitimate means of having fun or controlling emotions and often disapprove of alcohol use. Some students who do not drink much draw on past negative experiences with alcohol, particularly those experiences in which they felt a loss of control. Other students abstain for health reasons and these students also tend to be less impulsive and to value self-control and self-discipline.[39]

Prescription Drugs

Some students use controlled prescription drugs without a doctor's order because they believe such use will enhance their well-being or performance; they do not perceive such misuse as abuse.[40] Many students perceive the misuse of prescription drugs to be safer and more socially acceptable than other forms of drug use.[41]

Students who report having used prescription opioids in their lifetime without a valid prescription report doing so to relieve pain (63.0 percent), to get high (31.9 percent), to experiment (26.8 percent) or as a sleep aid (13.7 percent). College men are likelier than college women to report using these drugs to get high or to experiment.[42]

Students abuse prescription stimulants to help them concentrate (65.2 percent), study (59.8 percent), increase alertness (47.5 percent), get high (31.0 percent) and to experiment (29.9 percent).[43]

Students who abuse prescription stimulants tend to focus on the perceived positive social and academic effects of the drugs. They feel they are able to accomplish more because they can be involved in many activities, socialize and still stay up all night to complete their schoolwork.[44] Those who abuse these drugs to keep up with the rigorous academic and time demands of college tend to believe that using the drugs for these purposes is more socially acceptable than using them to party or get high.[45] Some students think that it is "cool" to use these drugs[46] while others think of prescription stimulants as the "new caffeine," in terms of their ubiquity, popularity and growing acceptability as a study aid.[47]

Students who provide prescription stimulants to other students are seen more as trying to help their peers excel in school than as drug dealers. A common notion among stimulant abusers is that if they do not take advantage of the medication like everyone else, they will fall behind their peers academically. Those who do not abuse these drugs often feel that it is unfair that their colleagues are gaining an academic advantage essentially by cheating.[48]

> *You need to study and you have a huge test tomorrow and a paper to write. It's 10:00-- "Okay. Adderall, we're good, I can write this paper and I'm going to stay an achieving student." So there comes a point when… you're dedicated enough to enough things, but you run out of hours in a day and so that becomes something that you turn to. I even know some people who occasionally use coke to give them enough energy to continue pushing themselves to four in the morning to work on a project.*
>
> --Male Student, Chicago
> CASA Focus Groups

Research is not available on the motivations and expectations of college students who abuse prescription tranquilizers and sedatives.

CASA's focus groups with students revealed that students use marijuana for stress relief and socializing. Students reported that cocaine typically is used at parties and by students who are very "stressed-out." One participant noted that cocaine use had to do with self–esteem: "I think it has lots to do with not being comfortable in your own skin." Participants also reported that some students use cocaine to help manage their weight.

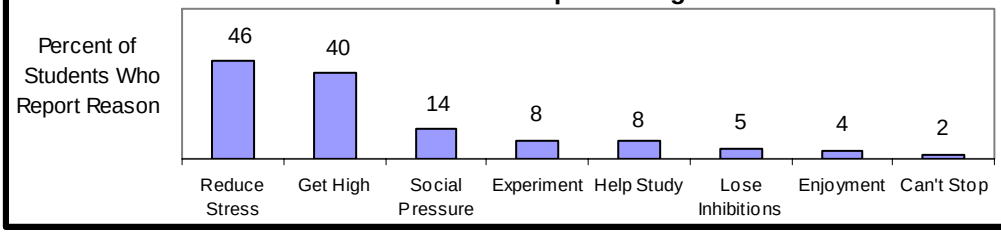
--CASA's focus groups with college students

Illicit Drugs

CASA's survey of college students found that the most common reason given by drug users* to explain why they use drugs is to relax, reduce stress or forget about problems (46 percent) or to get high (40 percent). Social pressure was the next most common response, with 14 percent of students who use drugs saying they do so to fit in or because of social pressure. (Figure 4.B)

Figure 4.B

Reasons Why Students Use Illicit or Controlled Prescription Drugs



Tobacco

CASA's survey of college students found that the most common reason given by student smokers to explain why they smoke is that they do so to relax or reduce stress (38 percent). Other key reasons provided by students were to fit in/social pressure (16 percent) and because they cannot stop/are addicted (12 percent).† (Figure 4.C)

Other studies confirm that many students smoke because they feel more accepted by their peers if they do so.[49] Three percent of students in CASA's survey reported smoking to control their appetite. Yet other research shows that weight control is an important motivator for smoking among young people. For many students, fear of weight gain is a barrier to quitting and weight gain is a common reason for smoking relapse among those who quit.[50]

Qualitative research shows that smoking among women is viewed in a negative light both among male and female college students. Some students described smoking among females as "trashy," "slutty," "unladylike," "uncontrolled" and "a big turn off." In contrast, male smokers are seen in a more positive light. Students described male smokers as "masculine or manly," "cool," "relaxed" and "in control." Despite the negative perceptions of female smoking, some college women smoke, particularly at parties, to change their image--e.g., to appear less uptight and more fun, intriguing and outgoing; a cigarette essentially serves as a prop.[51] Lighter smokers compared to heavier smokers‡ tend to smoke more when around other smokers and when they are around alcohol.[52]

Mental Health Problems

Students who are highly stressed, anxious or depressed or have other mental health problems are at higher risk of abusing alcohol, abusing prescription drugs, using illicit drugs and smoking. Clinical mental health disorders such as depression, which tend to emerge in late adolescence and young adulthood (the college

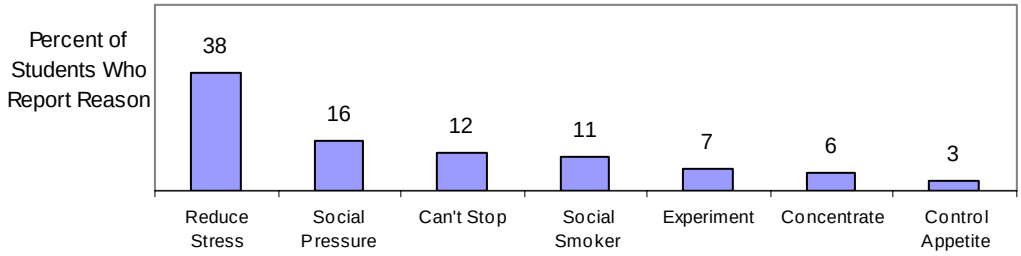
* CASA's survey of college students did not distinguish between illicit and controlled prescription drugs for this question.

† Students were able to provide multiple responses for why they engage in each type of substance use.

‡ Lighter smokers are defined in the study as smoking an average of two to eight cigarettes a day and heavier smokers are those who smoke more than 10 cigarettes a day.

years),[53] are strongly linked to substance use, as are sub-clinical symptoms of these disorders.

Figure 4.C
Reasons Why Students Smoke

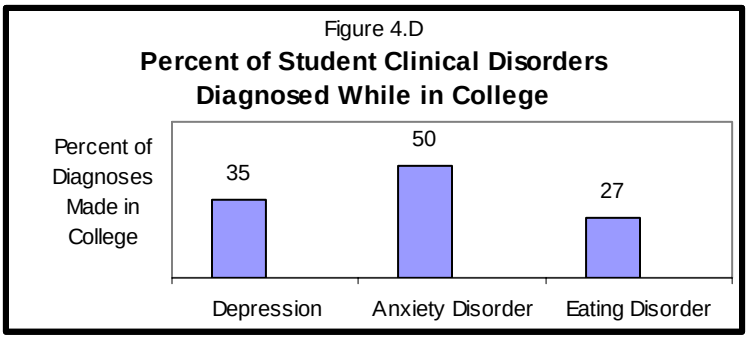


According to CASA's national survey of college students, 42 percent of students perceive depression to be a moderate (37 percent) or very big (five percent) problem on their campus; just one-third say that it is somewhat (29 percent) or very common (four percent) for students at their school to seek professional counseling for symptoms of depression.

Prevalence of Mental Health Problems

CASA's national survey of college students found that 12 percent have been diagnosed with depression. One-third of these (35 percent) were diagnosed while in college. Fewer (six percent) had been diagnosed with an anxiety disorder such as panic disorder or generalized anxiety disorder, but 50 percent of these were diagnosed while in college. While only two percent had been diagnosed with an eating disorder, 27 percent of these were diagnosed while in college.[*] (Figure 4.D)

Figure 4.D
Percent of Student Clinical Disorders Diagnosed While in College



Six percent of students report currently being in treatment or therapy for a psychological or emotional problem and seven percent report that they are currently taking prescribed medications for their psychological or emotional problem.

[*] Categories are not mutually exclusive.

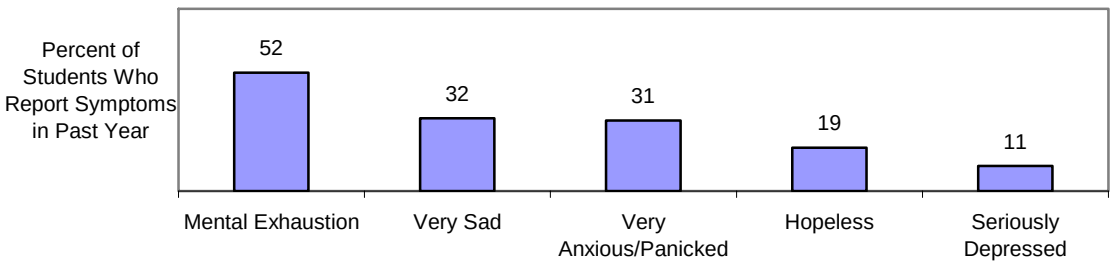
Many students suffer from sub-clinical levels of depression, anxiety and other mental health problems. CASA's national survey of college students found that in the past year, 52 percent of students frequently (17 percent) or occasionally (35 percent) felt mentally exhausted; 32 percent frequently (seven percent) or occasionally (25 percent) felt "very sad"; 31 percent frequently (seven percent) or occasionally (24 percent) felt very anxious or panicked; 19 percent frequently (five percent) or occasionally (14 percent) felt "that things were hopeless"; and 11 percent frequently (three percent) or occasionally (eight percent) felt "so depressed that it was difficult to function." (Figure 4.E)

In recent years, there has been a sharp increase in the number of students in need of services for mental health and associated substance use problems. A study conducted at Kansas State University found that the proportion of students who utilized counseling services because of depression increased 20 percent from 1988-1992 to 1996-2001.[54] Another study found a 42 percent increase in the number of students seen at school counseling centers between 1992 and 2002.[55]

A 2005 survey of college and university counseling center directors found that nine percent of students attending schools that participated in the survey sought counseling in that year and 17.1 percent of students attending the counseling center were referred for psychiatric evaluation (up from 12 percent in 2004). The survey also found that 25.1 percent

Figure 4.E

Students Reporting Symptoms of Depression and Anxiety



of the students seeking counseling were on psychiatric medication, a substantial increase from previous years (20 percent in 2003; 17 percent in 2000; and nine percent in 1994). A vast majority (90.3 percent) of counseling center directors reported an increase in the number of students with severe psychological problems.[*] [56]

Although few data exist to explain this perceived rise in mental health problems among college students, some have speculated that several factors may be responsible:

- Greater availability of antidepressant medication that can control symptoms and allow students to attend college who otherwise may not have been able to do so;
- The lesser stigma attached to mental illness and psychoactive medication use that may allow more students to seek psychological services once at school;
- The likelihood that students who were under the care of a mental health professional prior to attending college will have that care interrupted or discontinued once in college;
- Students ceasing their antidepressant medication use upon entering college, either because they assume that once they leave home they will be less depressed, because they do not want to have the stigma of being on medication or to be able to drink alcohol or use illicit drugs instead;
- Students using alcohol or sedating illicit drugs while taking antidepressant medications, thereby inadvertently accentuating the depressant effects;
- Increased academic pressure, competitiveness and greater sleep deprivation, each of which can contribute to mental health and substance use problems; or
- Decreased dropout rates among students experiencing high levels of stress, mental health or substance use problems.[57]

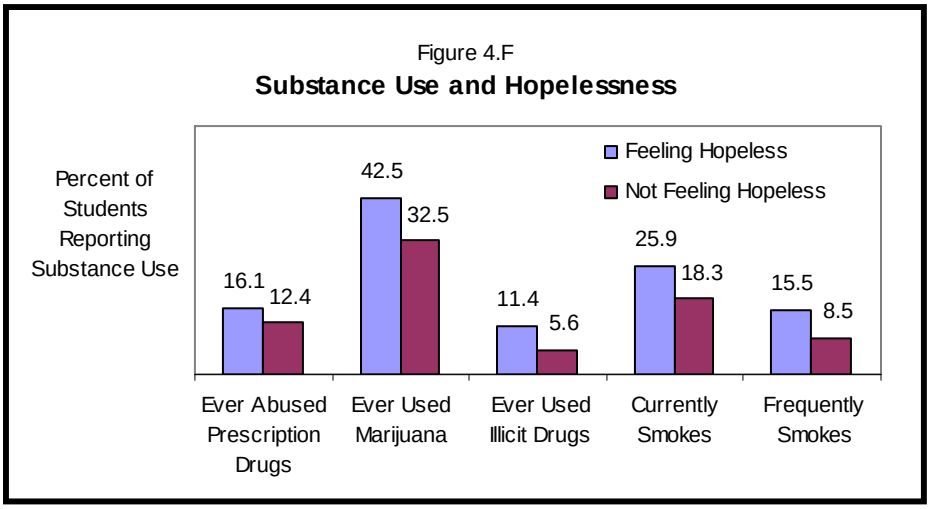
Mental Health Problems Linked to Substance Use[†]

CASA's survey of students reveals that prescription drug abuse, illicit drug use and smoking are linked to sub-clinical symptoms of mental health disorders, including feelings of hopelessness, sadness, depression and anxiety, as well as to clinical levels of mental health

[*] The definition of "severe psychological problems" was not specified by the survey.

[†] Most of the available research does not allow for causal conclusions to be drawn with regard to mental health problems and their link to substance use. Mental health problems might increase the risk for substance use and substance use might increase the risk for mental health problems. In all likelihood, the relationship works in both directions in most cases. Nevertheless, we present data on those mental health variables that often are present in individuals who use or abuse substances. For ease of presentation, the following text and its associated charts display only statistically significant findings. Substance use variables that are not significantly related to the mental health problem are not reported.

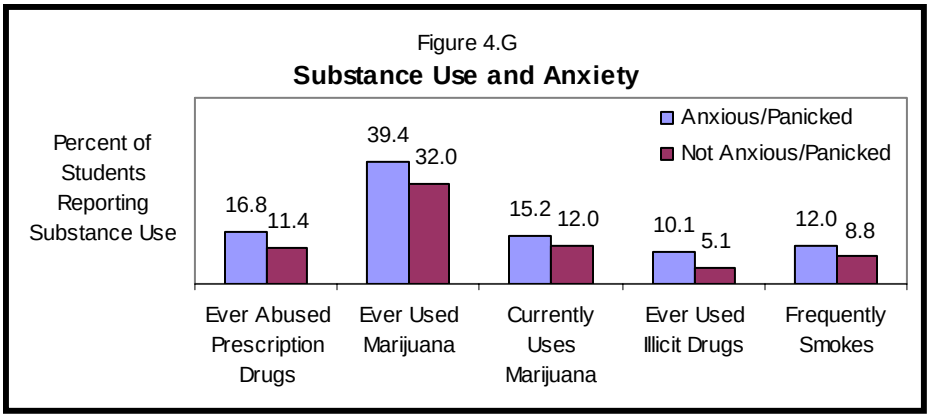
disorders. Because drinking is so common among all types of students and because many students drink as a social activity and not just to alleviate negative moods or feelings, the relationship between alcohol use and psychological problems is less clear; some research shows a connection[58] while other research does not.[59] There is, however, a strong link between alcohol abuse or dependence and mental health problems such as anxiety, eating disorders and being suicidal.



Substance use and sadness/depressive feeling.[*] Students who reported feeling very sad are less likely than those who have not been very sad to be frequent drinkers[†] (21.9 percent vs. 26.9 percent). Those who reported feeling very sad also are likelier to be current smokers[‡] (22.5 percent vs. 18.4 percent) and frequent smokers[§] (12.8 percent vs. 8.4 percent). Those who report feeling depressed are likelier than non-depressed students to have ever used marijuana (44.1 percent vs. 33.1 percent) and to be current smokers (27.0 percent vs. 18.8 percent).

Substance use and hopelessness. Students who report feeling hopeless are likelier than those who are not hopeless to have abused prescription drugs (16.1 percent vs. 12.4 percent); ever used marijuana (42.5 percent vs. 32.5 percent) or other illicit drugs (11.4 percent vs. 5.6 percent); and to be current smokers (25.9 percent vs. 18.3 percent) and frequent smokers (15.5 percent vs. 8.5 percent). (Figure 4.F[**])

Substance use and anxiety symptoms. Students who report feeling very anxious or panicked are likelier than non-anxious students to have abused prescription drugs (16.8 percent vs. 11.4 percent), to have ever used marijuana (39.4 percent vs. 32.0 percent) or to be current marijuana users (15.2 percent vs. 12.0 percent). Anxious students also are likelier than other students to have used other illicit drugs (10.1 percent vs. 5.1 percent) and to be frequent smokers (12.0 percent vs. 8.8 percent). (Figure 4.G)



[*] Students were asked how often in the past 12 months they felt very sad and how often they felt so depressed that it was difficult to function.

[†] Drinking alcohol on six or more days in the past 30 days.

[‡] Smoked in the past 30 days.

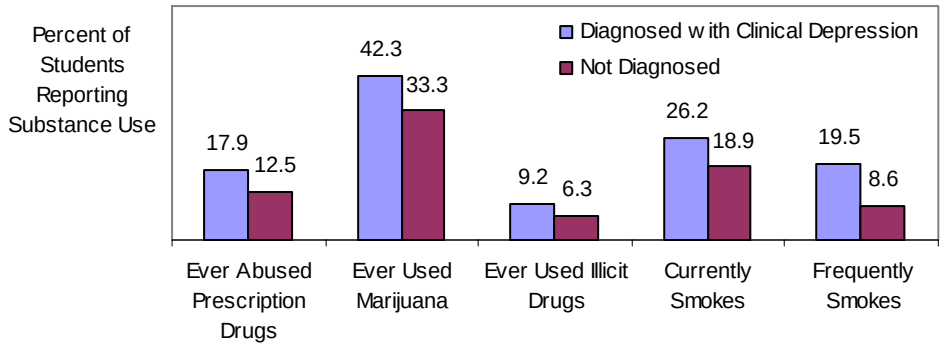
[§] Smoked on 11 or more of the days in the past 30 days.

[**] Data presented in Figures 4.F-4.I are from CASA's survey of college students.

Substance use and clinical depression. Students diagnosed with depression are likelier than those who have not been diagnosed to have abused prescription drugs (17.9 percent vs. 12.5 percent); to have ever used marijuana (42.3 percent vs. 33.3 percent) or other illicit drugs (9.2 percent vs. 6.3 percent); and to be current smokers (26.2 percent vs. 18.9 percent) or frequent smokers (19.5 percent vs. 8.6 percent). (Figure 4.H)

Figure 4.H

Substance Use and Clinical Depression



CASA's analysis of data from the 2004 *National College Health Assessment (NCHA)* survey reveals that current drinking (76.7 percent vs. 68.6 percent), drinking and driving (25.6 percent vs. 22.3 percent) and current marijuana use (25.8 percent vs. 16.3 percent), cocaine use (3.3 percent vs. 1.6 percent) and smoking (35.3 percent vs. 20.4 percent) are likelier among those who have been diagnosed with depression in the past school year compared to those who have not.[60] Other research finds that students diagnosed or treated for depression are 7.5 times likelier to use tobacco compared to students who were never diagnosed or treated for depression.[61]

> *A lot of times it seems simpler for you to go out and have a drink than to go out and get help.*
>
> --Female Student, Dallas
> CASA Focus Groups

Substance use and suicide. CASA's analysis of *NCHA* data also found that current drinking (71.0 percent vs. 68.9 percent), binge drinking (41.9 percent vs. 39.6 percent), marijuana use (23.2 percent vs. 16.1 percent), other illicit drug use (6.7 percent vs. 2.8 percent) and smoking (31.9 percent vs. 19.9 percent) are likelier among those who have felt suicidal in the past year compared to those who have not, even after taking into consideration age, gender and race. Binge drinking (46.1 percent vs. 39.8 percent), drinking and driving (27.2 percent vs. 22.4 percent), marijuana use (27.0 percent vs. 16.7 percent), cocaine use (6.3 percent vs. 1.6 percent) and current smoking (36.2 percent vs. 21.0 percent) are likelier among those who have attempted suicide in the past year compared to those who have not.[62]

Substance use and anxiety disorders. Anxiety disorders are common among those dependent on alcohol or tobacco. People who are alcohol dependent are 2.6 times likelier to have an anxiety disorder than those who are not alcohol dependent.[*] [63] Young adults who smoke heavily[†] are almost seven times likelier than other smokers to develop agoraphobia,[‡] five and a half times likelier to develop generalized anxiety disorder and almost 16 times likelier to develop a panic disorder.[64]

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[*] While alcohol dependence and anxiety are linked, the extent to which alcohol dependence contributes to anxiety disorders and the extent to which those with an anxiety disorder drink heavily to self-medicate their distressing symptoms are unknown.

[†] Twenty cigarettes or more a day.

[‡] Anxiety about being in places or situations from which escape might be difficult (or embarrassing) or in which help may not be available in the event of a panic attack. This anxiety typically leads to avoidance of various situations that may include being alone outside the home or being home alone; being in a crowd of people; or being in closed places from which it might be difficult to escape.

Substance use and eating disorders. Students who engage in disordered eating or excessive dieting also experience problems with substance abuse. The more severely a young woman diets, the more likely she is to use alcohol.[65] A study of incoming female college freshmen showed that 72 percent of at-risk* and bulimic dieters reported using alcohol in the past month compared to 44 percent of those who did not diet.[66] Female students who purge after eating drink alcohol more often, have more incidents of binge drinking and report more alcohol-related problems than female students who do not purge.[67] The more severe the dieting or bingeing behavior of a female student, the more likely she is to use alcohol often, consume in high amounts, and experience more alcohol-related problems.[68]

Eating disorders, particularly bulimia nervosa, are linked to drug use,[69] including the abuse of amphetamines, barbiturates and tranquilizers and the use of marijuana and cocaine.[70] The heaviest illicit drug use is found among those who binge and then purge (e.g., by vomiting or taking pills) to compensate for the binge eating.[71] Indeed, some bulimics report that they use heroin to help them vomit.[72] Individuals with eating disorders may use cocaine and other stimulants as a means to control or lose weight by suppressing appetite and increasing metabolism.[73]

Smoking cigarettes is related to increases in dieting and bingeing severity among college women.[74] Current tobacco use is significantly associated with more frequent use of diet pills and inducing vomiting to lose weight.[75] In one study of college students, 39 percent of female smokers and 25 percent of male smokers stated that they used smoking as a dieting strategy. Among those in this study who attempted to quit smoking, 20 percent of females and seven percent of males cited weight gain as the reason for relapse.[76]

Substance use and attention-deficit/ hyperactivity disorder. Attention-deficit/hyperactivity disorder (ADHD), while more often diagnosed in childhood and adolescence than in young adulthood, may co-occur with substance abuse, especially if left untreated.[77] Although little research on the link between ADHD and substance abuse in college students exists, research on children and teens with ADHD followed into young adulthood indicate an increased risk of substance use disorders.[78]

Stress

Many college students feel overwhelmed by academic and extracurricular stress. CASA's survey found that 88 percent of students report stress as a very big (28 percent) or moderate (60 percent) problem at their school and 75 percent report frequently (33 percent) or occasionally (42 percent) feeling overwhelmed by all they have to do.

Thirty-one percent of students who drink, 30 percent of students who use other drugs and 35 percent of students who smoke reported stress relief to be the most important reason for engaging in these behaviors.† At the same time, when asked what they typically do to relieve stress, students rarely volunteer substance use: 3.6 percent said they drink alcohol, 1.2 percent said they use drugs and 0.9 percent said they smoke. Therefore, stress relief is provided as a reason for engaging in substance use, but the converse is not true--substance use is not typically offered as a means of relieving stress. This may suggest that stress relief is perceived as a socially acceptable justification for engaging in substance use.

Students' perception of the strong link between stress and substance use, however, is not reflected in the data. CASA's survey data show that stress is linked to less drinking and is not linked to increased drug use or smoking. Students who reported being stressed‡ by their

* Met two of the three DSM-III-R criteria for bulimia nervosa.

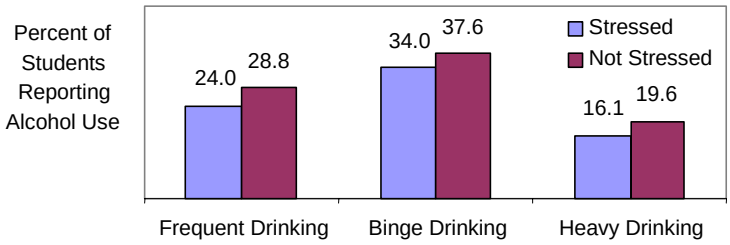
† Most important reason for engaging in each type of substance use was asked of students who reported ever using alcohol, drugs or tobacco.

‡ Students classified as stressed are those who responded "very" or "somewhat" when asked how stressed their schoolwork makes them feel. Students

schoolwork were less likely than those who are not stressed to be frequent drinkers (24.0 percent vs. 28.8 percent), binge drinkers* (34.0 percent vs. 37.6 percent) or heavy drinkers† (16.1 percent vs. 19.6 percent). No significant differences in drug use or smoking were found as a function of students' academic stress. (Figure 4.I)

Figure 4.I

Substance Use and Stress



Perhaps students who take on a lot of academic responsibilities are concerned that substance use, particularly drinking, will interfere with their ability to succeed in college.

Social Anxiety and Low Self-Esteem

Some studies have found a strong association between social anxiety in college students and their alcohol consumption.[79] Students who believe that they are under pressure to make a good impression but who doubt their ability to do so may drink more in attempt to reduce their anxiety.[80]

Poor self-esteem is linked to substance use among female college students. College-age women with a diagnosis of an alcohol use disorder have lower self-esteem than males with the same diagnosis.[81] Female students who have a drinking problem are approximately four times likelier to report feeling worthless than those who do not have a drinking problem.[82]

Social Influences

As is true in the teenage years, the peer group continues to exert enormous influence in college. Direct social pressures to engage in substance use--particularly alcohol--are common in the college years and students' impressions of how much their fellow students drink, smoke or use other drugs also appear to have an impact on their own use of these substances.

Close Friends and Socializing

College students drink, use other drugs and smoke at comparable rates as their friends. College friends report similar levels of alcohol consumption and similar motives for drinking.[83] Significantly more binge drinking than non-binge drinking students report that the majority of their close friends binge drink.[84]

Most college students first drank alcohol when they were with their friends (79 percent), as opposed to their parents (13.5 percent) or siblings (5.8 percent). One study found that, on average, college men and women who drink report spending similar amounts of time drinking at parties or social events (4.1 hours and 3.5 hours, respectively). But at these events, men drink almost twice as much as women (7.1 drinks and 4.4 drinks, respectively).[85] The impact of their drinking is similar, however, as one drink for a woman has the approximate impact of two drinks for a man.[86]

An overwhelming majority of students who use illicit drugs were introduced to the habit through friends (94.3 percent) and most students (89.1 percent) use drugs with friends. Students who consider parties to be "very important" to their lifestyle are almost three times as likely to use marijuana as those who do not consider parties to be very important. Those who spend three or more hours a day socializing with friends are almost twice as likely to use marijuana as those

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classified as not stressed are those who responded "a little" or "not at all" to this question.

* Binge drinking is defined as consuming five or more alcoholic drinks on a single occasion in the last two weeks.

† Heavy drinking is defined as having six or more drinks on the days that the student drank in the last 30 days.

who spend fewer hours socializing.[87] The same is true for Ecstasy use: 26 percent of students who spend more than 10 hours per week at parties report ever having tried Ecstasy compared to only three percent of students who do not attend parties at all.[88] College students report spending two to three days a week drinking or using drugs with friends for leisure.[89]

Students with more exposure to peer smoking report more tobacco use than those with less exposure.[91] One qualitative study of freshman students found that females typically smoke in groups and invite friends to join them for a smoke. Smoking with friends was described by women in this study as a "bonding experience" or a "support group" whereas, while college men also smoke in groups, they feel less compelled to do so. Smoking alone was seen both by male and female students as less acceptable than smoking in groups because it connotes needing a cigarette rather than smoking for social purposes. Some students describe smoking for empathic purposes--smoking with a friend who is upset or sad as a means of showing a connection, attention or support; smoking was seen as comforting and, for males, as a means of showing support without engaging in heavy conversation or as a means of loosening up so that serious conversation feels less awkward.[92]

Peer Pressure

Perceived pressure by peers to drink, use other drugs or smoke--be it subtle or overt--is an important predictor of student substance use. One study found that the greater the number of offers to drink alcohol a student receives, the likelier that student is to use and abuse alcohol.[93] While both men and women experience peer pressure, one study found that college women are more likely than college men to abuse prescription stimulants if a fellow student offers them these drugs.[94] Another study found that students who used Ecstasy emphasized the "social pressure" they felt to join other students who were using it.[95]

College women increasingly are adopting the drinking habits of their male peers. A qualitative study of college women found that the pressure to "fit in" and attract attention from college men may encourage women to adopt risky drinking behaviors. College women talked about their desire to "hang out" with and have "a special, elite position within" their male classmates' social group--goals that can be achieved by "drinking like a guy." Some college women considered their female peers who could not hold their alcohol as weak, while those who could tolerate large amounts of alcohol were considered to be "in control" and "powerful."[96]

Altruistic Heavy Drinking

Tired of that guilty, wastrel feeling Sunday morning? Instead, help stop the genocide in Darfur, while also getting smashed. Admission is $5 at the door…All proceeds go to pay for buses to take students to Rally to Stop Genocide (Washington DC, April 30).[90]

--E-mail ad at an Ivy League College

Drinking Games

Drinking games--in which groups of students engage in competitions where the goal is to facilitate the consumption of large amounts of alcohol, often in a short amount of time--are common on college campuses. Heavy drinkers are more likely than light to moderate drinkers to have participated in a drinking game in the previous year (93.6 percent vs. 66.0 percent), and people who play drinking games suffer more alcohol-related consequences--including sexual victimization--than those who do not play these games.[97]

Although playing drinking games is associated with more alcohol-related problems, students still engage in these games,[98] often with the overt encouragement of the alcohol industry (e.g., "beer pong").[99]

A study of female college athletes found that those who participated in drinking games had positive expectations about the "liquid courage" that they would gain by playing, without considering potential negative effects. Students

who thought positively about the impairment associated with consuming alcohol were likely to play more drinking games than those who thought negatively of such impairment.[100]

Beer Pong

A drinking game that is quickly growing in popularity is called beer pong. The game involves two teams; each team standing on either end of a table. A triangle of cups partially filled with beer sits in front of each team. Players throw the beer pong ball into the other team's cups. If the ball falls in the opponent's cup, the opponent must drink the beer and throw away the empty cup. The losing team is the one with no cups left. The popularity of beer pong has generated tournaments and leagues. Anheuser-Busch has it's own version, called Bud Pong. A company spokeswoman says, "We created it as an icebreaker for young adults to meet each other." The official rules suggest water be used, but bartenders testify that they have never seen it played with anything but beer.[106]

Previous negative experiences with alcohol use and drinking games lower the likelihood that a student will play these games in the future; however students with sensation-seeking or risk-taking personalities tend to continue to play drinking games even after experiencing negative consequences from them.[101]

Times of High Risk

Certain social events and times are marked by particularly high rates of drinking among college students. One study found that, on a weekly basis, students begin drinking in earnest on Thursdays and alcohol use peaks on Fridays and Saturdays. Among freshmen, alcohol consumption is relatively high during the start of the fall and spring semesters and tends to decrease prior to midterms and final exams. Drinking rates are highest over spring break and during holidays, including Thanksgiving, Christmas and New Year's Day.[102]

The 21st Birthday. A student's 21st birthday--the legal drinking age--also is a time of high-risk drinking. To mark the occasion, some students try to consume 21 drinks within hours of turning 21--a dangerous practice that can lead to alcohol poisoning and death.[103]

Attempt to Prevent Excessive Drinking on the 21st Birthday

A prevention program specifically targeted to students turning 21 is the BRAD (Be Responsible About Drinking) program. BRAD was founded by the family and friends of Bradley McCue, a Michigan State University student who died of alcohol poisoning after celebrating his 21st birthday. The goal of the program is to encourage students to drink responsibly when celebrating their 21st birthday by sending a birthday card warning of the dangers of alcohol poisoning. Preliminary results show that three percent of students who received the birthday card reported drinking less than those who did not receive the card.[104] Other research shows that a similar intervention did not significantly influence student drinking.[105]

In one survey of college students celebrating their 21st birthdays, 90.3 percent reported consuming alcohol, 64 percent reached a blood alcohol content (BAC) level above the legal driving limit of .08 and 23.2 percent reached a BAC level above 0.25--a level identified as significantly increasing the odds of fatal consequences. Men and women did not differ significantly in these measures. College men consumed a higher average number of drinks than college women (10.3 vs. 8.0).[107]

Students' average estimate of the amount that their peers drink on their twenty-first birthday is 10.58 drinks. Students who drink on their 21st birthday report consuming an average of 7.42 drinks. The higher the estimate of peer drinking on the 21st birthday, the more alcohol the student tends to consume on this occasion.[108]

Spring break. Spring break has become an American college ritual marked by excessive drinking. One study found that male students at a beach destination on spring break reported consuming an average of 18 drinks the previous

day while female students consumed an average of 10 drinks. Seventy-five percent of the men reported being intoxicated at least once a day, as did 40 percent of the women. More than 50 percent of the college men and 40 percent of the college women drank until they were sick or passed out.[109]

> *Spring break is broken. What was a traditional time to relax and take a break from college studies has turned into a dangerous binge-fest.*[111]
>
> --J. Edward Hill, MD
> Former President
> American Medical Association

Alcohol-related accidents and arrests are common during spring break. For example, spring break alcohol-related arrests in Florida numbered 5,220 in 2004.[110] Such high drinking levels also are dangerous in terms of alcohol poisoning--especially when combined with sun and potential dehydration.

Excessive drinking during spring break also is perilous when it leads to alcohol-related disinhibition and unsafe sex. While women are less likely than men to have sex with someone they just met during spring break, they also are less likely than men to make sure that a condom is used when having sex with someone new on spring break or to take condoms with them on spring break, putting them at risk for AIDS, other STDs and unintended pregnancy. Women on spring break often attribute both their sexual encounters (38 percent) and their neglect of condom use (32 percent) to drinking just before having sex.[112]

Months prior to spring break, alcohol-related ads and promotions bombard students with promises of free or cheap alcohol at popular spring break destinations. Some colleges and universities provide alternatives to spring break at appealing destinations where alcohol is not a focus and some have found success with such programs where the emphasis is on community service.[113]

Perceptions of Peer Substance Use

CASA's survey of college students found a distinct gap between students' estimates of their peers' levels of each type of substance use and students' self reports of their use. For example, whereas 13 percent of students report being current marijuana users, the median estimate of peer marijuana use is 30 percent, and whereas 21 percent of students report being current smokers, the median estimate of peer current smoking is 35 percent. This gap has been documented in other research[114] and has led to the conclusion that students frequently overestimate the degree of substance use on their campus and, often, this overestimation is associated with increased substance use.[115]

> Students in CASA's focus groups believed strongly in their estimates of their peers' rates of substance use. Several students commented on their school's efforts to publicize the fact that most college students drink moderately (a social norms marketing technique). Some claimed that they did not believe that students "drink less than you think." One said that based on his experience, students must lie on surveys, because he sees everyone drinking quite a lot. Another student agreed that all students drink a lot--he switched dorms because of the prevalent culture of heavy drinking in his original dorm only to find that the new dorm was no different.

However, the extent to which the disconnect between reported and estimated use is a function of student misperception of peer activities or of student underreporting of their own behaviors is difficult to determine.

Sorority and Fraternity (Greek) Membership

Students in the Greek system are more likely to use substances than their non-Greek peers. CASA's analysis of data from the *National College Health Assessment* survey indicates that fraternity or sorority members are likelier than non-members to be current drinkers (88.5 percent vs. 67.1 percent), binge drinkers (63.8 percent vs. 37.4 percent) and to drink and drive

(33.2 percent vs. 21.4 percent). They also are likelier to be current marijuana users (21.1 percent vs. 16.4 percent), cocaine users (3.1 percent vs. 1.5 percent) and smokers (25.8 percent vs. 20.7 percent).[116] Other research finds that fraternity and sorority members are twice as likely as non-members to abuse prescription stimulants such as Adderall, Ritalin and Dexedrine.[117]

Heavier substance users appear to be selected into the fraternity and sorority lifestyles.[118] Students who join Greek organizations had higher alcohol and marijuana use rates in their senior year of high school than those who do not join.[119] At the same time, the pro-substance use environments of many Greek organizations further enable these students to increase their substance use while in college.[120]

CASA's survey of college students found that students who live in Greek housing are more likely to report binge drinking (58.7 percent) than those living off campus (45.0 percent) or in a campus dorm (31.0 percent), and are more likely to report frequent drinking (45.7 percent vs. 36.4 percent vs. 20.2 percent, respectively). Likewise, students in Greek housing are likelier than these other two groups of students to be current smokers (32.6 percent vs. 28.0 percent vs. 15.6 percent) or frequent smokers (17.4 percent vs. 15.4 percent vs. 7.3 percent). In contrast, students who live off campus are more likely to be current marijuana users (20.8 percent) than students in Greek housing (15.2 percent) or those living in dorms (10.3 percent) and more likely than these two groups of student to have ever used illicit or prescription drugs (24.8 percent vs. 19.6 percent vs. 10.8 percent). (Figure 4.J)

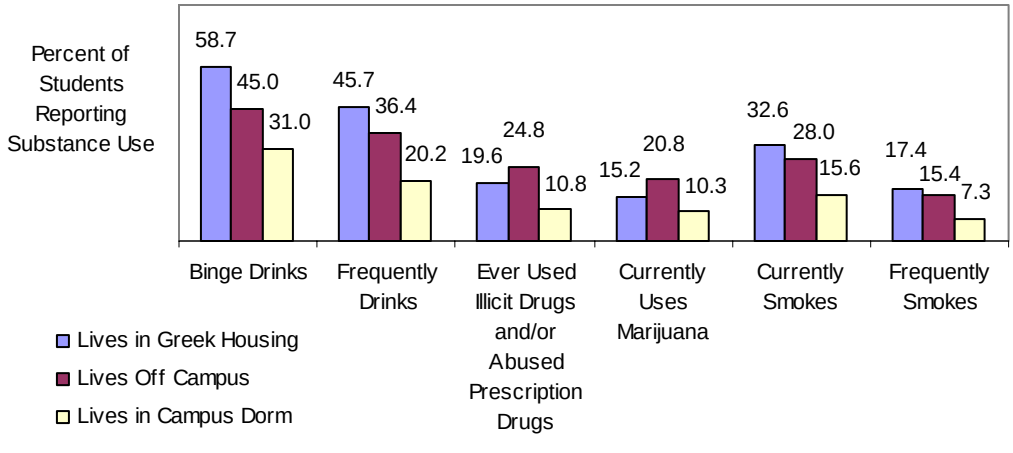
Alcohol

Alcohol is the primary substance used and abused by those in the Greek system. Not only do Greek males drink significantly more than non-Greek males (an average of 12.3 drinks per week among those actively involved in the Greek system vs. 5.5 drinks among non-Greeks), but the average number of drinks per week increases with greater participation in Greek life, with fraternity leaders drinking the most (14.2 drinks per week).[121] Young women who belong to sororities are significantly more likely to drink than those who do not.[122] Female Greeks who are actively involved in their sororities drink an average of 5.5 drinks per week compared to an average of 2.2 drinks among non-Greek females; greater participation in Greek life does not relate to higher levels of drinking among females.[123] Students living in Greek housing (particularly males) tend to drink more than those who live in other types of housing.[124]

Binge drinking is especially common among Greeks.[125] Nearly twice as many women who are sorority members binge drink compared with women who are not in sororities (62 percent vs. 35 percent); 80 percent of women living in sorority houses binge drink. More fraternity members binge drink than college men who are not in fraternities (75 percent vs. 45 percent); 86 percent of men living in fraternity houses binge drink.[126]

Figure 4.J

Substance Use and Student Housing



It is important to note, however, that although binge-drinking rates have remained relatively stable over the past decade across various demographic groups, including gender, race/ethnicity, age and most types of college residences (e.g., substance-free residence halls, off campus housing), the main exception has been among residents of sorority and fraternity houses where binge drinking has declined from 83.4 percent in 1993 to 75.4 percent in 2001.[127]

Prescription Drugs[*]

Fraternity members are almost twice as likely to report past-year prescription opioids abuse as non-members (17.1 percent vs. 9.1 percent), whereas sorority members are only slightly more likely than non-members to abuse these drugs (9.6 percent vs. 8.6 percent).[128] Fraternity and sorority members also are more than twice as likely to abuse prescription stimulants (8.6 percent report past-year abuse vs. 3.5 percent of non-members[†]).[129]

One study found that students living in Greek housing are likelier to abuse prescription opioids (10.3 percent report past-year abuse) than students living in single-sex residence halls (4.9 percent), co-ed residence halls (6.7 percent), other university housing (4.6 percent) or off-campus housing (7.8 percent).[130] Likewise, students living in Greek housing are likelier to abuse prescription stimulants (13.3 percent report past-year abuse) than students living in single-sex residence halls (3.5 percent), co-ed residence halls (4.5 percent), other university housing (4.0 percent) or off-campus housing (3.7 percent).[131]

Illicit Drugs[‡]

Greeks are likelier to use marijuana than students who are not in a fraternity or sorority,[132] and this is especially true of those who live in Greek housing; one study found that students who live in a fraternity house are more than twice as likely to use marijuana as those who do not live in a fraternity house.[133]

Religion and Spirituality

Students who report that religion is not important to them or who never or rarely attend religious services are more likely than more religious students to drink, use drugs and smoke. One study found that students who reported that religion was not very important to them were four and a half times likelier to use marijuana than students who reported that it was very important to them.[134]

The greater a student's level of religiosity--as measured by outward manifestations such as hours spent in prayer, attendance of services and reading religious materials--the less likely the student is to use alcohol, illicit drugs or cigarettes.[135]

Spirituality, like religion, has some buffering effects on college students' use of some substances, although one study found little effect on their use of cocaine, LSD, or ecstasy. However, spirituality seems to diminish as a protective influence on students' behavior during their tenure in school, as the use of alcohol and marijuana increases.[136]

Student Engagement

CASA's survey of college students found that students who report higher levels of engaged learning[§] are significantly less likely than those

[*] These findings differ from those of CASA's survey of students in which students living off-campus were found to have the highest rates of drug use. (See Figure 4.J)

[†] Separate data are not provided for sorority vs. fraternity members.

[‡] Unlike CASA's survey, this study did not distinguish between non-Greek housing students who lived on campus vs. off campus.

[§] Engaged learning pertains to any situation in which student learning is fostered by active participation in the educational process and in which students have

who report less engagement to be binge drinkers (31.3 percent vs. 38.2 percent) or heavy drinkers (14.7 percent vs. 19.2 percent).

Unfortunately, many students have not experienced engaged learning: 66 percent of college students in CASA's survey never or rarely had a service learning course;* 64 percent never or rarely worked closely with a faculty member on a project in which they felt that their input was important or valued; 29 percent never or rarely had an educational experience in college that inspired them or significantly changing their perspective and 42 percent never or rarely participated in an extra-curricular activity in college that did so; 46 percent never or rarely had an educational experience in college that motivated them to make an active contribution to a larger goal or purpose and 47 percent never or rarely participated in a job or extra-curricular activity that did so.

Students who report spending more hours† in a typical week engaged in non-required campus or community service activities, such as tutoring, counseling or volunteering are significantly less likely than those who spend fewer hours‡ to be binge drinkers (26.3 percent vs. 36.1 percent), frequent drinkers (19.0 percent vs. 26.1 percent) and to have ever used marijuana (27.4 percent vs. 35.2 percent) or abused prescription drugs (7.3 percent vs. 13.8 percent). Other research finds that more time spent volunteering is associated with less student drinking, alcohol abuse and alcohol-related problems. For example, a 15-minute increase in campus volunteerism was associated with an 11 percent decrease in student alcohol abuse.[137]

Although student engagement in academic pursuits and in service-oriented activities is linked to lower rates of substance use, too much engagement in extracurricular activities can hike the risk of substance use. For example, CASA's survey of students found that students who spend 11 or more hours per week engaged in service are somewhat likelier than those who spend a moderate amount of time (six to 10 hours per week) to binge drink and use marijuana; in fact, the rates at which these highly engaged students report binge drinking and marijuana use are comparable to those who spend five or fewer hours per week engaged in service activities.

Athletic Participation

Approximately 13 percent of female college students and 23 percent of male college students are involved in athletics.[138] College athletes drink at higher rates than non-athletes but are less likely to use illicit drugs or smoke.

Alcohol

College athletes report higher levels of binge drinking than non-athletes (57 percent vs. 49 percent). Athletes also are more likely than non-athletes to have been drunk three or more times in the past month and to drink for the purpose of getting drunk.[139] Student athletes are more likely than non-athletes to have characteristics that place them at increased risk for binge drinking, including being younger than 21, being a member of a Greek organization and--for male athletes--having less than a B+ GPA.[140]

College athletes' more risky drinking behavior also may be due in part to a greater emphasis on the social aspects of drinking. College athletes are likelier than non-athletes to consider parties as important, to spend two or more hours per day socializing and to report that 70 percent or more of their friends are binge drinkers.[141]

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an opportunity to feel connected to the subject matter and derive meaning from their experience.

* A course in which students are required to perform service activities and then reflect with the professor on what they have learned and how it relates to course content.

† Six or more.

‡ Five or fewer.

Prescription, Over-the-Counter and Illicit Drugs

While anabolic steroid use is not common among college athletes (the rate of use is one percent among all athletes and three percent among male football players), it is more than three times as common than among non-athlete students.[142] Certain predominantly female sports, such as gymnastics, dance, figure skating and cross-country running are associated with the dangerous use of laxatives, diuretics and over-the-counter weight-loss medications.[143]

College athletes, particularly in higher National College Athletic Association (NCAA) divisions, tend to use illicit drugs at lower rates than other students. One study found that 12 percent of male college athletes and 10 percent of female college athletes have used marijuana in the past month, compared to 16 percent of college males who are not involved in athletics and 11 percent of college females who are partly or not at all involved in athletics.[144]

Tobacco

Smoking is less common in college athletes than non-athletes (15 percent vs. 26 percent report current smoking);[145] however, certain male athletes are more likely to use smokeless tobacco products than other students. For example, 41 percent of male baseball players and 29 percent of male football players report past-year use of spit tobacco,[146] compared to six percent of all college students.[147] Spit tobacco use among females is very rare (less than one percent in one survey) regardless of athletic involvement.[148]

Campus and Community Environment

Colleges and their surrounding communities often create or enhance an environment that enables or even promotes substance use and abuse among students. Alcohol, tobacco and other drugs--both prescription and illicit--are relatively easy to obtain; student residences frequently are awash in alcohol; controlled prescription drugs are seen as relatively safe to use without a valid prescription; bars and other alcohol and tobacco retailers frequently ring the campus, targeting students; and many campuses and communities lack strong and well-enforced anti-substance use policies and laws.

Ease of Acquisition

Alcohol, controlled prescription drugs, illicit drugs and tobacco are readily available to students within colleges and universities as well as in their surrounding communities. Eighty-seven percent of students in CASA's national survey say alcohol[*] (87 percent), prescription drugs[†] (61 percent) and marijuana (77 percent) either are very or somewhat easy to obtain. Easy access and minimal enforced restrictions on possession or use lend an air of acceptability to drinking, using other drugs and smoking and contribute to the high rates of substance use and abuse.

> Most students in CASA's focus groups agreed that alcohol is readily available to any student who wants to drink. Some students said that their schools had a bar on campus. One noted that while the on-campus bar was strict about checking for proof of age, the bartenders also are students and may be pressured to serve to their peers. Another said that her on-campus bar opened early in the day and professors and students sometimes drink there together.
>
> Several students reported getting alcohol from their professors at casual get-togethers in their homes.
>
> Many students get fake IDs as early as freshman orientation. Those without fake IDs might have a friend give them the wristband signifying that they are over 21 when they want to get a drink, or are aware of liquor stores or bars that do not card on a regular basis. Students agreed that most underage students know other students who will readily provide them with alcohol.

[*] For those who are underage.
[†] Without a doctor's order.

Alcohol. In CASA's survey of college students, 87 percent said that it was "very" (59 percent) or "somewhat" (28 percent) easy for students at their school who are under 21 to get alcohol.

Easy Availability of Alcohol

Getting alcohol is like getting water.

I don't think I know a single person who doesn't drink at my school.

--College students
CASA focus groups

The greater the number of alcohol outlets available to students, the greater the likelihood of problem drinking.[149] Having a bar on campus is associated with an increased risk that underage students will drink and binge drink.[150] Students in "wet environments," in which binge drinking is common and alcohol is readily available and cheap, are more likely to become binge drinkers than students in "dry" environments.[151] One study quantified those amounts, stating, "a student drinks about 0.16 of a drink more [on a typical drinking occasion] if they attend a college with a pub on campus, and about one quarter of a drink more if they attend a campus with 10 outlets selling alcohol within a mile radius of the campus."[152]

Parents in CASA's focus group felt that while colleges claim to care about student substance use, alcohol and cigarettes are ubiquitous on college campuses. One parent seemed very surprised to hear other parents describe the strict alcohol policies at their children's schools; he said that at his child's campus, alcohol was everywhere and easy to obtain, even from resident advisors. Another parent pointed out the hypocrisy of colleges selling cigarettes in campus stores but punishing students for smoking them, which spurred another parent to suggest that faculty and administrators should be encouraged to avoid smoking in front of students.

When the cost of alcohol is relatively low, its accessibility increases. One study found that the lower the price of beer in the surrounding community, the higher the rate of binge drinking at a given college[153] and another found that higher beer tax rates are associated with less student drinking.[154] However, other research indicates that increases in the price of beer may have less of an effect on college student drinking than it does in the general population, such that relatively high price increases are necessary to achieve relatively small reductions in student consumption.[155] One explanation for the seemingly weak relationship between pricing and alcohol consumption in college students--relative to the stronger relationship found in the larger population--is that many college students obtain alcohol for free at parties or at deeply discounted prices from bars catering to a college-age clientele.[156]

Prescription drugs. College students easily can obtain prescription medications on campus.[157] Students report getting these drugs by faking symptoms and getting a prescription from their doctor, buying or getting the drugs from their friends or classmates or simply by ordering them over the Internet.[158]

One student in CASA's focus groups said that there was an Adderall/Ritalin "epidemic" on her campus and another indicated that students at his school could get a prescription for Adderall just by saying they needed to concentrate. Some students claimed that prescription drug use is more common than marijuana use (especially during finals). In contrast, parents were much less aware of the abuse of prescription drugs or what their effects are. Only one was able to name commonly abused prescription drugs and most were surprised to learn that prescription drug abuse is an issue among college students.

The ease of obtaining prescription drugs or information about such drugs over the Internet is particularly relevant to college students who use the Internet regularly. The Internet often is the first place that college students turn to find information about any number of things, including prescription drugs.[159] There is a large amount of information on sites dedicated to those searching for answers about prescription medications. There are chat rooms focused on

discussing side effects, dosage amounts and how and where to obtain a desired prescription drug.

Students in CASA's focus groups discussed the ease of obtaining prescription drugs from school health centers and how a student with a legitimate prescription for a painkiller or a stimulant medication may use some of the dose but then share or sell the rest to peers. Several students mentioned receiving large doses of opioid medications for athletic injuries or dental problems and only requiring some of the prescribed pills to ease their pain, leaving them with excess medication to abuse or share with others.

CASA's recent report, *You've Got Drugs: Prescription Drug Pushers on the Internet*, found that anyone--including children--can readily obtain without a prescription highly addictive controlled substances from the Internet; a staggering 89 percent of sites selling controlled prescription drugs have no legitimate prescription requirements.[160]

CASA's interviews with college students demonstrate that prescription drugs such as Ritalin, Adderall, Vicodin, Xanax, Valium, Zoloft and OxyContin are well known to students and viewed as safer than harder drugs like cocaine or club drugs.

Sixty-one percent of students in CASA's survey said it would be "very" (20 percent) or "somewhat" (41 percent) easy to get prescription drugs for recreational use. Consistent with other research,[161] when asked from where students get prescription drugs if they do not have a prescription, the most common response (43 percent) in CASA's student survey was that friends give the drugs to them. (Figure 4.K)

College women are likelier than college men to acquire prescription drugs from family members.[162] College men are likelier than college women to know students from whom they can obtain prescription stimulants.[163]

Black students are three times likelier than white students (33.3 percent vs. 11.2 percent) and more than four times likelier than Hispanic (7.7 percent) or Asian (7.2 percent) students to get prescription pain medications from family sources.[164] White students are much likelier than black students to obtain prescription pain medications from peers (62.2 percent vs. 35.3 percent).[165]

Even the "dry" houses on our campus are secretly wet…dorm rooms that are designated party dorms on campus where you wake up every morning…and there's vomit in the bathroom three out of five nights... And then there are off-campus parties, usually on Thursday, Friday and Saturday. And there are bars--I would show them real I.D. when I was 19 and they would just wave you in. They'd rather pay the fine if they get caught by the cops then lose the business of all the underage kids.

--Male Student, Chicago
CASA's Focus Groups

My campus is supposed to be a dry campus; you'll walk down the hallway to go to the bathroom and there are beer cans everywhere! Every single floor!

--Female Student, New York City
CASA's Focus Groups

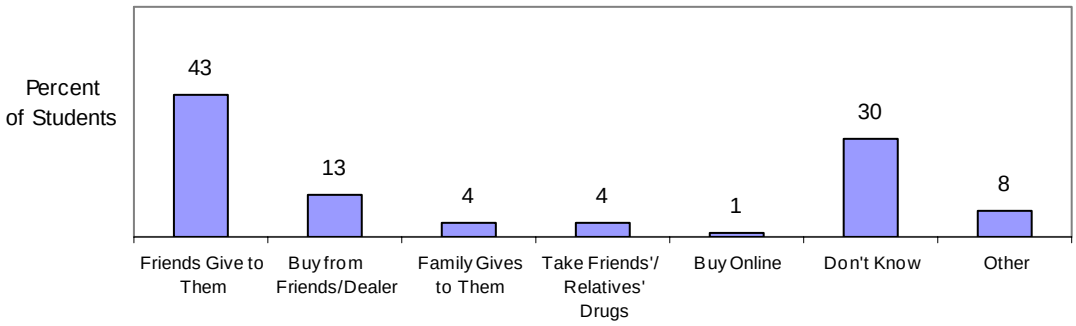
Illicit drugs. CASA's survey found that 77 percent of students think that it is "very" (36 percent) or "somewhat" (41 percent) easy for students at their school to get marijuana. Other illicit drugs, such as cocaine, heroin and club drugs, were seen as less easy to obtain.

Tobacco. Some schools make little effort to curb student smoking. Because tobacco use is legal for adults over age 18, many colleges and universities do not feel that it is within their purview or responsibility to curb it. Although research shows that placing obstacles or limits to student smoking can help prevent them from beginning or increasing their smoking upon entering college,[166] some schools facilitate rather than hinder student smoking.

Students in CASA's focus groups noted that they could purchase cigarettes in on-campus

Figure 4.K

Source of Prescription Drugs without Prescription



stores, sometimes using their college meal or money card. The main restrictions schools have on student smoking are based on state or local clean air laws that prevent students from smoking while indoors and restrict smoking to certain designated areas.

Perceived Safety of Prescription Drugs

Students' perceptions of the safety and utility of controlled prescription drugs have been reinforced by the culture in which college students have grown up. This culture includes societal expectations of a pill for every ill; the perceived safety of prescription medications; an increasing availability of drugs for an expanding list of medical conditions; direct-to-consumer advertising and marketing of pharmaceuticals; and the perceived utility of many prescription drugs--particularly stimulants--for enhancing productivity.

A representative of Shire Pharmaceuticals, maker of Adderall, stated that students "perceive [Adderall] to be less harmful and an okay thing to take because [it is a prescription drug,] even though they don't have a prescription for it." Students claim that they need the stimulants to motivate them to study, to focus, and "to set yourself apart" by "pull[ing] off…top grades."[168]

College students tend to perceive prescription drugs to be safer than illicit drugs because they are prescribed by doctors and approved for use by the government (the Food and Drug Administration). The drugs are seen as less dangerous in part because information about side effects can be found on the Internet, in books or from friends or family.

Where Students Live

Students increasingly are choosing to live in substance-free housing. In 1993, 17 percent of students did so and in 2001, 28 percent did so.[167]

Although students who live in substance-free dormitories do report alcohol consumption, they drink less often and less alcohol per occasion than students living in regular dorms.[169] Substance-free housing protects students from experiencing some of the adverse consequences of other students' substance use, particularly their binge drinking.[170]

Among students living on campus, those who live in co-ed dorms tend to report more alcohol-related adverse consequences than those living in single sex dorms.[171]

Smoking bans in student housing are linked with lower rates of smoking. Just over 20 percent of students in smoke-free housing report current cigarette smoking compared to 30 percent of residents in housing without such restrictions.[175] Rates of cigar smoking are lower among students in smoke-free housing as well.[176] This difference is due in large part to the fact that students who are not in favor of smoking select smoke-free housing and those who are interested in smoking do not. Once living in a smoke-free residence, however, students have fewer influences to begin smoking.

Another study found that students who live with their parents while attending college have lower rates of heavy drinking* than do students not living with their parents (seven percent vs. 17 percent). However, living arrangement was not significantly related to rates of cocaine use or smoking among college students.[177]

Advertising and Promotions

The alcohol and tobacco industries are well aware that the younger a person is when he or she gets hooked on alcohol or nicotine, the likelier those industries are to have a heavy-using and lifetime customer. As such, colleges--where smoking is legal for nearly the entire student population and drinking is legal for about one-half of it--essentially serve as recruiting grounds for these industries.

> *Nobody is looking to increase the number of youth drinking. We're looking to increase the number of youths drinking responsibly.*[178]
>
> --Pete Madland, Executive Director,
> Tavern League of Wisconsin
>
> (at a panel discussion at the annual meeting of the National Conference of State Liquor Administrators on lowering the drinking age to 18.)

Alcohol. The college market is big business for the alcohol industry. Annual alcohol industry expenditures for marketing alcohol to college students is conservatively estimated to be up to $20 million; this amount does not include marketing by local establishments, sponsorships, logo products or general advertising that targets individuals of college student age.[179]

The Princeton Review
Party School List

The Princeton Review provides college-ranking lists for various descriptive categories based on responses from more than 115,000 students to an 80-question survey. In addition to ranking schools based on academics and other college and campus characteristics, the publication highlights the top "Party Schools" and the top "Stone-Cold Sober Schools."

Under these categories, the Web site states, "Needless to say, teetotalers should think twice before attending a party school." The "Party On" list includes links to the "top" schools that fall under each of the following categories:
--Party Schools
--Reefer Madness
--Lots of Hard Liquor
--Lots of Beer
--Major Frat and Sorority Scene

In contrast, the "Party Has Left the Building" list includes links to the following:
--Stone-Cold Sober Schools
--Don't Inhale
--Scotch and Soda, Hold the Scotch
--Got Milk?[172]

The effects of these rankings--and the lighthearted message they convey with regard to student substance abuse--on student applications and on administrative efforts to curb student substance use have led the American Medical Association to ask The Princeton Review to stop publishing these "party school" rankings in their Best Colleges series because the rankings promote the idea that heavy drinking is the college norm.[173]

The author of the Princeton report contends that the purpose of the lists is to offer high school students information on which they can base their application decisions[174]

* Having five or more drinks on the same occasion five or more times in the past month.

Alcohol industry expenditures aimed at attracting young people to its product pays off. A recent study found that youth* exposed to more alcohol advertising drank more than those exposed to less alcohol advertising. Furthermore, those in markets that had more alcohol advertising demonstrated increases in rates of alcohol use into early adulthood--the late 20's, whereas drinking rates among those in markets with fewer alcohol advertisements tended to level off in the early 20's.[180]

> *For too long, schools have looked the other way as a beer blitz of television ads swirls around college sporting events, alcohol engulfs the neighborhoods surrounding colleges and alcohol-laden traditions such as tailgating take over campuses. Rather than set limits, the watchdogs* [colleges] *have helped legitimize alcohol as a necessary ingredient of sports by partnering with the industry.*[183]
>
> --Henry Wechsler, PhD
> Director, College Alcohol Study
> Harvard School of Public Health

Advertising and marketing to underage drinkers provide profit to the alcohol industry in two ways. First is the commercial value of the amount of alcohol they consume which amounted to approximately $22.5 billion in 2001. Second is the contribution of underage drinking to maintaining a supply of adult abusive and dependent drinkers since the earlier young people start to drink, the greater the likelihood that they will become abusive and dependent drinkers. The value of the alcohol consumed by adult abusive and dependent drinkers was a minimum of $25.8 billion in 2001.[181]

Nationwide, approximately 75 percent of on-premise alcohol establishments (i.e., bars) offer drink promotions on weekends and over 60 percent of off-premise establishments (i.e., liquor and package stores) offer beer promotions. The level of advertising at neighborhood alcohol outlets is related to university-wide levels of binge drinking.[182]

Bar promotions not only hike the risk of college student drinking, they also increase favorable impressions of the bar, intent to patronize the bar and perceived likelihood of increased consumption. The relationship between alcohol promotions and alcohol use is more pronounced in binge drinking college students, who are more likely than non-binge drinking students to patronize a bar that offers a promotion.[184]

Alcohol advertisements on college campuses are likelier today than in years past to be those from local bars rather than specific alcohol companies, in part due to pressure on brewers from parents, educators and health advocates to curb overt marketing. However, some schools restrict advertising on campus by local alcohol establishments either by banning such advertisements, prohibiting them from promoting drink specials or limiting the locations where alcohol establishments may place their ads.[185]

The alcohol industry has adopted codes for the responsible marketing of their products and some of those codes do apply to college campus marketing. For example, the Distilled Spirits Council of the United States (DISCUS) indicates in their Code of Good Practice for Distilled Spirits Advertising and Marketing that "*distilled spirits should not be advertised on college and university campuses or in college and university newspapers*" and "*marketing activities for distilled spirits should not be conducted on college and university campuses except in licensed retail establishments located on such campuses*."[186]

In some cases, alcohol industry guidelines tend to be vague and unenforceable[187] or even contradict the industry's own practices. For example, the Beer Institute, which represents America's leading brewers and distributors of beer, states in their advertising and marketing code that *"Beer should not be advertised or marketed at any event where most of the audience is reasonably expected to be below the legal purchase age."* Clearly, college sports

* The study included people ages 15-26 years. Analyses controlled for age, gender, ethnicity, high school or college enrollment and alcohol sales.

arenas, which often are plastered with beer advertisements, are facilities frequented primarily by college students, and nearly half of all full-time college students attending four-year colleges are under the legal drinking age.[188] The code also states, *"Beer advertising and marketing activities should not associate or portray beer drinking before or during activities, which for safety reasons, require a high degree of alertness or coordination."*[189] Once again, this policy suggests that sporting events would not be an appropriate venue for beer advertisements since sports certainly require a high degree of alertness and coordination.

Prescription drugs. In 1997, the FDA approved direct-to consumer marketing of prescription drugs.[190] This means that current college students were in their preteen years when they began seeing commercials for prescription drugs. The pervasiveness of pharmaceutical drug marketing may demonstrate to college students that taking prescriptions drugs is normal and relatively harmless.

Tobacco. Tobacco companies attempt to target college smokers by sponsoring events at bars and fraternity and sorority parties, advertising in college newspapers and giving away promotional materials and free cigarettes.[191] Since the 1998 multistate settlement agreement (MSA), which sought to restrict the marketing and advertising activities of the tobacco industry particularly as they relate to children, the tobacco industry has increased its promotions of cigarettes to college students.[192] Tobacco promotion on campus is a widespread practice--students at 91.6 percent of schools represented in one survey encountered at least one such promotion at a campus social event. This survey also found that 8.5 percent of students have attended a bar, nightclub or a campus social event where free cigarettes were distributed (3.2 percent encountered the distribution of free cigarettes at a campus social event).[194]

> *Besides giving away merchandise and prizes to college students and others at tobacco-brand bar and club parties, the tobacco companies also are trying other merchandising strategies to attract youthful customers. For example, in July 2000, Brown & Williamson began selling special packages of Kool cigarettes that include a free mini radio with earphones, as part of a youth-focused marketing and advertising campaign designed to complement its "Kool Scene" music and dance parties at bars and nightclubs.*[193]
>
> -- Campaign for Tobacco-Free Kids

At many of these promotional events, the tobacco companies provide students with more cigarettes than they would usually smoke in the course of a night, leaving students with extras for the next day. This practice increases the risk that students will make the transition from social smokers--who smoke primarily while drinking or partying--to habitual smokers, while simultaneously fostering brand loyalty.[195]

Attending a tobacco promotional event is linked to student smoking: attendance is associated with a twofold increase in the likelihood of current smoking among students who did not smoke prior to age 19 (24 percent vs. 12 percent).[196]

Tobacco industry promotions of cigarettes to college students through sponsorships of musical events at college bars, advertising in college newspapers and providing free samples to students,[197] are linked to a greater likelihood of being a smoker.[198]

Emphasis on Athletics

Schools with a strong emphasis on athletics--as evidenced by membership in NCAA Division 1--have higher rates of alcohol use than those in which athletics are less of a priority.[199] Because drinking is so integrally associated with sporting events, colleges that emphasize sports and athletics are infused with pro-drinking images and messages.

In 2004, the alcohol industry spent $68 million in college sports television advertising, up from $54 million in 2003.[200]

Drinking and college sporting events often go hand in hand. But a recent string of student riots following major collegiate sporting events has shown that the combination can be very destructive. In November 2002, students from Ohio State University set fire to cars and threw bottles after beating rival football team University of Michigan. Police, who estimated the damage in tens of thousands of dollars, fired tear gas into the crowd and made more than 45 arrests. That same month, fan violence also occurred after major football matches at a number of other universities.[201]

Some students increase their alcohol consumption on days when important sporting events take place. On the day of the 2003 NCAA basketball championship game in Syracuse (a Monday), more than eight times as many students drank alcohol as normally would on a typical Monday (66.3 percent vs. 7.7 percent). Students drink more during semifinal and championship game days. For example, on a typical Saturday, students consume an average of 3.2 drinks but on the Saturday semi-final game the average increased to 5.7 drinks. On a typical Monday, participants consume an average of 0.3 drinks but on the Monday championship game the average increased to 4.6 drinks.[203]

Tailgating is a common game-day occurrence, where fans park their cars and trucks outside the stadium, bring food, drinks and music and celebrate before, during and after the game. Tailgating and drinking are the norm at the University of Georgia. One student says, "It's hard to find sober people on game day." Students are allowed to have open containers of alcohol on the UGA campus. Alcohol is prohibited in the stadium except in sky suites, yet fans still find ways to carry alcohol into the game. A tailgating party hosted by a UGA alumnus is advertised on a Web site that boasts, "A night of trash-talking, beer ponging, guitar slappin', beer chugging, liquor pounding fun."[205]

Despite these facts, the NCAA has decided to maintain its current alcohol advertising policy which limits ads to products that do not exceed six percent alcohol by volume (i.e., beer), restricts the amount of advertising on NCAA telecasts to 60 seconds per hour and must include a "drink responsibly" tagline. The Campaign for Alcohol-Free Sports TV argues that these limits are, in effect, meaningless since the primary alcoholic beverage of choice for college students is beer and the one minute per hour restriction effectively allows for a concentration of beer ads that is 16 times greater than the average amount of alcohol advertising on all other television programming.[204]

Alcohol advertising at NCAA events by inference ties the consumption of alcohol to personal accomplishment, teamwork and athletic competition. Colleges must not, on the one hand, encourage healthy bodies and wholesome minds, while on the other hand encouraging--at least indirectly--the use of alcohol. It is unequivocally evident that alcohol and sports do not mix, nor do alcohol and academics.[202]

--Senator Robert C. Byrd (D-WV)

Citing the inconsistency of tacitly supporting alcohol use and abuse by allowing alcohol advertising during collegiate athletic events, former North Carolina basketball coach Dean Smith, former Nebraska football coach Tom Osborne, 246 university presidents, the American Medical Association and the Center for Science in the Public Interest along with more than 180 national, state and local organizations, recently called for the National Collegiate Athletic Association (NCAA) to eliminate alcohol advertising during NCAA-sanctioned events.[206]

Letter to the NCAA Executive Committee

We recognize that an end to alcohol advertising during televised college games will not, by itself, resolve the 'culture of alcohol' that exists for too many college students. However, such a policy would declare and affirm college's genuine and consistent commitment to a policy of discouraging alcohol use among underage students…We strongly encourage the committee to act on the side of the health and safety of college students, athletes and young fans by ending all alcohol advertising during NCAA broadcasts.[207]

--Tom Osborne
Former Nebraska football coach

State and Local Policies

Limited anti-substance use policies and lax enforcement combine to increase the risk of college student substance use and abuse. Comprehensive and well-enforced state-level substance use control policies are related to reduced substance use in college students.

In states with four or more laws that restrict the promotion and sale of large amounts of alcohol, the binge-drinking rate among college students is 33 percent, compared to a rate of 48 percent in states with fewer restrictive laws.[208] Student drinking and binge drinking (especially among males) are less common in states with strong drinking and driving policies, such as those with higher likelihood of arrest, lower standards for conviction and higher penalties upon conviction.[209] Drinking and driving is less prevalent among students who attend college in states with greater restrictions on underage drinking and in states that devote more resources to enforcing drinking and driving laws.[210]

Students who live in a state that had a youth blood alcohol content (BAC) law in effect during their high school years drink less once in college than students from states that did not have a youth BAC law while they were in high school.[211] State policies that reduce students' access to alcohol--particularly happy hour restrictions and open container laws--are related to lower rates of alcohol and marijuana use.[212] Increasing prices or excise taxes on alcoholic beverages has been associated with lower levels of alcohol consumption and alcohol-related problems in the general population;[213] however, the relationship between alcohol pricing and college student drinking is less strong.[214]

College student smokers who attend schools in areas with more comprehensive clean air laws smoke fewer cigarettes than those who do not.[215] Tobacco pricing also is significantly related to college student smoking, even more so than among older adults.[216] A 10 percent increase in cigarette prices would result in a 2.6 percent reduction in the number of college students who smoke and a 6.2 percent reduction in the level of smoking among current smokers.[217] Higher cigarette excise taxes, which raise cigarette prices, are related to substantially lower smoking rates among college students.[218]

Chapter V
What Colleges Should Do and Are Doing to Prevent or Reduce Student Substance Use

A growing body of research sets out a framework for what works in preventing, reducing and treating substance use and abuse among college students. Yet, few schools have adopted these comprehensive evidence-based approaches, relying instead on superficial or scattershot efforts, many of which do not have proven efficacy. This neglect is rationalized by parents, college administrators, faculty and policymakers alike who underestimate the dangers or refuse to take responsibility.

The increases over the past decade in risky drinking among college students and its adverse consequences occurred against a backdrop of increased--albeit relatively limited--alcohol-control actions at colleges and universities. For example, compared to 1993, alcohol-using students in 2001 were significantly likelier to be fined (1.3 percent vs. 3.4 percent) or to receive other disciplinary action (1.8 percent vs. 3.0 percent) and to be required to attend an alcohol education program (1.8 percent vs. 3.5 percent), perform community service (1.0 percent vs. 2.5 percent) or be referred to an alcohol treatment program (0.5 percent vs. 2.2 percent).[1]

In regard to alcohol control, there continues to be a profound disconnect between evidence-based best practices and the actual activities of colleges and universities. The evidence strongly suggests that the best way to reduce alcohol problems among college students is to change fundamentally the culture of drinking prevalent on college campuses and in their surrounding environments.[2] This fundamental change requires a true commitment from school presidents and administrators to implement a multifaceted, comprehensive and integrated approach that simultaneously targets the individual student at risk, the larger student body, the faculty and administration, the school's surrounding community and parents.[3] Although there are some activities underway to promote movement in this direction, CASA

found little evidence of schools adopting comprehensive evidence-based approaches that have been independently and rigorously evaluated and proven to reduce college drinking and its consequences.[4] Most college administrators, who are in a position to implement the policies and programs that years of research have shown can work, continue to rely on limited and ineffective interventions that do little to bring about real and much-needed change.

The picture for prescription drug abuse and illicit drug use is even bleaker. Virtually no evidence-based programs or efforts were uncovered that address the problem of prescription drug abuse--particularly the abuse of the stimulants Ritalin or Adderall--among college students. And, almost without exception, strategies for reducing drug use on campus are presented as one component of "alcohol and other drug (AOD)" prevention programming. In general, little effort is made to address specific issues related to the use of illicit drugs and most components of AOD programs very clearly are applicable only to alcohol use.[5] For instance, the two programs* for college students designated as model programs by the Substance Abuse and Mental Health Services Administration (SAMHSA) are targeted at the reduction of alcohol use and its associated harms.[6] Promising efforts to reduce alcohol use on campus have not been evaluated for other drug use in general or for specific drugs commonly used by college students, such as marijuana.

With regard to smoking, more and more colleges are enacting some form of smoking ban on campus, reflecting nationwide trends toward cleaner air and minimizing exposure to secondhand smoke. Yet despite the obvious benefits of such smoking restrictions, less than 30 percent of public universities have a comprehensive ban on smoking in and around all campus buildings and facilities. Although tobacco promotions hook untold numbers of students on cigarettes, most schools have no official policy on tobacco promotions on campus or tobacco advertising in campus newspapers. And, despite the availability of effective tools for smoking cessation, many student health centers have failed to attract students who smoke to their cessation programs.[7]

Federal Requirements

According to the Drug-Free Schools and Communities Act Amendments of 1989 (Part 86), in order to receive federal funding, institutions of higher education must implement policies and programs to prevent students' and employees' unlawful possession, use or distribution of alcohol and illicit drugs. Nearly every institution of higher learning in the U.S. receives federal funding that would require them to meet these stipulations.[8]

An initial program certification report must be produced by schools that includes standards of conduct for students and employees that prohibit the unlawful use of substances, and a statement of disciplinary sanctions that will be imposed if such standards are violated. The report also must describe any applicable sanctions under local, state and federal law, the health risks associated with the abuse of alcohol and the use of illicit drugs, and prevention programs available to students and employees.[9]

Each college and university must complete a biennial review to determine the effectiveness of its program, implement changes as appropriate and ensure that the disciplinary sanctions are enforced consistently. If a college or university that is reviewed or audited is found to be in violation of these requirements, the Secretary of Education may impose sanctions on the institution, including requiring it to repay the federal funding it had received while in violation of the requirements or terminating all or part of its federal funding.[10]

CASA was not able to identify any evidence that these regulations are, in actuality, enforced. Furthermore, they do not apply to controlled prescription drug abuse or smoking--two forms

* Brief Alcohol Screening and Intervention for College Students (BASICS) and Challenging College Alcohol Abuse (CCAA).

of substance use that are prevalent on college campuses. Rather, their utility seems solely linked to the initiative of individual administrators at colleges and universities who may be motivated to address the problem of student substance use and might use the federal requirements to leverage support from administrative leadership.[11]

Evidence-Based Strategies for Preventing or Reducing Student Substance Use

As Chapter IV shows, there is a considerable body of knowledge available on the factors that increase the risk of student substance use and abuse. There also is research-based information to guide interventions. The primary resource is the National Institute on Alcohol Abuse and Alcoholism's (NIAAA) *A Call to Action: Changing the Culture of Drinking at U.S. Colleges*, released in 2002 by a Task Force on College Drinking convened by the National Advisory Council to the NIAAA.[*] [12]

The report focuses on the contexts and consequences of student drinking, approaches to preventing or reducing abusive drinking and recommendations for school administrators, students, policymakers, researchers and the communities in which colleges and universities reside. The Task Force recommended three tiers of research-based strategies to be implemented in an integrated way to target: (1) individuals at-risk for or already suffering from alcohol-dependence; (2) the larger student population; and (3) the drinking-related culture or environment of the college and its surrounding community.

The strength of the evidence for the efficacy of the strategies and interventions that are included in each tier of this framework vary. The NIAAA report categorized the strategies as: (1) proven effective among college students; (2) proven effective with general populations but have not yet been sufficiently evaluated in college students; or (3) logically and theoretically hold promise but require more rigorous research before ascertaining whether they are effective for college students.

Unfortunately, because of inattention to developing evidence-based models of prevention and intervention among college students, few strategies fall under the first category; those that do focus largely on targeted interventions[†] to students who already are identified as problem, at-risk or alcohol-dependent drinkers.

The second category--which includes strategies that have not been tested specifically on college students--primarily involves policy-related actions, such as increasing enforcement of minimum drinking age laws; restricting the density of alcohol retail outlets; and increasing prices and excise taxes on alcohol.

The strategies recommended by the NIAAA Task Force that do not have research in support of their effectiveness are those that intuitively should help to reduce student drinking. Examples include banning alcohol on campus; holding Friday classes and exams; offering alcohol-free student activities; controlling or eliminating alcohol at sports events; refusing sponsorships from the alcohol industry; and increasing enforcement of alcohol-control policies.

Although research in this area is ongoing, existing studies strongly suggest that prevention and intervention strategies can be successful only if they supplement student education about substance use and other individual-oriented efforts with comprehensive measures that modify the wider campus and community environment that may subtly or overtly encourage substance use.[13] This comprehensive approach, known as environmental management, seeks to fundamentally alter the environment and conditions in which students make choices related to drinking, smoking and using other drugs by making it less accepting of and

[*] No comparable report exists delineating strategies for reducing smoking or drug use among college students.

[†] Via cognitive-behavioral skills training, norms clarification or motivational enhancement techniques.

amenable to substance use. It requires motivating campus leadership, faculty, staff, students, members of the surrounding community and policymakers to reduce the appeal and accessibility of alcohol and other drugs and the opportunities to use them, and to identify and treat those students already in trouble.[14]

The environmental management approach requires strong leadership from the college administration--particularly the president--in making substance abuse prevention and intervention a priority, articulating clearly expectations regarding student drinking, smoking and other drug use and reaching out to campus, community and state groups and organizations to work toward reducing student substance use and abuse.[15] It should be supported by public policy change and community-level interventions to limit access to substances and alter the context in which substance-related decisions and behavior take place.[16]

One vehicle for accomplishing the aims of the environmental management approach typically is a campus-based task force that reports directly to the college president.[17] Campus-community coalitions,[*] in which campus administrators partner with community leaders and local police, may address student substance use and abuse from a broader perspective by enforcing campus, local and state substance-use policies and helping to work toward policy change on the local and state levels.[18]

Because so few schools have taken the environmental management approach, few evaluation studies have been conducted to demonstrate its effectiveness as well as its limitations.[19] There is a considerable body of research, however, that supports many of the strategies that are part of the environmental management approach. Much of the research relates to state-level policies that occur off campus, such as increasing the minimum age to purchase alcohol to 21 or increasing the price of alcohol.[20]

The conclusions of the NIAAA Task Force and the emerging research findings related to the environmental management approach mirror many of the recommendations offered by CASA more than a decade ago in our 1994 report, *Rethinking Rites of Passage: Substance Abuse on America's Campuses*.[21] Yet a look at the current state of affairs shows that calls for comprehensive action largely have fallen on deaf ears and CASA's conclusions and recommendations from 1994 are even more relevant today than they were back then.

Consistent with CASA's earlier research and with the NIAAA Task Force's findings, CASA's broader analysis of strategies that can help reduce not only student drinking but student smoking and other drug use as well reveals that the most promising approaches are comprehensive in nature, executed with fidelity to the tested strategy and include the following elements:

- Changing the prevailing climate on campuses and surrounding communities that condones substance use;
- Changing students' attitudes and perceptions;
- Engaging parents;
- Reducing the availability of alcohol, tobacco and other drugs;
- Identifying and intervening with students known to be at high risk;
- Targeting high risk times and events; and
- Providing services for students with an identified problem.

[*] Recommended members of a campus/community task force include presidents, trustees, deans, campus attorneys; faculty and teaching assistants; admissions officers and resident life directors; student leaders and activists; AOD prevention coordinators; health care and counseling staff; police and campus security officials; athletic officials; Greek officers; alumni and parents; community leaders; elected officials; law enforcement; and alcohol retailers.

Student involvement is key. One study of 94 prevention programs aimed at reducing student binge drinking found that the programs most likely to demonstrate success were those that took a comprehensive approach in which students were involved in prevention activities (e.g., program development, operation, policy enforcement).[22]

What Are Schools Doing?*

Most colleges and universities have elements of prevention programming on their campuses aimed at addressing student alcohol and other drug use. For the majority of these, the main focus of the programming is informational or educational and deals primarily with alcohol. Far fewer schools have prevention programming to address student prescription drug abuse, illicit drug use and smoking and virtually none has implemented comprehensive measures to address the environmental, social and psychological determinants of student drinking, smoking and other drug use as well as the treatment needs of student substance abusers.

The most prominent initiative aimed at implementing a comprehensive, environmental management approach to prevention is being carried out by the American Medical Association and the Robert Wood Johnson Foundation which are working with 10 university-community coalitions† on a national environmental management approach to reduce college student alcohol abuse. The program, *A Matter of Degree: The National Effort to Reduce High-Risk Drinking Among College Students (AMOD)*, is an $8.6 million, multi-year effort designed to foster collaboration between participating universities and their surrounding communities to address college drinking.[23]

An independent study evaluating the effectiveness of the ongoing *AMOD* programs at different colleges found that schools implementing the most environmental changes and adhering very closely to the model showed minor but statistically significant improvements in several measures of student alcohol consumption and alcohol-related harmful outcomes compared to low environmental change *AMOD* programs and control schools.‡ [24] Elements of the environmental approach that are being implemented in some schools across the country are described below. However, CASA's survey of college administrators demonstrates how rare it is for schools to implement comprehensive programming that targets all forms of substance use. (See Table 5.1)

* See the Higher Education Center's Web site on "*What Campuses and Communities are Doing*" for a comprehensive list of efforts by individual schools (http://www.edc.org/hec/).

† Florida State University; Georgia Institute of Technology; Lehigh University; Louisiana State University; University of Colorado; University of Delaware; University of Iowa; University of Nebraska at Lincoln; University of Vermont; University of Wisconsin.

‡ Between the baseline evaluation of the *AMOD* programs in 1997 and the follow-up evaluation in 2001, there were statistically significant reductions in a number of alcohol-related measures for schools that adhered closely to the model, including binge drinking (61.2 percent vs. 59.4 percent), reported initiation of binge drinking in college (45.7 percent vs. 42.7 percent); drinking on 10 or more occasions in the past month among those who drank in the past year (31.4 percent vs. 29.6 percent); and being drunk on three or more occasions in the past month among those who drank in the past year (41.0 percent vs. 37.8 percent). Reductions in alcohol-related harmful outcomes included missing a class (46.6 percent vs. 39.5 percent); getting into an argument (31.3 percent vs. 26.2 percent); having unplanned sex (29.5 percent vs. 26.1 percent); or getting hurt or injured (18.8 percent vs. 17.2 percent). There also were reductions in reports of secondhand effects from others' drinking such as being assaulted (19.6 percent vs. 17.0 percent) or experiencing disturbed studying or sleep (64.7 percent vs. 57.6 percent).

Table 5.1

Prevention Activities Implemented by Respondents' Schools to Address Student Substance Use

	Percent of Schools			
	Alcohol	**Prescription Drugs**	**Illicit Drugs**	**Tobacco**
Change the Prevailing Climate				
Hold classes/exams Friday and on Saturday morning	21.3			
Alternative alcohol-free events	71.3			
Ban advertising, sponsorships, promotions	55.4			43.2
Change Students' Attitudes, Correct Misperceptions and Clarify Expectations				
Education programs	64.4	27.8	45.9	37.1
Curriculum infusion	20.4	4.5	9.5	4.5
Social norms marketing	39.6	2.3	15.8	18.6
PSAs/media campaigns	38.3	11.3	21.3	25.7
Peer education programs	51.3	21.3	32.9	34.2
Engage Parents				
Educate/engage parents	34.4	5.9	13.6	3.2
Notify parents of policy violations	39.2	29.7	41.4	
Reduce Availability				
Ban drinking/smoking on campus	23.1			13.6
Responsible beverage service training for bar owners, managers, bouncers	22.6			
Trained servers required at campus events where alcohol is served	37.8			
Identify Students at High Risk				
Screening at health services	39.6	27.1	29.9	29.9
Targeted programs for high-risk students	48.0	8.6	20.8	6.3
Target High Risk Times or Events				
Targeted programs for high-risk events	27.9			

Source: CASA's 2005 College Administrator Survey. (See Appendix C for exact wording of the items.)

Changing the Prevailing Climate of Substance Use

Despite the intuitive logic and appeal of comprehensive, community-wide approaches to prevention, relatively few schools have adopted them wholesale.[25] Attempts to change the pro-substance use culture on college campuses include collaborating with community members, law enforcement, local businesses and landlords to implement and enforce substance use-control policies; holding Friday classes and exams to dissuade students from drinking heavily on Thursday nights; offering appealing alcohol-free opportunities for recreation and socializing; and curtailing sponsorships, promotions and advertising by the tobacco and alcohol industries.

College-Community Collaborations. Only 38.5 percent of schools surveyed by CASA for its 2002 college administrator alcohol survey reported that they had formed task forces in which college representatives and community members and organizations join to tackle the college student-drinking problem. But regardless of the presence of a formal task force,

some schools form collaborations or alliances with elements of the surrounding community.

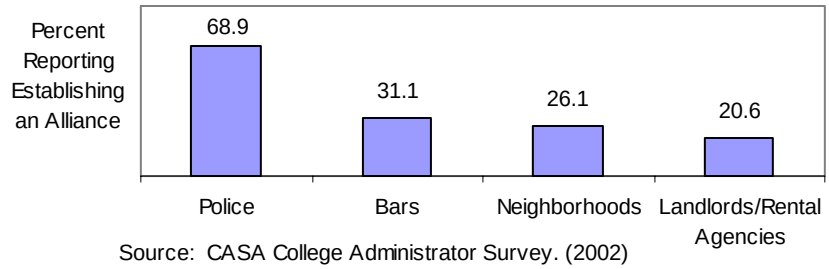
- *School collaboration with law enforcement.* CASA's survey found that the community organization with which the largest proportion of colleges had developed some relationship was the local police department. More than two-thirds (68.9 percent) of respondents stated that a campus-police alliance had been established. One reason for this relatively high rate of collaboration with local law enforcement is that excessive student drinking off campus is likely to lead the police to initiate contact with campus officials. In this regard, a campus-police alliance may be a natural outgrowth of frequent interactions between these two organizations. Some campus police and local police departments also form mutual-aid agreements in which they have formalized arrangements to assist one another in emergency situations involving students.

- *School collaboration with local alcohol establishments.* Schools that work with local alcohol establishments or with licensed establishments on campus to regulate happy hours and price promotions show promise as part of a larger strategy to reduce excessive alcohol consumption among students.[27] CASA's 2002 college administrator survey found that less than one-third (31.1 percent) of respondents indicated that their schools had alliances with local alcohol establishments. The extent to which the relatively low proportion of campus-bar alliances is due to a failure on the part of school personnel to reach out or unwillingness on the part of bar owners to respond to campus efforts in this regard is unknown.

- *School collaboration with landlords and neighborhoods.* Many college students live off campus, where drinking can occur easily with limited or no supervision or monitoring.[28] School collaboration with local landlords or neighborhood rental agencies to enforce underage drinking restrictions can be an important part of a larger strategy to prevent underage alcohol use or excessive student drinking. CASA's 2002 college administrator survey found that only 26.1 percent of schools have established alliances with neighborhoods and 20.6 percent had established an alliance with landlords or rental agencies. (See Figure 5.A.)

Figure 5.A

Campus/Community Collaboration Among Surveyed Schools



Source: CASA College Administrator Survey. (2002)

On August 24, 2005, local tavern owners joined with officials at the University of Dayton to create the voluntary Cooperating Tavern Agreement. The arrangement specifies that participating taverns will:

- Decline service to already-intoxicated patrons;
- Avoid serving excessive amounts of alcohol to students turning 21;
- Work with University of Dayton police by turning in students who present fake IDs and those who provide drinks for underage students; and
- Encourage the designated driver strategy by offering free non-alcoholic drinks and finding safe rides to intoxicated patrons.

The agreement is voluntary and lacks the authority of a legally binding contract.[26]

Holding Friday classes. College students tend to increase their consumption of alcohol incrementally throughout the week with a sharp upsurge on Thursdays and culminating in the most consumption on Fridays and Saturdays.[29]

In recent years, an increasing number of schools have stopped holding classes on Friday, in part because many students were missing class due to hangovers from Thursday night parties. Such a policy only condones and perpetuates heavy drinking, allowing the weekend to begin in earnest on Thursday rather than Friday evening. One strategy for helping to reduce students' opportunities to drink is for schools to hold regular classes Monday through Friday.[30]

> Some students at the University of Arizona and Arizona State have begun referring to Thursday as "thirstday." While some universities, such as Duke, have been expanding class schedules to include early morning and Friday classes, many schools face opposition from faculty members who value having a free day to work on research and attend meetings.[31]

CASA's 2002 survey found that three-quarters (76.3 percent) of the administrators reported that classes were held on Fridays at their school. It is unclear, however, whether this represents a full or only a partial schedule of classes or whether attendance is mandatory. Further analysis revealed that while 84 percent of the schools that reported banning alcohol on campus held Friday classes, 65 percent of those that did not have such bans held Friday classes.

CASA's 2005 college administrator survey, however, found that only 21.3 percent of schools reported holding Friday or Saturday morning classes and exams.

A national survey of college students found that only 17 percent were in favor of a policy of having early Friday classes to discourage Thursday night drinking.[32]

Offering alcohol-free alternatives. Some schools have begun to offer appealing alcohol-free alternative activities and events for college students. The goal is to change the prevailing notion among students that drinking is an essential component of any relaxing, entertaining or social activity. Such offerings include venues for students, such as pubs and coffeehouses, that do not serve alcohol; keeping gyms, bowling alleys and other recreational facilities open during times when students often report drinking out of boredom; and offering alternative alcohol-free events, such as street festivals, cultural events, dances and parties. CASA's 2005 college administrator survey found that 71.3 percent of schools report offering alternative, alcohol-free events.

Anecdotal evidence suggests that these alcohol-free alternatives appeal to students and may be associated with reduced alcohol-related consequences; however, research demonstrating the effectiveness of this approach in reducing student substance use is not yet available.[33]

Eliminating sponsorship, promotions and advertising of alcohol and tobacco products. Each college adopts its own policies with regard to allowing alcohol or tobacco advertising and/or industry sponsorship of college events, making colleges the ultimate arbiters of whether such advertising or sponsorship will be allowed on their campuses.

Refusing sponsorships, promotions and advertising on campus from the alcohol and tobacco industries is one strategy for reducing student substance use and dispelling the perception that underage drinking and smoking are acceptable.[34] However, the alcohol and tobacco companies are motivated to hook potential drinkers and smokers on their products while they are still young and impressionable, and are willing to pay a high price to schools to reach students.[35] Schools that permit these advertisements and sponsorships are profiting from the sale of their students' future health.

Alcohol. CASA's 2005 administrator survey found that 55.4 percent of college and university administrators reported that their schools prohibit alcohol advertising, product endorsements or alcohol industry sponsored events.

The California State University (CSU) system, comprised of 23 campuses and 410,000 students, has banned the sale of alcoholic beverages at all sporting events. The new CSU policy also has limited the amount of beer and wine advertising allowed on campuses.[36]

At the same time, many schools continue to allow alcohol industry advertising and promotions, especially from alcohol outlets in the community. One study found that the availability of alcohol, price promotions and advertisements at alcohol establishments were associated with higher student drinking rates.[37]

A national poll conducted in 2003 shows that three-quarters of Americans (77 percent of parents and 73 percent of adults in general) think that it is wrong for colleges to accept money from the alcohol industry and 71 percent support a ban on alcohol advertising on televised college games.[38]

Alcohol Sponsorships

Increased Restrictions

- The University of Florida, Ohio State University and Kentucky State University have banned alcohol advertising from television and radio broadcasts that they control.[39]
- The University of Montana in Missoula prohibits the use of alcohol products, trademarks or logos in advertisements or promotions.[40]

Increased Leniency

- The University of Colorado's basketball arena, in recognition of a $5 million dollar gift, is called the Coors Events Center. Coors brewing company provides a $392,000 annual sponsorship of the Colorado athletic department.[41]
- Missouri State University was sponsored by Anheuser-Busch in the amount of $490,000 in 2005, in addition to $75,000 that Missouri shares with Illinois State University over the "Busch Braggin' Rights" basketball game.[42]
- Wisconsin State University receives sponsorships from Anheuser-Busch and Miller amounting to $450,000.[43]

Tobacco. In CASA's 2005 administrator survey, 43.2 percent of college and university administrators reported that their schools prohibit tobacco advertising, product endorsements or tobacco industry sponsored events. However, a separate study in which interviews were conducted with key informants from the largest public university of each of the 50 states indicated that none of the schools had an official policy on record prohibiting tobacco promotions on campus and 14 percent were aware of at least one on-campus event sponsored by tobacco company money.[44]

More than 30 percent of campus newspapers at these large public universities have policies expressly prohibiting tobacco advertising. While only 24 percent of papers that do allow tobacco advertising had actually run such ads during the term surveyed, those that allow such ads but had not run any indicated that they would have had they been approached by tobacco advertisers.[45]

In one survey of college campuses, banning advertising in college newspapers was not strongly related to reduced student smoking, but banning advertising on student bulletin boards was related to reduced student smoking among current smokers.[46]

Changing Students' Attitudes, Correcting Misperceptions and Clarifing Expectations

One component of a comprehensive strategy to prevent and reduce student substance use is to ensure that students' knowledge, beliefs and expectations about substance use and its consequences are accurate. This typically is accomplished through educational programs, social norms marketing campaigns and providing information to students and their parents about the school's substance-related policies. The extent to which these approaches are beneficial is not well known since quality evaluation research has yet to be conducted and some research even shows these approaches--particularly educational interventions--to be largely ineffective.[47]

Educational/information interventions. Educational/informational approaches are predicated on the notion that if students truly were to understand the risks of substance use, they would drink, use drugs and smoke less or not at all. The research evidence, however, does not support the utility of this approach.[48]

> *I don't feel that education is the issue because I've never met a smoker that didn't know they were killing their lungs or someone who was an alcoholic and didn't know that they were destroying their liver and their mind…*
>
> --Female Student, Dallas
> CASA Focus Group

Despite the lack of evidence that this approach is effective, informational or educational strategies for preventing substance use--particularly alcohol use--among college students are among the most commonly used interventions on college campuses.[49] Sixty-four percent of respondents to CASA's 2005 survey of college administrators reported that their schools utilized educational programs for alcohol, 37.1 percent for tobacco, 45.9 percent for illicit drugs and 27.8 percent for prescription drugs.

One of the most widely used educational/ information programs is *AlcoholEdu*, created by the health advocacy company Outside the Classroom.[*] *AlcoholEdu* is a two and one-half hour online course for college students currently being used by more than 450 colleges and universities.[50] The program claims to incorporate evidence-based prevention strategies, including personalized feedback, motivational interviewing, expectancy theory and normative feedback.[51]

Outside The Classroom's own research shows that, among students who "engaged" with the program, there were increases in the number considering changing their drinking behavior and decreases in the likelihood of heavy and problematic drinking.[52] Unpublished research funded by the developers of the program showed that students who completed the program (some voluntarily[†] and some who were required to do so) suffered fewer negative consequences related to drinking compared to those who did not complete this or a comparable course.[53]

Some Student Reactions to AlcoholEdu

"If you use common sense, you'll pass the pre-test and then you'll be bored for the rest of the program."

"I was falling asleep most of the time…wondering 'why am I spending my time doing this?'"

A chart in the program that shows BAC levels of people of different weight and sex after a certain number of drinks led to this reaction:
"I liked the BAC curve…because now I know exactly how drunk I can get before I go to jail."[54]

Josh Hirschland
Columbia Daily Spectator
(Columbia University's student newspaper)

Another popular, although less widely used on-line educational/information program is *myStudentBody Alcohol*[‡] which aims to help "students identify and track individual drinking behaviors and risks."[55] A study of the effectiveness of *myStudentBody Alcohol* -- conducted by its developers and focused only on binge-drinking students--found that it induced positive change on several drinking measures in college women, heavy drinkers and students with little motivation to reduce their drinking. By the three-month follow-up, however, both the program group and the control group reported similar levels of drinking.[56] Therefore, strong evidence of the long-term benefits of this program has yet to be produced.

Anti-substance use messages also are provided to students via media campaigns and public service announcements. CASA's 2005 survey

[*] The program does not receive financial support from the alcohol industry.

[†] Potentially introducing a self-selection bias.

[‡] The program is funded through federal research grants.

of college administrators found that their schools used public service announcements, media campaigns or demonstrations on campus to address student alcohol use (38.3 percent), smoking (25.7 percent), illicit drug use (21.3 percent) or prescription drug abuse (11.3 percent). Evaluation data regarding the effectiveness of this approach is very limited.[57]

Peer education. Peer education and other student involvement in prevention efforts are considered important components of an effective comprehensive strategy to reducing student substance use.[58] CASA's 2005 survey of college administrators found that half (51.3 percent) of the respondents reported having peer educator programs to address alcohol use, 21.3 percent to address prescription drug abuse and one-third to address illicit drug (32.9 percent) and tobacco (34.2 percent) use.

The most prominent organization dedicated to reducing substance-related problems on college campuses by promoting peer education strategies is the *BACCHUS and GAMMA Peer Education Network*, which sponsors such programs as National Collegiate Alcohol Awareness Week and the Safe Spring Break campaign.[*] [59]

Social norms marketing campaigns. Social norms marketing campaigns aim to provide students with information about the extent to which their peers report using substances. Studies have found a gap between self-reported substance use behavior and students' perceptions of the extent to which their peers smoke, drink and use drugs. The social norms marketing approach assumes that students overestimate peer use which may lead them to drink or use other substances more than they otherwise would in order to conform to the perceived "norm" of their peer group.[60] Social norms marketing campaigns seek to make students aware of the "inaccuracy" of their perceptions, with the expectation that they will ratchet down their substance use to conform to the self-reported rates of use among their peers (which are assumed to be accurate).

Social norms marketing campaigns widely disseminate information about students' reported substance use practices in a variety of ways, including orientation programs, newspaper ads and articles, lectures and posters strategically placed throughout campus.[61]

CASA's 2005 survey of college administrators found that 39.6 percent reported that social norms marketing was used at their school to prevent alcohol use, 2.3 percent to prevent prescription drug abuse, 15.8 percent to prevent illicit drug use and 18.6 percent to prevent tobacco use. A 2002 national survey of college administrators found that half of the schools used social norms marketing programs, and that the percentage of schools using such programs had increased by 30 percentage points (from 20 percent) since 1999.[62]

There is some evidence that this strategy might be helpful in reducing high-risk or heavy drinking among students--as indicated by self-reported rates of drinking, and in changing students' perceptions of peer norms to match more closely peers' self-reported drinking behavior; however, studies finding reductions in more objective measures of alcohol use, such as BAC levels or DWI rates, have not been published in peer-reviewed journals.[63]

Other research finds that in schools that have implemented social norms marketing campaigns, the rate of alcohol consumption remained the same or *even increased* while students' perceptions of peer alcohol use became closer to students' reported use (i.e., students perceived lower rates of peer drinking).[64]

Social norms marketing campaigns often are perceived derisively by students who doubt the credibility of the norm estimates that are presented.[65] Some think that students do not truthfully report their use. Others think that the norms are based on a biased sample of students instead of being based on scientific research. Still others believe that the real purpose of the campaign is a public relations stunt to attract

[*] The *Network* receives some funding from alcoholic beverage producers, such as Anheuser-Busch and Coors.

parents of potential students and boost admissions.[66]

Proponents of the social norms marketing approach argue that many of the studies that find it to be ineffective have included schools that have not implemented the programs correctly or with fidelity to the intended protocol or that the evaluations themselves are methodologically flawed.[68]

Critics of the approach argue that these programs have not been evaluated adequately and that social norms marketing campaigns may inadvertently convey tacit approval of underage drinking, suggesting that it is normal to drink rather than to abstain, and even may encourage students who drink less than the advertised norm to increase their alcohol use.[69]

> *"What makes this [social norming] so attractive to universities and colleges is that it makes the problem look like it is less severe than it actually is- it takes the heat off of them. And alcohol companies are happy because there's no cutting into their sales."*[72]
>
> *"If social norms were a drug, the FDA would not allow it on the market. There's no proof that it's doing any good."*[73]
>
> --Henry Wechsler, PhD
> Director, Harvard School of Public Health
> College Alcohol Study

Indeed, the alcohol industry advocates this approach and has provided funding to universities to establish social norms marketing programs.[70]

One study found that 21 percent of colleges and universities receive funding for their prevention programming from the alcohol industry and these schools are likelier than other schools to rely on social norms marketing initiatives rather than restricting alcohol use on campus or at college events. Twenty percent of schools that use social norms marketing ban alcohol on campus, compared to 47 percent of schools that do not use this approach; 30 percent of schools that use social norms marketing ban alcohol in dorms compared to 55 percent of schools that do not use this approach.[71]

Alcohol Industry Support for Social Norms Marketing Campaigns

The University of Virginia adopted a social norms marketing campaign that emphasizes drinking in moderation. The program is funded by a $150,000 grant from Anheuser-Busch Co. Anheuser has pledged an additional $250,000 to fund social-norms campaigns at six other schools. Miller Brewing Co. also supports social-norms programming, with a $25,000 gift to Georgetown University. The University of Wyoming accepted $8,000 from Adolph Coors Co. to advertise that "A" students drink less than "C" students.[67]

Social norms marketing campaigns also are sometimes used to address college student smoking.[74] However, no data exist attesting to the effectiveness of this approach for reducing smoking among college students.

> *They're trying to convince the student population that it's not cool to smoke and that not a whole lot of people do it and you're in the minority if you do. But it's not that way at all, so the [social norms marketing] campaign is just kind of dorky and really not working.*
>
> *You see the people walking around campus, you see the people every time you walk in your dorm, every time you go through the doors you've got to walk through a cloud of smoke.*
>
> --Male Students, Dallas
> CASA Focus Group

Informing students and parents of the school's substance-related policies.
Informing new students and their parents of a school's substance-related policies and penalties and actively publicizing this information on campus may serve as one helpful component of a larger strategy for reducing student substance use and abuse.[75] One study found that students, particularly men, who do not know their school's alcohol policies are likelier to binge

drink than those who know their school's policies.[76]

> *I don't think the solution is, "This is the policy, this is what will happen, and this is the punishment you will get." I think there needs to be outreach and more prevention in the first place.*
>
> --Female Student, Dallas
> CASA Focus Groups

Seventy-six percent of respondents to CASA's 2002 college administrator alcohol survey indicated that their school's alcohol policies are communicated to new students even before they arrive on campus. Nearly all of the respondents (96.3 percent) indicated that the policies were communicated once students arrive on campus. Eighty percent said that their school also communicated the policies to parents (e.g., through the school Web site). Most administrators report that their school provides information about the school's alcohol policies to students (86.3 percent) and/or to parents (69.6 percent) during freshman orientation.

Engaging Parents

In addition to informing parents about alcohol policies before classes begin, some schools have specific parental education or engagement strategies. CASA's 2005 survey of administrators found that one-third (34.4 percent) report engaging parents in their alcohol prevention strategies; 5.9 percent for prescription drugs; 13.6 percent for illegal drugs; and 3.2 percent for tobacco.

Colleges and universities are grappling with the issue of whether to inform parents if their children are found to have violated a school's substance use control policies. Less than half of the college administrators interviewed in CASA's 2005 survey reported that they notify parents of substance-related disciplinary action: 39.2 percent report students' alcohol violations, 29.7 percent report prescription drug violations and 41.4 percent report illicit drug violations.

> *Many parents do not want to know if their children in college experience legal difficulties resulting from underage alcohol or drug use. When the University of Missouri attempted to institute a parental notification policy as part of a broader effort to reduce student substance abuse, parents fought back. Many said that they send their children to college to experience, as they did, 'life as it really is' and that drinking is part of the college experience and the real world. Other parents worried that being notified of their children's substance-related legal troubles might harm their relationship with their children. In the face of this denial and resistance from parents, we instituted a less strict parental notification policy than we otherwise would have.*[77]
>
> --Manuel T. Pacheco, Ph.D.
> Former President, University of Missouri System
> Former President, University of Arizona

A 2000 study found that 44 percent of colleges and universities had parental notification policies for students with alcohol violations. Fifteen percent did not have a formal policy, but notified parents in practice and 25 percent were actively considering adopting notification policies for the next year.[78]

> In the wake of alcohol-related property destruction, student injury and student death, the University of Georgia is taking steps to reduce underage drinking on campus. As of May 2006, parents will be notified every time their underage students are accused of violating the school's alcohol and drug policy. Any student who is found guilty of violating the alcohol and drug policies will be required to complete an alcohol awareness course and will be placed on probation. Students will be suspended from the school after their second violation. To address concerns that these new policies would discourage students from seeking help, Rodney Bennett, VP of Student Affairs, said that the school is considering "an amnesty program for students who seek medical help for an alcohol-related illness."[79]

Some schools are concerned with the legal murkiness of parental notification; in many cases the parents are financially supporting the

student and so have a right to know what the student is doing, and while the vast majority (99 percent) of college students are age 18 or older, the drinking age is 21.[80]

CASA's 2005 survey of administrators found that most respondents believed that the average parent would want to be involved either very much (44.0 percent) or somewhat (48.8 percent) in issues related to their child's substance use or abuse. Most also believed that the average parent very much (62.9 percent) or somewhat (32.3 percent) would want to be notified of their child's alcohol or drug problems.

Reducing Availability

Reducing the availability of alcohol and drugs is a key element of the environmental management approach to preventing student substance use and abuse. Unlike many other strategies, reducing the availability of alcohol can have a positive preventive effect even if implemented alone.[81] Availability is determined in part by the extent to which substance use is permitted on campus and embedded in the local community.

Alcohol bans and restrictions. A survey conducted in 2002 found that 34 percent of colleges report a complete ban on alcohol on campus, 43 percent report banning alcohol in all residence halls and 81 percent report offering alcohol-free floors or dorm rooms. Eighty percent of colleges say they ban alcohol at home athletic events, 53 percent at home tailgates, 40 percent at homecoming celebrations, 58 percent at on-campus dances or concerts and 22 percent at alumni events.[82]

CASA's 2005 survey of college administrators found, however, that less than one-quarter (23.1 percent) of the schools have policies completely banning alcohol on campus; 51.4 percent have policies that ban alcohol in common areas; 45.7 percent have policies that prohibit alcohol at sporting events, 53.6 percent have policies that do not allow beer kegs on campus and 56.1 percent require permission to serve alcohol on campus. While 56.7 percent of schools prohibit alcohol only for students under age 21, 15.8 percent prohibit it for all students regardless of age.[*] (See Table 5.2.)

Table 5.2
Policies to Prevent or Control Campus Alcohol Use

Policy	Percent
Alcohol prohibited for everyone (students, faculty, staff, alumni) regardless of age	23.1
Alcohol prohibited in common areas	51.4
Alcohol prohibited at sporting events	45.7
Prohibition of beer kegs on campus	53.6
Permission required to serve alcohol on campus	56.1
Alcohol prohibited for students under 21	56.7
Alcohol prohibited for all students regardless of age	15.8

Source: CASA's 2005 College Administrator Survey.

Unfortunately, the extent to which these policies are well enforced is unknown.[83] Not all schools with official policies banning or restricting alcohol on campus enforce these policies and, as a result, many students and staff members do not abide by them. This became very clear in CASA's focus groups with college students, many of whom scoffed at the idea of campus policies that attempt to reduce the availability of alcohol and opportunities for drinking.

> *My school segregates the non-drug users. The way they do housing is they have 'substance-free' housing and everything else is 'substance' housing. So, basically there's very select housing for people who do not want to be exposed to any drugs, including cigarettes, and then everyone else can do whatever the hell they want!*
>
> --Female Student, New York
> CASA Focus Group

[*] Other alcohol-control policies that were mentioned include a ban on hard liquor, allowing limited personal supplies of alcohol, requiring that alcohol use in common areas be approved with a two-thirds vote, and permitting alcohol at the off-campus football stadium.

Students in CASA's focus groups report that students in "substance-free" housing drink, smoke and use other drugs. Some students disable the smoke alarm to smoke in smoke-free dorms. Most agreed that it is easy to drink in dorms, even in "alcohol-free" dorms. Being underage is no barrier to drinking, even among students who attend schools with relatively strict policies.

Colleges than ban alcohol on campus have lower rates of student drinking.[84] One study found that students at schools with alcohol bans[*] are 30 percent less likely than students at non-ban schools to binge drink (38.4 percent vs. 47.8 percent), more likely to abstain from alcohol (29.1 percent vs. 16.1 percent) and less likely to report current marijuana use (12.5 percent vs. 17.5 percent among on-campus residents and 11.8 percent vs. 17.5 percent among off-campus residents).[†] But current-drinking students at schools that ban alcohol did not differ from current drinking students at non-ban schools on other measures of drinking including frequency, quantity and drunkenness.[85]

New Alcohol and Drug Policies

The University of Massachusetts Amherst updated its Alcohol and Drug Policies for the Spring 2006 semester. One of the new policies prohibits students from possessing alcohol paraphernalia or products in their rooms, which includes funnels, taps and beer pong tables. Students also are prohibited from using alcohol containers (empty or full) as decoration. The possession of an empty alcohol container by students under 21 can be considered evidence of possession or consumption of alcohol. Residence Life staff are responsible for enforcing these policies in the residence halls. First offenders are required to participate in *BASICS (Brief Alcohol Screening and Intervention for College Students)*, a program that provides students an opportunity to assess their own risk and identify potential risk reduction strategies on an individual basis.[86]

Student at schools that ban alcohol also suffer fewer alcohol-related consequences. At these schools, fewer students report getting hurt or injured than students at non-ban schools (10.2 percent vs. 13.4 percent) and fewer students report experiencing secondhand effects of other people's drinking (e.g., property damage or disturbed studying or sleep). And students at schools that ban alcohol are not more likely to drink and drive than students at non-ban schools (a common argument against banning alcohol on campus is that students will drink elsewhere and drive home drunk).[87]

Smoking bans and restrictions. State and local laws restricting smoking in schools and in restaurants reduces smoking rates among college students.[88] Students and faculty who work in buildings with smoking restrictions are more likely to attempt to quit smoking than those who work in buildings without smoking restrictions.[89] Smoking bans may reduce smoking by making it less easy and acceptable and limiting exposure to the social inducements that typically prompt an urge to smoke.[90] One study found that smoking bans only reduce student smoking when implemented in all areas on campus; partial smoking bans in certain areas did nothing to reduce student smoking, even when strictly enforced.[91]

Student support for tobacco control policies is strong, even among smokers. More than 75 percent of students are in favor of a total smoking ban on campus, 59 percent support banning the sale of tobacco on campus and just over half support banning smoking in on-campus bars.[92]

[*] Ban alcohol for all students regardless of age.
[†] It is possible that students who are at lower risk for substance use self select into schools that ban alcohol.

As of January 2007, 41 colleges and universities nationwide had complete bans on smoking.[*] [94]

A 2002 survey of more than one million students at the largest public university in each of the 50 states showed that smoking bans in all indoor public areas are very common--only one school had no such policy. Fifty percent of schools have a ban on smoking outside building entrances, although a quarter of those (28 percent) did not post signs to notify students of the ban. Fifty-four percent have banned smoking in student housing.[95]

CASA's 2005 survey of college administrators, however, found that only 13.6 percent of respondents reported that their entire campus is tobacco-free; 71 percent said that all indoor areas are smoke-free. One in five (20.8 percent) reported having designated smoke-free public areas and 40.4 percent reported that students are required to be a certain number of feet away from the building to smoke. Schools in southern, tobacco-producing states are less likely than schools in other states to ban smoking in student housing and outside buildings.[96]

In late August 2005, the acting governor of New Jersey, Richard J. Codey, signed a law to ban smoking in all college and university dorms in the state, in attempt to address not only student smoking rates, but also to improve safety concerning accidental fires. This law--the first of its kind in the nation--applies both to public and private institutions, as compared to laws in Connecticut and Wisconsin that only ban smoking in dorms at public colleges and universities.[97] Several weeks later, Codey introduced legislation to raise New Jersey's minimum age for buying and selling tobacco products from 18 to 19[†] [98] and this legislation was approved on January 15, 2006.[99]

> *It's very helpful when states decide to make this [smoke-free environments] a priority because before that happens it can be tough. It is easier to enforce the policy when it is mandated by law because students come here knowing what to expect and what the rules of the game will be.*[100]
>
> --Michael Gilbert
> Director of Housing Services
> University of Massachusetts

A survey of the largest public university in each of the 50 states found that 68 percent of the schools (34 colleges) restricted student access to tobacco by banning sales on campus. Of the schools that did allow sales of tobacco on campus, *over half* (55 percent) owned and operated the retail outlet themselves and *more than two-thirds* (69 percent) allowed students to use their university accounts to purchase tobacco products.[101]

The American College Health Association's (ACHA) Position Statement on Tobacco on College and University Campuses [93]

1. Distribute campus tobacco policy widely to all members of campus community.
2. Offer initiatives that support non-use and address with practical steps to quit.
4. Prohibit on campus tobacco advertising and sales.
5. Prohibit tobacco company sponsorship of campus events.
6. Prohibit smoking in all public areas and student housing.
7. Clearly identify all non-smoking areas.
8. Discourage smokeless tobacco use and prohibit its use indoors.
9. Consistently support and enforce all rules, regulations and policies.

[*] The entire campus--indoors and outdoors; including public and private two- and four-year colleges and universities. To see an up-to-date list of schools with complete bans on smoking, see American Nonsmokers' Rights Foundation: http://www.no-smoke.org/pdf/ smokefreecollegesuniversities.pdf.

[†] Alabama, Alaska and Utah already prohibit sales of cigarettes to those younger than 19.

Choosing Health

The reluctance to expand [no smoking] policies may be because many students and university officials feel that restrictions on students' personal behaviors do not fall under the jurisdiction of the school administration... Both university administrators and students will have to weigh their concerns over restricting personal behaviors with the health benefits of smoke-free residential life, but as more and more campuses expand their smoke-free policies, it appears that they are choosing health.[103]

--Laurie Fisher, Channing Laboratory
Cancer Causes and Control, 2002

The laissez faire approach that many schools take to curbing student smoking often is justified by the fact that smoking is legal for individuals age 18 and older, which includes almost all (99 percent) college students. But years of research documenting the adverse health effects of smoking and the recent Surgeon General's report detailing the many harmful effects of exposure to environmental tobacco smoke (secondhand smoke)[102] underscore the need for colleges and universities to take seriously the problem of student smoking as a critical public health issue that is within their power to address.

American Legacy Foundation Funds Tobacco Initiative at HBCUs

In February 2004, the American Legacy Foundation® awarded a $995,000 two-year grant to three historically black colleges and universities (HBCUs) in North Carolina for the *"On the Ground Smoking Cessation and Prevention Project."* The goals of the project are to reduce smoking among college students, strengthen campus smoking policies and raise public awareness in surrounding communities. The initiative seeks to engage college students to serve as effective communicators on these issues, and work with faculty and the local community to help reduce and prevent tobacco use.[104]

Responsible beverage service training. Training individuals who serve alcohol to do so responsibly can help prevent underage drinking and alcohol abuse. Responsible beverage service includes refusing service to individuals who are intoxicated, checking age identification, detecting false identifications and penalizing those who are non-compliant. Responsible beverage service policies that complement such training involve serving alcohol in standardized portions, limiting sales of pitchers, promoting alcohol-free drinks and food and eliminating last-call announcements.

Responsible beverage service practices have proven effective in the general population; their effectiveness with college students, while promising, remains unknown.[105] CASA's 2005 survey found that only 22.6 percent of respondents reported that their schools had responsible beverage service training programs in which bar owners, managers, bouncers or servers are trained to prevent alcohol sales and service to minors and intoxicated persons. Yet 37.8 percent reported that they require trained servers at all campus events where alcohol is served.

Increase enforcement. One study of public colleges and universities in Massachusetts found that despite the implementation of new uniform statewide restrictions on drinking at these schools, enforcement of these restrictions is inconsistent and varies greatly.[106] The mere existence of school policies and regulations regarding substance use control is insufficient; schools and surrounding communities must diligently enforce those policies and regulations and apply sanctions and other consequences to those who violate them.

The department that has primary responsibility for enforcement of substance abuse control efforts varies by school. Based on CASA's 2005 administrator survey, the most common is the office of campus public safety (35.5 percent). Others include the Director of Judicial Affairs/Judicial Committee (27.4 percent), resident assistants (RAs) (17.3 percent) and local police (2.5 percent).

The role of RAs in enforcing substance use control policies varies by school. Most administrators (68.3 percent) in the survey said that RAs are required to report students caught using prohibited substances to the college administration; 31.5 percent, to campus police and 4.1 percent, to local police. A third (34.7 percent) of the administrators in the survey said that RAs are supposed to provide a warning to students caught using such substances, 29.0 percent said that RAs are told to counsel these students and 20.7 percent said that they are required to refer the student to health services.

The primary sanctions for student violation of substance abuse policies are being required to appear before a university judicial committee and probation, suspension or expulsion. More administrator survey respondents said that campus police are notified about illicit drug policy violations than about alcohol or prescription drug policy violations (50.9 percent vs. 28.8 percent and 30.5 percent, respectively). Only 8.1 percent of administrators said that their schools refer students who violate alcohol policies to local law enforcement. (See Table 5.3)

Table 5.3
Sanctions for Student Violations of Substance Abuse Control Policies

	Percent		
	Alcohol	**Illicit Drugs**	**Prescription Drugs**
Students appear before university judicial committee	58.3	62.3	42.6
Probation, suspension, expulsion	49.5	59.6	42.6
Parents notified	39.2	41.4	29.7
Fines	36.7	24.9	14.9
Campus police notified	28.8	50.9	30.5
Students referred to local law enforcement	8.1	29.3	14.0

Source: CASA's 2005 College Administrator Survey.

More than half (54 percent) of the students responding to CASA's national survey of college students do not think that their school has effective or well-enforced smoking-related policies, more than one third (36 percent) do not think that their school has effective or well-enforced alcohol-related policies and 29 percent do not think that their school has effective or well-enforced drug-related policies.

Identifying Students at High Risk

Engaging individual students as early as possible in appropriate screening and intervention services is critical for addressing substance abuse problems.[107] Early intervention could be facilitated by training every member of the college administration, faculty and staff to identify and intervene with students at risk. The urgency for colleges and universities to step up and intervene was underscored by findings from a recent study showing that people who become dependent on alcohol before age 25 are less likely to seek treatment and more likely to suffer from chronic, relapsing dependence than those who become dependent on alcohol later in life.[*] The study found that young adulthood is a particularly risky time to develop alcohol dependence: almost half of the individuals who were alcohol dependent developed dependency before age 21 and about two-thirds did so before age 25.[108]

Outreach and screening. Some students at increased risk for substance use and abuse can readily be targeted for outreach, screening and intervention by colleges and universities because they are easily identifiable--groups such as college freshmen, athletes and those in the Greek system. Approximately two-thirds of college administrators (65.3 percent) in CASA's 2005 survey report having some type of program or programs that specifically target freshmen, 56.1 percent that target athletes and 39.0 percent that target fraternity or sorority members.

A growing body of research points to the need for intervention efforts for gay, lesbian, bisexual and transsexual students. For example, one study found that lesbian and bisexual women were more likely than heterosexual women to

[*] Age 30 or older.

smoke, use marijuana and other drugs and experience substance-related consequences. Gay and bisexual men were less likely than heterosexual men to drink heavily but were likelier to use certain drugs.[109]

Other risk factors may include having used alcohol, tobacco or other drugs in high school, having a family history of substance abuse, suffering from anxiety, depression or other mental health problems or feeling stressed, overwhelmed or anxious. For these students, appropriate outreach and intervention can occur if routine screening for substance abuse risks, behavior and problems is conducted at several campus venues and at multiple times during a student's academic career.

Screening immediately after enrollment can help identify those students who used or abused substances while in high school and, therefore, are at increased risk for substance abuse in college.

Campus health centers are a logical venue for screening and outreach activities since they provide health care services to an estimated 80 percent of all students[110] and are perceived by students as their advocates rather than as advocates of the institution.[111] A routine part of the student health center visit should include a screening for student substance use experience, behavior and intentions regardless of the purpose of the visit.

CASA's survey found that 39.6 percent of administrators reported that their schools screen[*] students for alcohol problems through health services and less than 30 percent reported doing so for prescription drug (27.1 percent), illicit drug (29.9 percent) or tobacco (29.9 percent) problems.

Another survey conducted by CASA researchers of college health centers found that only one-third (32.5 percent) of schools reported that they routinely[†] screen students to identify those at risk for alcohol abuse. The screening that did occur typically happened during the course of a standard medical history and physical (58.9 percent).[112]

Approximately 12 percent of the schools surveyed reported using standardized instruments to screen students; however, most of these (70.4 percent) rely on the CAGE,[‡] which has questionable utility for detecting alcohol problems in college students.[113] Specifically, the CAGE fails to identify 43 percent[114] to 69 percent of problem-drinking college students, and is even less sensitive to alcohol problems in female students.[115]

Student interaction with campus or local law enforcement for violation of campus rules or a legal infraction is another opportunity for screening to determine whether alcohol or other drugs were a factor in the violation and whether the student requires an educational intervention or referral to treatment.

Despite the benefit of early detection, most schools identify students only when they already have a full-blown problem. When asked about their schools' mechanisms for identifying students at high risk for substance abuse, the majority of respondents to CASA's 2005 survey of administrators indicated that students at high risk are identified through referrals[§] (74.6 percent) or through the standards or judiciary committee (71.4 percent). Half (50.7 percent)

[*] The nature and the extent of the screening is unknown.

[†] Schools were classified as "routine screeners" if they indicated that they "routinely screen most/every student" for alcohol problems *and* that they screen 50 percent or more of their student visits for alcohol problems. These schools screened, on average, 95.9 percent of students visiting the health center. Those schools classified as non-routine screeners screened, on average, 10.4 percent of students visiting the health center.

[‡] A diagnostic tool that consists of four questions: Have you ever thought you should Cut down on your drinking? Have you ever felt Annoyed by others' criticism of your drinking? Have you ever felt Guilty about your drinking? Do you have a morning Eye opener?

[§] The source of the referral was not specified.

identified students who essentially have identified themselves by seeking help from student health services for substance-related issues; 29.3 percent reported identifying high-risk students via surveys and only 5.9 percent did so based on a known family history of substance abuse.

Male and female students get identified as having a substance use problem in different ways. While 66 percent of total substance abuse referrals to substance abuse counseling are for males, when referrals are broken down further by type, significant gender differences emerge. The majority of students referred to substance abuse counseling for misbehavior are male (78 percent), but the majority of students referred after a substance abuse-related medical emergency are female (56 percent). This suggests that female substance abusers exhibiting less overt risk behaviors and consequences may not be referred to counseling until alcohol poisoning or overdose has jeopardized their health.[116]

Targeting High Risk Times or Events

Certain times of the year and certain traditional college events are so tightly linked to high-risk drinking that the larger student population--even those that otherwise might not be considered high risk--is at increased risk during these times. CASA's 2005 administrator survey asked respondents whether their schools have any programs, policies or services that specifically target high-risk times or events such as spring break, homecoming, fraternity/sorority rush week and end of semester or graduation celebrations. Whereas 41 percent reported targeting the risky time of spring break, approximately 20 percent or fewer reported targeting other known times or events associated with an increased risk of drinking and other substance use. (See Table 5.4)

Evidence-based research on the effectiveness of services that target high-risk times and events for reducing substance abuse among students is not available.

Table 5.4
Administrators Reporting Programs, Policies or Services to Target Times or Events of High Risk

Program, Policy or Service	Percent
Spring break	41.0
21st birthday	22.5
Spring weekend or other similar campus events	21.6
End of semester or midterms/finals week	20.4
Fraternity/sorority pledging or rushing	19.5
Homecoming/the big game	14.9
Pre-graduation events for seniors	11.8

Source: CASA's 2005 College Administrator Survey.

Controlling Alcohol at Athletic Events

Increased Restrictions

- The University of Southern California in Los Angeles discontinued alcohol sales at the Los Angeles Coliseum in 2005.[117]
- St. Cloud State University in Minnesota banned alcohol from tailgating parties in 2005.[118]
- The University of Colorado banned alcohol at its football field in 1996, but alcohol is still served at the Coors Events Center.[119]
- Yale University instituted new rules at athletic events in 2005, including banning drinking games, prohibiting sitting or standing on vehicles and requiring tailgate parties to end by the end of halftime.[120] In practice, the alumni have been able to continue their tailgate parties past the end of the games, while student parties are shut down at half time.[121]

Increased Leniency

- North Dakota State began to allow alcohol in designated tailgating areas outside its stadium in 2004, coinciding with its move into the NCAA's Division I-AA.
- Kansas State University began to allow alcohol consumption outside the stadium three hours before each game in 2001 in an effort to increase attendance at football games.[122]

Providing Services to Students at Risk for Substance Abuse

Once students are identified as being at high risk for or having a substance use problem, colleges and universities should be prepared either to provide services on campus or refer students to appropriate treatment services off campus if needed. The range of available services should include interventions for students at high risk for developing a substance use disorder but who have not yet developed one, treatment services for students already suffering from a substance use problem and specialized treatment services for students suffering from a substance use and co-occurring mental health disorder. To target students effectively with the appropriate interventions, colleges and universities should be equipped to provide assessments that are appropriate for college-age students.

Interventions for students at risk. Few evidence-based, targeted interventions exist for groups of college students known to be at high risk for substance abuse. Interventions that do exist and the ones being developed largely focus on alcohol use.

A key approach to intervening with students who demonstrate problematic drinking or other substance use but may not yet have a clinically-defined disorder is to change their attitudes, beliefs and expectations regarding alcohol or other drug use through brief interventions. This is best accomplished using three strategies within the context of individual or group sessions: *cognitive behavioral skills training* to alter students' beliefs about alcohol or drugs and their effects, *norms clarification* to refute their beliefs about the acceptability of their substance use and *motivational enhancement* to stimulate their desire to change their substance-use habits.[124]

A number of recent studies have found support for the effectiveness of reducing substance use and related harms among college students via brief interventions.[125] Brief interventions can yield positive results after as little as one session, are cost-effective and can be delivered by many different kinds of trained personnel in many different settings.[126]

Common Elements of Brief Interventions[123]

- Providing personalized feedback on effects and consequences;
- Emphasizing personal responsibility to change;
- Giving advice on how to change;
- Providing a menu of options for change;
- Expressing empathy by conveying caring, understanding and warmth; and
- Promoting self-efficacy to change by instilling hope that change is possible and within reach.

One brief intervention program that focuses on alcohol is the *Alcohol Skills Training Program (ASTP)*, which has been found to reduce drinking rates and harmful consequences among high-risk college students over a four-year period.[127] The efficacy of this approach has not, however, been tested as part of a campus-wide strategy,[128] nor has it been tested with regard to tobacco or other drug use.

Another brief intervention program, derived from the *ASTP*, *Brief Alcohol Screening and Intervention of College Students (BASICS)*, has been deemed a model program by the Substance Abuse and Mental Health Services Administration (SAMHSA). *BASICS* is a brief intervention for students who drink heavily and who have experienced or are at risk for alcohol-related problems (e.g., poor academic performance, accidents, violence). Students are identified through routine screening or referrals. An evaluation of the intervention indicates that more students receiving the *BASICS* intervention reduced their alcohol use over the course of a four-year follow-up than students in a control group (67 percent vs. 55 percent "improved" their alcohol use from baseline to follow-up).[129]

Treatment interventions. If a student's substance use problem is too acute to be amenable to a brief intervention, treatment is needed. Colleges and universities should have trained professionals on campus who can offer these services and who are equipped to deal with the many cases of co-occurring disorders among college students. If a college or university does not have the capacity to offer treatment services, appropriate and accessible referrals to treatment providers in the community should be made.

The majority of respondents in CASA's 2002 administrator survey reported that their schools had counseling available on campus for students with alcohol abuse problems (71 percent) and/or arrangements with professionals in the surrounding community (82 percent). Another large-scale survey found that 90 percent of schools report providing counseling and treatment services for students with alcohol abuse problems.[130]

A separate CASA survey of college health centers reveals that 66.2 percent of health centers report referrals of students with alcohol problems to the campus' counseling center; 63.8 percent refer students to off-campus substance abuse treatment; 51.7 percent refer students to 12-step meetings; and 43.6 percent provide referrals for individual therapy.[131] Each of these referral options has certain drawbacks for the college student population. For example, counseling personnel on campus typically do not have specialized training in the assessment and treatment of substance use problems.[132] Only 27.4 percent of the respondents in CASA's survey of health centers reported making referrals to "campus counseling services specifically designed to address substance abuse/misuse issues,"[133] an indication of the limited availability of such services on most campuses.

College administrators responding to CASA's 2005 survey were likelier to report that their schools provide referrals to off-campus treatment services than to have on-campus services. (See Table 5.5)

Table 5.5
Substance Abuse Treatment Services

Service	Percent			
	Alcohol	**Prescription Drugs**	**Illicit Drugs**	**Tobacco**
Referral to off-campus treatment	68.8	52.5	64.1	33.8
Referral to off-campus self-help programs	57.0	36.5	46.4	24.3
On-campus treatment	41.3	28.3	33.2	42.4
On-campus self-help programs	31.4	15.4	18.1	18.1

Source: CASA's 2005 College Administrator Survey.

Referring students to a substance abuse treatment provider in the community can be problematic since community-based programs often are not well suited for a college population. Such programs typically treat alcohol dependent clients and tend to be geared to an older population that is experiencing multiple problems related to their substance use. College students referred into this environment may not feel engaged in the initial treatment and may drop out of the program prematurely.

Community-based twelve-step programs also may be inappropriate for many college students. Preliminary research suggests that this type of referral has a very low rate of student follow-through--less than 20 percent follow-through to one AA meeting, with no students attending more than once.[134] This too may be a function of the design of community-based self-help programs which often are structured to meet the needs of adult populations.

Individual therapy may be most beneficial to students but is costly and may be inefficient for intervening with large groups of students.

Recovery Schools

A few colleges offer comprehensive programs to students who are in recovery from alcohol or drug addiction, including housing, education and twelve-step components. In 1983, Rutgers became the first school to establish an on-campus alcohol and other drug recovery program. Other schools with recovery programs include Augsburg College in Minneapolis, Dana College in Nebraska and Texas Tech University. To emphasize the need for recovery programs that go beyond basic counseling services, Andrew J. Finch, director of the Association of Recovery Schools says, "When [students in recovery are] coming out of a treatment facility right back into the atmosphere in which they were using drugs…it can set them back again into using behaviors."[143]

Helping students quit smoking. Between one-third and one-half of college students who smoke report a serious desire to quit.[135] More than 80 percent of students who have ever smoked daily have tried to quit; yet only 25 percent have done so successfully.[136] Despite this, more than half of college students who smoke report that they do not want professional assistance in quitting.[137] A lack of motivation often keeps students who wish to quit smoking from participating in cessation programs. One study found that efforts to increase motivation to attend cessation programs should include flexible program hours, peer participation and frequent reminders to attend.[138]

CASA's 2005 survey of administrators found that 42.4 percent of schools offer on-campus smoking cessation (22.5 percent offer pharmacotherapy such as nicotine replacement therapy) and one-third (33.8 percent) of schools refer students to off-campus smoking cessation (18.6 percent refer off-campus for pharmacotherapy). Another study found that 44 percent of schools offer smoking cessation therapy groups, but the vast majority of these have very low student participation.[139] Seventy percent of large public universities indicated that smoking cessation visits to the student health center are covered by student health insurance, however, only 20 percent cover pharmacotherapy for nicotine addiction.[140]

High Tech Quitting

Several recent programs have incorporated technology into their efforts to facilitate students' smoking cessation. One such program consists of Web-based sessions that give students quitting information and help them set goals based on their stage of quitting readiness. Students get immediate feedback and have access to an "ask the expert" feature that links them to a cessation counselor, as well as peer discussion boards and personal stories. Data on the effectiveness of this program are not available.[141]

Another exploratory program uses text messaging to deliver behavioral tips to avoid nicotine cravings, timed to coincide with students' self-reported craving times and situations. This program produced a 17 percent quit rate at a six-week follow up. Forty-three percent of the students made at least one 24-hour quit attempt, and 78 percent of students who did not quit substantially reduced their smoking. Only two-thirds (63 percent) of students actually completed the study; quit rates and attempts were higher among this group.[142]

Another survey found relatively few colleges make other efforts to encourage smoking cessation: only eight percent participate in the annual *Great American Smokeout*, five percent offer periodic smoking awareness workshops or seminars and less than two percent provide health fairs, peer education programs or giveaways or contests designed to help students quit.[144]

Research-based evaluations of specific student smoking prevention and reduction programs are relatively scarce, but some case studies have found some success with coping and stress management programs and programs that use Web sites and other technology to help students work through a cessation program.[145]

Insurance coverage for students' substance abuse treatment. College students represent approximately 10 percent of the estimated 45

million Americans who do not have health insurance coverage.[146] Eighty-five percent of college students (87 percent of female and 80 percent of male students) report having some kind of health insurance,[147] but little is known about the extent to which students' insurance plans cover substance abuse treatment-related costs. Some colleges and universities are beginning to require that students have health insurance coverage as a condition of enrollment.[148] Unless these plans include coverage for alcohol and drug treatment and for smoking cessation services, students with substance abuse problems will continue to face significant barriers to accessing the care they need.

Ten Key Actions for Colleges and Universities to Prevent and Reduce Student Substance Abuse

1. Set clear substance use policies and consequences of violations.

2. Ban smoking; prohibit alcohol and tobacco ads, sponsorships and promotions on campus; ban alcohol in dorms, in most common areas, at on-campus student parties and at college sporting events.

3. Screen all students for substance abuse problems; target high-risk students and times; provide needed interventions and treatment.

4. Hold student classes and exams Monday through Friday to reduce weekend substance use.

5. Educate faculty, staff, students, parents and alumni about substance abuse and involve them in prevention activities.

6. Engage students in service learning courses and community service.

7. Offer substance-free recreational opportunities.

8. Include in the academic curricula information about substance abuse and addiction.

9. Engage community partners in prevention, enforcement, interventions and treatment.

10. Monitor rates and consequences of student substance use and evaluate and improve programs and services.

Chapter VI
Barriers to Implementing Successful Programs and Policies

To better understand why colleges have failed to implement comprehensive, science-based efforts to prevent and reduce student substance abuse, CASA has explored the barriers they face to implementation. For this analysis, we draw on a rich body of data from focus groups with college students and parents of college students, CASA's national survey of college students, and in-depth interviews and national surveys with college administrators and other key stakeholders including Greek organization leadership.

A key barrier schools face is the prevailing culture of student substance abuse that is reflected and too often reinforced on campus. Many students encounter advertisements and marketing for alcohol and tobacco on their college campuses as well as in the broader media. Academic and social pressures drive students to drink, smoke and use other drugs to reduce stress. Pressures to succeed drive students to abuse prescription stimulants like Ritalin and Adderall or use steroids to boost athletic performance. This pro-drug culture, reinforced by advertising, family and friends, and coupled with the prevailing myth that college student drinking, drug use and smoking are harmless rites of passage, has compromised academic performance, led to countless cases of addiction and resulted in too many tragic assaults, accidents and student deaths.

Strong administrative leadership is needed to change the current climate of tolerance and acceptance of student substance use. Barriers to administrators taking on this issue range from fear of drawing further attention to the problem to fears of not being successful, loss of financial support from disapproving alumni or lost revenue from alcohol advertising, sponsorships and promotions. Perhaps because of these fears, college leaders have failed to appropriate needed resources to prevention and treatment, to take stock of their schools' current policies and programs and evaluate their efficacy and to

engage parents effectively in their efforts. Even those administrators who are dedicated to addressing these issues face an uphill battle against student resistance, parents' and the larger society's subtle and overt condoning of substance use as a normal rite of passage and the societal stigma attached to seeking help for a substance use problem.

Almost two-thirds (62.8 percent) of respondents to CASA's survey of college administrators stated that, if they had the support of the administration, the main thing their school would need to address effectively the problem of student substance use and abuse would be a change in school culture regarding alcohol, tobacco and other drug use.[*]

Students in CASA's focus groups, however, were cynical about administration motives for trying to curb student substance use. Several students mentioned public relations as the main --or only--reason schools engage in any prevention activities. One student said that schools had to intervene because parents will not let their children go to a "party" school. Another student noted that at his school alcohol policies became stricter only after a well-publicized spate of alcohol-related deaths at nearby schools. Unfortunately, these students might, at least in part, be right.

A College Climate Promoting Substance Use

A key barrier to implementing more effective policies, programs or strategies is that substance use is still too often dismissed as a normal rite of passage. (See Table 6.1) Nearly four in 10 (37.8 percent) respondents to CASA's 2005 administrator survey said that the perception that student substance use and abuse is an acceptable part of college life--a normal rite of passage--is the most prominent barrier to implementing more effective policies, programs and strategies.[†]

Table 6.1
Administrators' Perceptions of Key Barrier to Implementing More Effective Policies, Programs or Strategies (percent ranking each as #1 barrier)

Factor	Percent
Student substance use normal rite of passage	37.8
Limited financial resources/funding	34.3
Low priority for top college officials	7.7
Low student support	4.9
Low alumni support	4.9
Few/minor consequences of substance use	3.5
Limited availability of effective strategies	2.8
Fear of undermining college admissions	2.1
Low faculty support	1.4
Low parental support	0.7

Source: CASA's 2005 College Administrator Survey.

Many administrators interviewed by CASA argue that efforts to implement formal substance use programs and policies stressing student responsibility and threats of consequences for violating school policies are no match for the deeply-rooted social forces that encourage or condone substance use. "We have the 'rite of passage' message entrenched in our culture but no well-defined way to address the problem," offered one administrator.

Another respondent said that students are "being bombarded by their peers and the media with messages and images that condone the unhealthy use of alcohol and other substances. It's not a message we can combat in a one- or two-hour program." This quote highlights the extremely limited approach of many schools to the substance abuse problem.

[*] Other response options include: active use of health services staff in education, prevention, screening and treatment (8.3 percent); training and better use of resident assistants (5.1 percent); active engagement of parents (4.5 percent); and active engagement of alumni (0.6 percent).

[†] Respondents were asked to rank from 1 (most prominent) to 10 (least prominent) a list of potential barriers to implementing more effective policies, programs or strategies.

Advertising from the alcohol industry continues to acculturate our students from a young age to the notion that high-risk and illegal alcohol use is accepted and even expected.

--Respondent
CASA's 2005 Administrator Survey

These responses also are illustrative of the overall failure of school administrators to accept any significant responsibility for addressing student drinking, smoking and other drug use.

While the majority of students in CASA's national survey said that their school is very or somewhat concerned about student drinking (76 percent) and drug use (78 percent), 57 percent believe that the social atmosphere at their school promotes the use of alcohol and 18 percent believe that it promotes the use of drugs. The consensus among the student participants in CASA's focus groups was that their colleges were not particularly concerned with student smoking. One student indicated that rather than trying to cut down on students' smoking between classes, her school increased the number of outdoor ashtrays to reduce litter.

Administrative Failure to Accept Responsibility

Colleges and universities have failed in any comprehensive way to protect students from the consequences of alcohol or other drug use and abuse or of exposure to direct or secondhand tobacco smoke. They also have in many instances failed to uphold the laws of the land which state that underage drinking and the use of illicit drugs are illegal as is the use of controlled prescription drugs without a valid prescription.

When asked to indicate their schools' position regarding who bears primary responsibility to prevent substance use among students, two-thirds (65.5 percent) of respondents to CASA's 2005 administrator survey said that students themselves were primarily responsible and only 20.2 percent said that the school is primarily responsible. When it comes specifically to preventing underage drinking among students, one-third believed (34.5 percent) that the school is primarily responsible and almost one-third (31 percent) replied that students themselves are primarily responsible.

Students in CASA's focus group who attend commuter schools felt that their administrations were not concerned with student drinking because without dorms they were not as liable as residence schools. One commuter student said that the policy at her school was "whatever you do while you're not in class is not our problem."

Those schools that believe that they have little or no protective responsibility are unlikely to expend the time, effort and resources needed to address effectively student substance use.

The failure of schools to act in the face of demonstrated harm and the availability of knowledge regarding how to address these issues leave them open for liability lawsuits. When asked what it would take for their school to implement more effective substance use policies or strategies, 28.3 percent of administrators in CASA's 2005 survey placed "more liability lawsuits against schools" in the top three ranked factors that would help bring about the most change. Almost three-quarters (73.4 percent) of the respondents said that if their school were to make significant and effective efforts to reduce student substance use, it would decrease the school's legal liability (20.1 percent thought it would have no effect and 6.5 percent thought it would increase liability).

Administrative leadership extends to faculty action as well. Although faculty members can play an important role in changing the prevailing climate of tolerance for substance use on college campuses,[1] too few develop coursework that involves alcohol, tobacco and other drug

information ("curriculum infusion"),* refuse to suspend Friday morning classes to accommodate Thursday night parties, offer service learning activities as part of their coursework, serve as advisors and role models for students or identify students who might be struggling with substance abuse and refer them for intervention.[2]

In response to CASA's 2005 survey question to administrators about what effect it would have on students' interest in enrolling in their school if their school were to make significant and effective efforts to reduce student substance abuse, 11.6 percent of the administrators thought it would decrease student interest in enrolling, more than half (54.2 percent) said it would have no effect and one-third (34.2 percent) thought it would increase student interest.

> *Presidents are often reluctant to take on the alcohol issue for fear that acknowledging a problem exists may blemish the reputation of their institution, but I would ask them to consider the consequences of inaction. Were a tragedy to occur, the reputation of the institution would suffer tremendous damage. There is truly no good reason that justifies a college president's failure to take the lead on this issue.*[3]
>
> --C. Everett Koop, MD
> Former U.S. Surgeon General

Failure to Appropriate Needed Resources

A major indicator of college leadership's failure to make substance use control a priority is the abundant evidence that prevention and intervention programs on campuses typically are starved for money and other resources. More than one-third (34.3 percent) of respondents to CASA's 2005 administrator survey said that limited financial resources is the most prominent barrier to implementing more effective policies, programs and strategies. (See Table 6.1) Some participants in CASA's 2002 administrator survey claimed that the budget of many colleges already is pulled too tight to allocate additional funds for environmental strategies to reduce student substance use. Similarly, many of the administrators in that survey who were identified as the key staff member responsible for addressing alcohol problems on campus were either new to their position, had limited knowledge of their school's programs and policies or were overwhelmed with other responsibilities.

Most (66.6 percent) directors of college counseling centers feel that there has been a growing demand for psychological counseling services without an appropriate increase in resources.[4] Yet some data suggest that the situation might be improving. A vast majority (85.2 percent) of counseling center directors report that college administrators are becoming more aware of the resource problem counseling centers are facing with more students presenting with mental health problems, and 59.6 percent say that the greater awareness has led or will lead to more resources being directed their way.[5] There is no evidence, however, that the increased attention to student mental health issues will translate into increased attention to their substance use and abuse problems.

CASA's 2005 administrator survey found that 17.4 percent of respondents indicated that the key factor that would bring about the most change in terms of getting their school to implement more effective substance abuse policies or strategies is more financial resources and 11.8 percent indicated that having more staff to focus on substance use issues would be the key factor in bringing about the most change in this regard. (See Table 6.2)

* CASA's 2005 survey of administrators found that 20.4 percent indicated that their school used curriculum infusion as a preventive strategy for alcohol use, 9.5 percent for illicit drug use, and 4.5 percent for tobacco use and prescription drug abuse.

Table 6.2
Key Factors that College Administrators Believe Would Make Schools Implement More Effective Policies, Programs or Strategies (percent ranking each as #1 factor)

Factor	Percent
Increased substance-related student accidents/deaths	36.1
More financial resources	17.4
Increased student support	13.2
More staff to focus on substance use issues	11.8
More leadership or support from top college officials	7.6
Availability of programs with demonstrated efficacy	6.3
Increased substance-related violence	2.8
Increased alumni support	2.1
More liability lawsuits against schools	2.1
Increased parent support	0.7

Source: CASA's 2005 College Administrator Survey.

Student and Alumni Resistance

Students are well aware of the adverse consequences of substance use; however, such knowledge often fails to dissuade them from drinking, smoking or using other drugs. For example 74 percent of students in CASA's survey believe that a typical college student who uses drugs regularly would perform worse than those who use drugs less or not at all and 47 percent believe the same for those who drink alcohol regularly. Yet, 68 percent indicated that the way they time their drinking during the school semester is unrelated to their schoolwork demands (i.e., drinking before or after an exam or before or after class).

The majority (81 percent) of students in CASA's survey believe that alcohol or drug use is almost always (51 percent) or frequently (30 percent) involved in a date rape or sexual violence situation among students. Yet, 64 percent of students responding to this survey report that they are current drinkers, 53 percent report binge drinking, 13 percent report current marijuana use and up to 2.5 percent report current abuse of a prescription drug.[*] Ironically, students who use more alcohol are likelier than those who use less to believe that substance use often is involved in sexual assaults.

CASA's 2005 administrator survey found that 13.2 percent of respondents indicated that the key factor that would bring about the most change in terms of getting their school to implement more effective substance abuse policies or strategies is increased student support. (See Table 6.2)

College administrators interviewed by CASA claim that another barrier to implementing effective policies and programs is colleges' fear of alienating alumni, many of whom hold fond memories of their college drinking experiences.

Tolerance of On-Campus Drinking by Alumni

University of Florida's president is trying to crack down on student drinking but has no intention of limiting alumni's enormous amounts of drinking during on-campus tailgating parties before football games.[6] Likewise, Yale's new rules about curbing drinking at public events, including requiring tailgate parties to end by the end of halftime, do not seem to apply to alumni. The new rules are on the books, but in practice, the alumni have been able to continue their tailgate parties past the end of the games, while student parties are shut down at half time.[7]

When asked what effect it would have on alumni support if their school were to make significant and effective efforts to reduce student substance use, 8.4 percent of the administrators in CASA's 2005 survey thought that such efforts would decrease alumni support, two-thirds (67.7 percent) said it would have no effect and

[*] The reported rate of current drinking is slightly lower than that reported in the 2005 MTF survey (70.1 percent), as is the reported rate of current prescription drug use (3.1 percent). The reported rate of binge drinking is higher than the 2005 MTF (40.1 percent) and the current rate of marijuana use is lower than the 2005 MTF (17.1 percent).

approximately one-quarter (23.9 percent) thought it would increase alumni support.

Alumni and Student Opposition to Dry Fraternities

"The greatest opposition to dry fraternities often comes from alumni." The alumni are angry and "can't imagine that a fraternity can be fun without alcohol." Students also are unhappy about the prospect of a dry fraternity house. Nick Logan, former chapter president of Phi Delta Theta at Northwestern University explains, "I mean, we're like 19, 20, 21, many of us have been drinking regularly since high school, we join a fraternity partially for the social scene and now we're supposed to just not drink? It was like telling a monk that he can't pray."[8]

Limited Parental Engagement

Parents typically are not considered in discussions of college student substance use. But many parents continue to support their children through college and many children want continued involvement from their parents. Schools can benefit from parental involvement in key college policies that will affect their children's health.

Although a majority (84.8 percent) of administrators in CASA's 2005 survey thought that significant efforts by their school to reduce student substance use would increase parental satisfaction, only 4.5 percent stated that active engagement of parents would be the main thing their school would need to effectively address the problem of student substance use.

Nearly all of the college administrators interviewed[*] by CASA, however, felt that parents can play a significant role in helping to address student substance use. Many felt that parents do not talk to their children frequently enough about substance abuse; even worse, when they do talk to them, parents may reinforce the idea of college drinking as an acceptable rite of passage rather than attempt to emphasize the dangers of substance abuse and the importance of respecting college policies.

Parents, however, may be reluctant to assume responsibility. Some parents in CASA's focus group believed that the primary responsibility for preventing student substance use must lie with the school rather than with parents because parents are unable to monitor their children's behavior while they are in school,[†] [9] students often are too busy to talk with their parents and students may be resistant to interference from their parents. Several parents noted that college students have free will and cannot be stopped from doing what they want to while in college.

I really don't think it's the school's place to babysit their students; students are there for an education, not to be told what to do or what not to do because their parents should have taught them that at home.

-Male Student, Dallas
CASA Focus Groups

When asked about the utility of a research-based intervention that encourages parents to talk with their children about substance use during the summer before they begin college (and that has demonstrated some beneficial effects of the intervention),[10] most parents in CASA's focus group thought that such an intervention would be of little use. Although one parent thought it might help a little and would be harmless, and one thought it might teach teenagers who are not accustomed to doing so to think about the potential consequences of their actions, most agreed that such communication must start much earlier.

[*] Through personal telephone interviews; this information does not come from the administrator survey.

[†] Yet a recent study of college freshmen found that male residential students perceived their parents to monitor their behavior to a greater extent than did male commuter students--those who actually lived at home with their parents.

Stigma

Students in CASA's focus groups generally agreed that seeking help for a substance abuse problem is not common and that those who do seek help tend not to reveal to others that they are doing so. CASA's survey of students demonstrates that while the majority (88 percent) of students feel that school resources and services for helping students deal with substance abuse problems are very (50 percent) or somewhat (38 percent) accessible, 37 percent report a fear of social stigma--being embarrassed and scared that someone would find out--as a factor that might keep students from seeking help. The same percentage of students also agreed that denial of a problem or a belief that one's problem is not too serious is a factor that might keep a student from getting help.

Unless colleges and universities reach out to these students and assist them in getting the help they need, students with substance use problems will become part of a devastating national statistic: more than one in five (21.6 percent) of the 1.2 million people who feel they need treatment for a substance abuse problem but did not receive it attribute it to reasons related to stigma.[11]

Failure to Evaluate Efficacy of Interventions

Despite the federal government's requirement for institutions of higher education to evaluate their substance-use control programs (as described in the Drug-Free Schools and Communities Act Amendments of 1989[12]), most schools do not perform substantial or rigorous evaluations of their programs.[13]

CASA's 2002 college administrator survey found that 87.7 percent of respondents reported that their schools evaluate the effectiveness of their alcohol control programs and 60.6 percent said they do so regularly; however, 70 percent reported that the method they employed to evaluate effectiveness was surveying students. One-third (32.7 percent) of the respondents indicated that they used the *Core Alcohol and Drug Survey*--which is designed to measure prevalence of substance use and abuse on college campuses--to conduct these evaluations. It appears that many schools confuse surveying students to obtain prevalence data with evaluating the effectiveness of programs.

Given that colleges and universities are known to expend considerable resources analyzing and evaluating numerous forms of data, including new student profiles, enrollment projections, alumni accomplishments and other program outcomes, it is unfortunate that when it comes to appraising their substance-use control strategies, evaluations often are either nonexistent, limited or poorly executed.[14]

Chapter VII
Stepping Up to the Plate

If schools are to step up to the plate to address the public health crisis of student substance abuse, three points of leverage are available to them:

- Active engagement of parents;
- School-wide efforts to better engage students in the educational process; and
- Taking action to avoid legal liability lawsuits from students and parents.

Engaging Parents

Although few researchers or prevention specialists focus on parents of college students--assuming that once their children are adults or leave home, parents no longer have much of an impact--emerging research suggests that colleges and universities can look to parents as an untapped resource in helping to tackle student substance use and its adverse consequences. [1] Although most parents believe that their thoughts, opinions and words carry little weight with their children when it comes to engaging in risky behavior, study after study have shown this to be a patently false assumption. Parents are quite influential in the choices that their children make in the process of selecting, preparing for and attending college.[2] Parents are consulted more often than peers, other adults, teachers, college resources or media for every possible college-related choice: academic, institutional, personal, social and financial.[3]

Teens who have more conversations about drinking with their parents consistently show less positive expectations about the effects of drinking--a factor strongly linked to actual drinking in college[4] and lower rates of substance use.[5] Ideally, discussions about substance use would be conducted between parents and children throughout childhood and adolescence,[6] but even if parents have not consistently

discussed the dangers of substance use in the past, brief parent-teen interventions might help to form a baseline for appropriate and healthy behavior when the teen enters college.[7]

> *When the topic* [at parent sessions at freshman orientation] *turns to how parents might talk with their child about drinking, "One parent in the back will say, 'Oh, but kids will be kids,' and everyone will laugh."*[8]
>
> --Wren Singer
> Director of Freshman Orientation
> University of Wisconsin

Parents of students about to enter college have the best chance of intervening successfully with their children to protect them against substance use and abuse if they have a positive, open nurturing relationship with their children; demonstrate explicit disapproval of substance use; and have a history of monitoring their children's behaviors and not being overly permissive.[9]

A model of this type of approach is a pre-college intervention to prevent college student binge drinking that was developed by researchers at Boise State University. This intervention consists of a handbook for parents with information about alcohol use and its consequences and strategies for talking with pre-college teens about drinking and pressures to drink. The intervention allows parents to tailor the message to their teen's maturity, past substance use experiences and to the nature of the environment at the school that their child will be attending.[11] Parents can tailor the intervention to fit the specific expectations they have for their teens regarding alcohol and other drug use (e.g., parents who want their child to drink responsibly would approach the intervention differently than would parents who want their child to abstain completely).[12] Although promising, the current research on the effectiveness of this type of parental intervention largely consists of small studies.[13] In addition, the intervention assumes a relatively healthy parent-child relationship that would allow for such a discussion; it would not be as useful in dysfunctional families or in families where lines of communication are down.[14] Nevertheless, the findings thus far show that dismissing parents as a resource in the arsenal of prevention tools would represent a missed opportunity for curtailing substance use among college students.

> *These universities have to wake up and realize these are children when they are 18. They are not adults. There has to be some responsibility there. As a parent you kind of turn your kids over to the university, trusting that they will be okay and that they will be protected somewhat.* [10]
>
> -- Donna Cohen
> Parent of college student who died
> in an alcohol-related fire

Parental Notification

Section 444 of the Federal General Education Provisions Act was introduced and amended in 1998 to strongly suggest, but not require, that all U.S. universities disclose to parents or legal guardians information about students who have violated a university, state or federal policy regarding alcohol or drug possession if those students are under the legal drinking age and if they have committed a disciplinary violation.[15] Before this addition, most universities stood behind the Family Educational Rights and Privacy Act of 1974 (FERPA)[16] which prohibited them from disclosing information from student records, even to parents or legal guardians. The policy, as it stands, does not violate FERPA and allows institutions of higher education to decide whether or not it is appropriate to contact parents.[17]

Survey research at Bowling Green State University found that parental notification does help to decrease alcohol-related problems, with most of the notified parents indicating that they were "very supportive" of the university contacting them. Other schools that have implemented such programs have seen declines in recidivism rates, as well as other positive indications of declining alcohol-related

problems.[18] For example, in 1999, Syracuse University implemented parental notification as part of their effort to curb substance abuse on their campus.[19] The year after it was put into effect, the university saw dramatic decreases in alcohol-related misconduct, off-campus student arrests, referrals for discipline and emergency medical transports for severe intoxication.[20]

Engaging Students

Students seem to learn best when they have a sense of responsibility for their own education and for their surrounding community and when they feel that their involvement is essential to both. Research on the benefits of engaging students in their learning and in their communities indicates another point of leverage for colleges and universities attempting to get the student substance use problem under control.

A recent survey of nearly 25,000 first-year college students reveals that students drink alcohol more frequently, feel more overwhelmed and depressed and perform volunteer work less often once they are in college compared to when they first entered college. This survey also reveals that formal lectures is the pedagogical technique used most often and engaged learning is the technique used least often in the colleges included in the survey. Perhaps not surprisingly, many first year students feel disengaged from their schoolwork, at least occasionally turning in work that does not reflect their best efforts (47.9 percent), coming late to class (32.6 percent) or skipping class altogether (33.3 percent). [21]

Active student engagement in academic pursuits, in service-oriented campus and community activities and in civic duties is linked to lower rates of substance use. CASA's survey of college students found that students who report higher levels of engaged learning[*] are significantly less likely than those who report less engagement to binge drink, drink heavily or to have used drugs.

Although causal evidence of the link between student engagement and lower risk of substance use is not available, an exemplar of the benefits of student engagement comes from historically black colleges and universities (HBCUs) that have a strong emphasis on character development, engaged learning and service and significantly lower rates of student substance use than non-HBCUs. The historical mission of HBCUs goes beyond traditional education; it extends to what one college administrator describes "as the catalyst for social change. Collectively, these institutions have an established legacy of being responsive to the varied issues facing the African American community."[22] The HBCUs, then, function both as institutions for higher education for black students and as organizations committed to training the next generation of black leaders in America.[23]

Large-scale studies of substance use among college students show that students at HBCUs--regardless of race[† 24]--report less substance use than their non-HBCU peers.[25]

The academic and social environments at HBCUs differ in many ways from predominantly white institutions, and these differences may provide clues for understanding the uniformly lower substance use rates at these institutions. Several aspects of HBCUs may contribute to its low rates of substance use relative to non-HBCUs:

- **Strong leadership** in creating an environment where substance use is not tolerated and where there is a strong emphasis on character development, nurturing students and engaging them in their learning and in service;

- **Strong role of family expectations for success** which may influence students' substance-related decisions and choices;

[*] Engaged learning pertains to any situation in which student learning is fostered by active participation in the educational process and in which students have an opportunity to feel connected to the subject matter and derive meaning from their experience.

[†] White students account for 12 percent of all HBCU enrollment.

- **Strong peer modeling** from non-substance using students. HBCUs have an over-representation of female students who historically have been somewhat less prone to substance use as well as Greek organizations that, contrary to Greek organizations on other campuses, strongly discourage substance use and other risk behaviors; and

- **Strong role of religion or spirituality** in campus life.

Engaged learning and service are characteristic of HBCUs.[26] One study found that 57 percent of black male graduates and 54 percent of black female graduates from HBCUs participated in community service, compared with 35 percent of black male graduates and 50 percent of black female graduates from non-HBCUs.[27] Anecdotal evidence suggests that HBCUs generally provide a nurturing environment for their students in which faculty are highly involved in assisting students in their personal and academic development.[28] Volunteer and service opportunities are considered a central part of the college experience.[29]

Historically black Greek organizations (BGOs) were established in much the same spirit as HBCUs, as a necessary alternative for black students who were being turned away from predominantly white Greek organizations; their goal is both to educate students and provide them with the skills to initiate positive social and community change.[30] The results of one study indicate that participating members of BGOs report higher levels of involvement in on-campus activities, volunteer opportunities and other campus organizations than non-members.[31] This greater level of campus involvement appears to be protective against substance use and abuse.[32]

Clearly, much of the success that HBCUs have had in avoiding substance use problems on campus can be attributed to deep-seated cultural and religious factors. These factors combine to create circumstances that are impossible to replicate in non-HBCUs. Nevertheless, non-HBCUs certainly could benefit from considering the environment cultivated at HBCUs and following their lead in establishing a campus culture that is less accepting of substance use and more supportive of students' engagement in their learning.[33]

CASA's focus groups and survey of students show that students who are more involved in their own learning and in their communities and who conceive of their academic activities as valuable to themselves and their faculty are less likely to engage in substance use. The importance of meaningful volunteer, extracurricular and spiritual activities must not be underestimated for their value as self-esteem builders, as enhanced support networks for meeting like-minded students, as means of building relationships with faculty role models and as motivators to replace substance use and the desire to drink or use drugs with more rewarding goals and activities.

Colleges and universities should implement, whenever possible, an engaged learning approach to education including service learning courses, opportunities to work closely with faculty and opportunities to make an active contribution to a larger social goal. Such engagement may provide students with a larger sense of purpose that can help deter them from drinking, smoking and other drug use.

Preventing Legal Liability

Should schools fail to make a concerted effort to change the way they approach the problem of student substance use, and how they think about it, they may be increasingly forced to do so by the courts. The matter of colleges' legal liability for student substance use and its consequences might present not only a promising point of leverage for those schools interested in clamping down on widespread drinking and related risk behaviors, but also an impetus for change for those schools that have been trying to keep their distance from the problem.

Until recently, the courts have protected institutions of higher education (IHEs) from liability for alcohol-related harm to students

even as they tended to hold national Greek organizations accountable for those harms that were linked to fraternities. IHEs typically escaped liability in these cases despite the fact that they, even more than the national Greek organizations, exercise control over all students, including those who are fraternity and sorority members.[34]

Recently, however, the courts have become less inclined to protect IHEs from liability. They increasingly are finding that IHEs do have the responsibility to safeguard their students and the members of the surrounding community who may suffer from students' use of substances. Courts are holding IHEs accountable for alcohol-related harm caused to students where the risk of harm was foreseeable, including those incidents that are Greek-related. Given the increasing body of research demonstrating the consequences of student substance use as well as what works in prevention, it is likely that the courts will be ever more inclined to find that much of the harm caused by student substance use is in fact foreseeable.

Types of Liability

Colleges and universities are subject to five basic types of alcohol-related liability: negligence, social host, dram shop, premises and dangerous persons.

Negligence. Injured parties may bring negligence claims upon IHEs if they perceive that the school failed to fulfill its duty of care to the student. Traditional negligence claims are based on the notions that IHEs have a duty to adhere to standards of conduct that protect students against unreasonable risks.[35] If an IHE fails to conform to that standard[36] and the breach of duty was the proximate cause of the injury,[37] the school can be held liable for negligence.[38] Therefore, an IHE may be held liable for negligence if it does not take active steps to discourage heavy drinking or provide adequate protection for foreseeable alcohol-related dangers.

Social host and dram shop. Social host and dram shop liabilities are similar in that they both apply to people furnishing alcohol illegally to minors and/or intoxicated people. Social host refers to providing alcohol to others whereas dram shop pertains to those selling alcohol.[39] As of 2002, 32 states have social host liability laws[*] and 41 states and the District of Columbia have dram shop laws.[† 40]

If an IHE in a state with dram shop laws owns an on-campus bar, it may be held liable for knowingly serving alcohol to visibly intoxicated or underage students if that alcohol consumption leads to the injury or death of a third party. Alcohol outlets also are legally responsible for protecting patrons from foreseeable dangers associated with alcohol use.[41]

Premises. IHEs, as "landowners," must take reasonable action to safeguard students from foreseeable danger that can occur on the IHE's premises, such as providing safe walkways, adequate lighting and a physical environment that does not pose a danger to the students.[42]

Dangerous people. IHEs have the duty to protect students from dangerous people who are on and off campus,[43] particularly if the danger is foreseeable.[44] For example, if the IHE has reason to believe that certain students are

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[*] Alabama, Arizona, Colorado, Connecticut, Florida, Georgia, Hawaii, Iowa, Idaho, Illinois, Indiana, Massachusetts, Maine, Michigan, Minnesota, Mississippi, Montana, North Carolina, North Dakota, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Tennessee, Utah, Vermont, Washington, Wisconsin and Wyoming.

[†] Alabama, Alaska, Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Washington, Washington D.C., West Virginia, Wisconsin, and Wyoming. States without Dram Shop laws are: California, Delaware, Kansas, Louisiana, Maryland, Nebraska, Nevada, South Dakota and Virginia.

dangerous when they become intoxicated, it has a duty to protect other students from harm caused by them. If it fails to protect potential victims or warn them, it may be held liable.[45]

A Case of Multiple Liabilities

An underage, female student at Cazenovia College in New York is suing the school after being raped by a fellow student while both were intoxicated. She claims that the college has "an obligation to make sure that underage drinking does not occur" and that it failed to provide adequate security (premises liability), to prevent illegal alcohol use by students (social host liability) and to protect students from dangerous people (dangerous people liability) since the rapist had prior violations of school alcohol policies and therefore his propensity for violence was foreseeable.[48]

A Brief History of University Liability for Student Substance Use

The laws governing colleges' and universities' responsibility for student safety--including the adverse consequences of student substance use (primarily drinking)--went through four phases before reversing the practice of completely shielding IHEs from liability.[46] Whereas colleges and universities increasingly are likely to face liability for harm caused to students, Greek organizations (i.e., fraternities and sororities) historically have been held accountable for alcohol-related injuries connected with Greek members or events.[47]

The Legal Insularity Era. Until the 1960s, colleges and universities had no legal duty to safeguard students from harm. Rather than ensuring student safety, the prevailing concept of *in loco parentis*--"instead of a parent"--enabled universities to make absolute decisions about regulating the behaviors of their student body, disciplining them and keeping them in line. The courts essentially provided immunity to colleges and universities from students interested in suing over displeasure with the discipline and regulation that the school imposed. Much as a parent was not required to safeguard their children and was virtually immune from lawsuits by a child, the school was--like a parent--not responsible for students' safety and virtually was immune from lawsuits by a student. The blame for on-campus threats to student safety was thought to lie on the perpetrator of the threat, not the school.[49] Although considered social hosts during the "insularity era," IHEs were not held liable for students' injuries incurred as a result of their voluntary consumption of alcohol during campus social events.[50]

The Civil Rights Era. The Civil Rights movement of the 1960s marked the beginning of the end of the Insularity Era in which IHEs were protected from liability and underscored the increasing support for ensuring the constitutional rights of students.[51]

The 1961 U.S. Court of Appeals' (Fifth Circuit) decision in *Dixon v. Alabama State Board of Education*[*] [52] resolved that students at public universities deserve the right to due process for alleged misconduct.[53] Private colleges eventually followed public universities in ensuring that students had basic constitutional rights. At this time, students were able to take measures to defend what they saw as their own rights as adults, but such rights pertained primarily to constitutional rights such as freedom of speech and association and freedom from search and seizure. These protections did not extend overtly, however, to the requirement for schools to ensure the safety of their students.[54]

The Bystander/Business Era. In the 1970s and 1980s there was a decline in legal immunity for charities, governments and businesses. Accompanying this change, the courts ruled that IHEs, like businesses, had the duty to maintain the college premises (e.g., safe walkways); provide safe living, classroom and extracurricular environments; and safeguard against "dangerous persons" on and off campus. At the same time though, courts allowed IHEs to

[*] This case involved six black students who were expelled without warning or an opportunity for a hearing after attending civil rights demonstrations.

act as "bystanders" in alcohol-related cases, such that they had no duty over "uncontrollable" alcohol use by students. As social hosts, IHEs were responsible only to the degree that they enabled alcohol users to cause danger to themselves or others,[55] such as by providing an intoxicated guest with an unsafe object, such as a knife, that was subsequently used to harm another person or if a host failed to manage an intoxicated guest who began attacking another person.[56] If IHEs did not do anything to promote or hinder student drinking, they were not liable for students' alcohol-related injuries that resulted from their voluntary drinking.[57]

Examples of key cases that underscored the IHE's ability to avoid responsibility for alcohol-related harms during this era include:

- *Bradshaw v. Rawlings (1979)*: After a Delaware Valley College sophomore class picnic at which beer was available, Donald Bradshaw got into a car accident while being driven by an intoxicated friend and became a quadriplegic as a result. The final court decision, after several appeals, stated that the university was not legally liable for students' safety at university-sponsored, off-campus drinking events, especially when another student causes the injuries.[58]

- *Baldwin v. Zoradi (1981):* After breaking her college's rules by drinking on campus in a dorm, Cynthia Baldwin participated in drag races off campus and subsequently was injured in a car crash.[59] The court held that failing to supervise a school dormitory where alcohol was consumed does not constitute a dangerous condition of public property and, therefore, the school was not liable.[60]

- *Rabel v. Illinois Wesleyan University (1987)*: Cherie Rabel suffered multiple injuries when an intoxicated fraternity member, who was carrying her as part of a fraternity activity, tripped and fell. The court ruled that the university had no duty to protect a student from injury by another person even though it had regulations against alcohol consumption. Reinforcing a state law (minimum legal drinking age) did not mean that the university assumed a "custodial relationship" that would require it to protect the student.[61]

The Duty Era. The current period, from the mid-1980s to the present, marks the end of the "no-duty" rules and the beginning of shared responsibility and the rights of universities and students. In refusing to reinstate wide-ranging immunity into higher education law, courts have held that IHEs can be held liable when the danger to students is foreseeable and schools fail to "use reasonable care."[62] Since the late 1990s, courts have been leaning more and more towards imposing liability on universities for alcohol-related injuries, even those that are connected to Greek life.

- *Krueger v. MIT (1997)*: In 1997, 18-year-old MIT freshman Scott Krueger died after ingesting a large amount of alcohol as part of a traditional fraternity initiation. Documents and testimony that surfaced after his death show that numerous people had contacted MIT years before to report alcohol-related disturbances from fraternities,[63] demonstrating that the university had some indication that future alcohol-related incidents were possible. Two former students who had warned the administration in 1989 about hazing at one fraternity wrote to MIT's president in 1993, "When a student is killed or dies at an MIT fraternity, how will MIT explain its full knowledge of dangerous and illegal practices persisting unchecked over a period of years?"[64] Yet, MIT did not take serious action and ended up settling with the Krueger family for $6 million, accepting some of the blame for the death.[65] The Krueger family settled with Phi Gamma Delta's national fraternity organization in 2002 for $1.75 million.[66]

  This case represents the first time a university conceded responsibility in the alcohol-related death of a student and, therefore, is seen as a turning point in convincing colleges and universities to

address the problem of student substance use and abuse.[67]

> *Scott Krueger* [MIT freshman who died after drinking a large amount of alcohol during a fraternity hazing] *was the wake-up call and the MIT settlement* [$6 million] *is even more of a wake-up.*[69]
>
> --William Evans
> Police Captain
> Allston-Brighton, MA
>
> *MIT's apology and well-crafted settlement with the Kruegers send a resounding message…that if colleges fail to act against hazing and other dangerous activities within their control, they may be exposing themselves both legally and financially to liability.*[70]
>
> --Joel C. Epstein
> Former Director of Special Projects
> Higher Education Center for Alcohol and Other Drug Prevention, Newton, MA

- *Knoll v. Board of Regents of the University of Nebraska (1999)*:[71] In 1993, members of the Phi Gamma Delta fraternity at the University of Nebraska-Lincoln (UNL) forcibly took Jeffrey Knoll from a campus building to the off-campus fraternity house and gave him enough alcohol to put his blood alcohol content at .209. After they handcuffed him to a toilet pipe when he got sick, Knoll fell from a third-floor window while trying to escape.[72] In 1999, the Nebraska Supreme Court determined that the university had a duty to protect students from the "foreseeable acts of hazing…and the harm that naturally flows therefrom,"[73] especially since the court found that the university had some control over the fraternity house when it subjected it to the UNL Code of Conduct.[74] In 2000, Knoll and UNL settled the lawsuit in such a way that the university escaped admitting liability. Following the accident, the university imposed 15 sanctions on the fraternity and the Nebraska legislature passed an anti-hazing law.[75] This case demonstrates the courts' increasing likelihood to hold universities liable for failing to provide reasonable protection to students,[76] even if the incident occurs at an off-campus fraternity house.[77]

Liability in High Risk Groups: Greeks and Athletes

Two groups, members of Greek organizations and athletes, are likelier than their peers to engage in alcohol use and abuse[78] and Greek members are likelier to engage in other forms of drug use. As members of an exclusive society and/or team, Greeks and athletes often have hazing or initiation traditions that can involve dangerous drinking practices.

Fraternities and sororities. Despite the control they have over the local Greek chapters on their campus, IHEs rarely have been held liable for alcohol-related incidents. In contrast, national Greek organizations, which have a duty to control local chapters, have been found liable for fraternity-related injuries,[79] but at a lower rate than local chapters.[80] Proponents of holding IHEs liable for Greek-related injuries due to alcohol argue that IHEs should not hide behind the notion that their role in students' lives is merely academic when they are increasingly involved in students' co-curricular or extra-curricular activities, many of which involve alcohol.[81]

> *"If you're going to embrace fraternities, then you have to assume some liability when they are engaged in activities that place students at risk."*[68]
>
> --Robert D. Bickel
> Professor
> Stetson University College of Law

More than 80 percent of Greek insurance claims between 1985 and 1997 involved alcohol and only two of all the claims and lawsuits filed involved legal-aged students. Fraternity members tend to pay almost six times more than sorority members for liability insurance.[82]

Between 1970 and 2001, there were 43 alcohol negligence state and federal cases involving Greek organizations.[*] [83] The 1990s had the greatest number of cases (28), but with three cases in one year alone between 2000 and 2001, this decade has the possibility of surpassing the previous one. Most of the cases refer to fraternity events; only four cases involved individuals drinking in a fraternity house outside of an event. Local chapters have seen a recent increase in the number of unfavorable outcomes in such cases:[84]

> *It was common before we instituted this [alcohol ban] to have four, five, six claims at any one time.*[89]
>
> --Bob Biggs
> Executive Vice President,
> Phi Delta Theta (an alcohol-free fraternity with no pending lawsuits)

- *Davies v. Butler (1975)*:[85] John Davies died from alcohol poisoning during an initiation ritual for the Sundowners, a University of Nevada social drinking club, and his parents subsequently sued the club members. The case set three standards of liability in relation to Greek organizations: "willful and wanton misconduct" on the part of fraternity and/or sorority members; forced or coerced drinking of the pledge by group members; and the appearance of control by group members over the pledge.[86]

- *Ballou v. Sigma Nu General Fraternity (1986)*: Another standard of liability was added in this case in which 20-year-old pledge Lurie Barry Ballou died after "hell night" activities involving large amounts of alcohol put his blood alcohol content at .46.[87] The court held that the fraternity had a "duty to the pledge to use care when hazing or creating a dangerous situation."[88]

- *Estate of Hernandez v. Arizona Board of Regents (1994)*:[90] An underage student attended a fraternity party where he consumed alcohol and subsequently got into a fatal car accident in which Ruben Hernandez was killed. The Estate of Hernandez sued the national and local fraternity chapter as well as the Arizona Board of Regents which leased the fraternity house. The fraternity was held liable because the state's statute only protected social hosts who served alcohol to those over the legal drinking age and, in this case, the fraternity knowingly served alcohol to underage students.[91]

- *Coghlan v. Beta Theta Pi Fraternity (1999)*:[92] Freshman Rejena Coghlan attended two fraternity parties (one named "Jack Daniels' Birthday" and the other named "Fifty Ways to Lose Your Liver") after being admitted to the Alpha Phi sorority in 1993. Coghlan became intoxicated and fell from a third floor fire escape from the sorority house. In 1999, the Idaho Supreme Court found that inference of duty to protect Coghlan from the "criminal acts of third persons" [93] was sufficient to warrant further litigation, especially since university employees--Greek advisors at the parties--had knowledge of her drinking and therefore could be held liable for her injuries.

Just a sample of headlines from the past few years demonstrates the current incidence of Greek-related alcohol liability cases:

- Underage drinking incident probed; MIT fraternity party focus of allegations. (*The Boston Globe*, October 14, 1999)

- Criminal charges studied in death of U-MD pledge. (*The Washington Post*, March 27, 2002)

[*] This only includes court decisions; more cases were filed in court. The majority of filed cases do not ever proceed to trial, nor do all cases have accompanying judicial opinions.

- Parents awarded $14 million in UM hazing death. (*Palm Beach Post*, February 7, 2004)

- Family sues USM fraternity in man's alleged alcohol-related death. (*Associated Press Newswires*, July 29, 2005)

Davidson College in North Carolina published a document, "*How Liability Affects You and Your Organization*,"[98] for members of Patterson Court, a group of eight international and national fraternities, four female eating-houses and one co-ed eating-house.[99] The document explains the different types of liability with which the Patterson Court organizations may find themselves charged, the laws involved and ways that the organizations can reduce their liability. Suggestions include hosting BYOB (bring your own beverage) events instead of supplying alcohol, enforcing party rules and learning to care for someone who is intoxicated.[100] These strategies do not address the problem of student drinking nor do they seek to promote student health; rather, they help the organizations avoid responsibility for the consequences of student drinking.

Athletic teams. Athletic team "initiation" practices can lead to lawsuits against IHEs, although fewer of these incidents have led to lawsuits compared to those involving Greek organizations. If a college or university supplied alcohol to student athletes (through the coach or a university-sponsored event), it may be held liable for resulting injuries.[94] For example, in late 1999, a freshman at the University of Vermont, Corey LaTulippe, sued the school after being forced to drink and eat until he vomited as part of the hockey team's initiation party. In reaction, the school cancelled the 1999-2000 hockey season.[95] University of Vermont eventually settled out of court with LaTulippe for $80,000.[96]

"Coaches know that when there is a violent episode or a player is involved in some incident, there is usually alcohol involved."[97]

--Frank D. Uryasz
Former Director of Sports Science
National Collegiate Athletic Association (NCAA)

Liability for Student Drug Use

Although the majority of cases regarding IHE liability for substance use-related injuries involve alcohol, there are some cases that involve other drug use. In 1999, Richard Guy, a junior at MIT, died from a nitrous oxide overdose. After Guy's parents filed a lawsuit for "failing to properly supervise students and neglecting evidence of drug abuse in the dorm," MIT settled in 2005, agreeing to create the Rick Guy Fund to enable at least five students to attend one of MIT's pre-orientation programs (i.e., outdoor activities, academic programs) for incoming freshmen.[101]

College and University Reactions to Increased Legal Liability

One estimate of the average settlement in college alcohol-related, hazing and sexual harassment claims in 1999 was $500,000.[102] However, settlements such as that of the MIT-Krueger case clearly demonstrate that the figure can go much higher.

Following Scott Krueger's alcohol-related death at MIT in 1997 and the resulting lawsuit (and settlement), IHEs across the country began more actively imposing policies and regulations not only to curb alcohol and drug use by students, but also to reduce their risk of legal liability. These efforts included moving alcohol-related events off campus, completely banning alcohol on campus and creating alcohol and drug education programs. Many of these actions underscore the tendency of colleges and universities to attempt to avoid responsibility for the consequences of student substance use and abuse rather than attempting to prevent or reduce it.

Moving events off-campus. Moving parties off campus transfers liability for any alcohol-related injuries to those venues which are separate businesses from the university, and allows for lower insurance rates for Greek organizations.[103] Since 1998, sororities throughout the nation have begun to require that parties be held at off-campus, licensed locations. In 2002, Colorado State University (CSU) joined two other universities in Colorado--University of Colorado at Boulder and the University of Northern Colorado in Greeley--in forcing Greek parties off campus to rented ballrooms or bars in the community.

Instituting alcohol bans. Greek organizations themselves have taken steps to try to reduce their risk of legal liability. All sororities ban drinking in their chapter houses and 11 of approximately 68 national and international fraternities require that most of their chapter houses be alcohol free regardless of the university's alcohol policy.[104] Not a single alcohol-related death associated with fraternities has occurred in alcohol-free fraternities.[105]

Despite the alcohol ban mandate from their national or international organizations, some local chapters have refused to go alcohol-free and have seceded from their leaders. And those chapters that officially are dry do not always follow the rules--some members drink or use drugs more privately. Some alumni also reject alcohol bans, insisting that drinking is an essential part of fraternity life.[106]

Some IHEs have not waited for fraternities and sororities to turn alcohol-free on their own; about 30 colleges and universities have implemented alcohol bans in all fraternity houses on campus. Several schools, such as Alfred University in New York, Amherst College in Massachusetts and Santa Clara University in California, have banned Greek organizations altogether.[107]

Five years after all chapters complied with the national office's alcohol-free housing policy, Phi Delta Theta released findings on August 22, 2005 showing that their members have a stronger focus on academics and "healthier social interaction" than before the policy. The organization recruited more new members in 2004. In the 2004-2005 academic year, only one insurance claim was filed, as opposed to 12 claims in 1997. Phi Delta Theta's insurance broker stated, "From an insurance perspective, underwriters support alcohol-free housing because it limits the accessibility to alcoholic beverages. This has resulted in fewer claims and lawsuits, and helps to reduce the cost of liability insurance."[108]

Chapter VIII
Recommendations and Next Steps

Substance abuse among college students is a monumental and growing public health crisis. Abundant evidence points to effective ways to prevent and stem the harm associated with college student drinking, smoking and other drug use. Failure to act in the face of this body of knowledge is no longer an option.

CASA calls on university presidents and trustees to take the lead. But others--including parents, students, alumni, Greek and athletic organizations, community leaders and state and federal policymakers--have critical roles to play. The alcohol and tobacco industries must take responsible action as well. CASA makes the following recommendations to address this public health crisis.

College Administrators

Immediately implement, in collaboration with surrounding communities, a comprehensive, evidence-based strategy for preventing and reducing all forms of student substance abuse (alcohol, controlled prescription and illicit drugs and tobacco) and their damaging consequences. This strategy should include as a minimum:

Changing the Prevailing Climate

- Set clear substance use/abuse policies and enforce them in consistent and predictable ways.
- Ban smoking on campus.
- Reduce availability of alcohol to underage students by banning alcohol in dorms, in most common areas, at on-campus student parties and at college sporting events.
- Prohibit alcohol and tobacco advertisements, sponsorships and promotions on campus.

- Change the academic culture to: provide more opportunities for student engagement in the learning process as well as in service and other civic activities; and, address the underlying motivations for student substance use such as stress and difficulty managing their time and workload.

- Offer substance-free recreational opportunities.

- Incorporate substance abuse information into academic curricula.

- Hold faculty and staff accountable for providing alcohol to underage students.

- Target additional prevention services to times of high-risk substance use such as freshman year, weekends, athletic events, 21st birthday celebrations, spring break and holidays and hold Friday morning and afternoon classes and exams.

- Work with communities surrounding college campuses--landlords, neighborhood organizations, local government and retailers--to limit the accessibility of alcohol, tobacco and other drugs to students, assure enforcement and enhance the accessibility of appropriate treatment services.

- Engage secondary and graduate schools in efforts to prevent student substance abuse.

- Send a clear and powerful message that preventing substance abuse is a key priority for the administration by allocating sufficient funds to the effort and ensuring that prevention, intervention and treatment programs are coordinated and conducted by trained professionals with knowledge and expertise in the area.

Engaging Students and Their Parents and Changing Attitudes

- Educate students and their parents about school substance use policies and their enforcement, and about signs and symptoms of substance abuse at enrollment, orientation and periodically thereafter.

- Engage students in reducing substance use and abuse among their peers through evidence-based peer education strategies.

- Engage parents in prevention activities, and report all substance use infractions of students under age 21 to parents or legal guardian.

Addressing Needs of High Risk Students

- Identify high-risk students (e.g., Greeks, freshmen, athletes, high school users) and target science-based prevention, intervention and treatment services to them.

- Train campus health care providers, administrators, student advisors, coaches, faculty and other staff to recognize the signs and symptoms of substance abuse, as well as the signs of diversion of controlled prescription drugs, and know how to respond.

- Use campus health centers to routinely screen all students for drinking, alcohol abuse, controlled prescription drug abuse, illicit drug use, smoking, family history of addiction and other mental health problems that co-occur with substance use--including depression, anxiety and eating disorders--and provide services as indicated by the assessment. Assure insurance coverage as needed.

Monitoring Progress and Improving Results

- Monitor student rates of drinking, alcohol abuse, prescription drugs abuse, illicit drug use and smoking and of related mental health problems and adjust prevention and intervention efforts accordingly.

- Scientifically evaluate the efficacy of prevention and intervention services and use evidence-based principles to modify those that do not seem to be working.

Strategies to Reduce Student Substance Use and Abuse for Colleges and Universities

Change the Prevailing Climate

- Set clear substance use/abuse policies
- Enforce penalties/sanctions consistently & predictably
- Ban smoking on campus
- Ban alcohol in dorms, in most common areas, at on-campus student parties and at college sporting events
- Prohibit alcohol and tobacco ads, sponsorships & promotions on campus & at NCAA events
- Increase opportunities for student engagement
- Help students cope with stress, time and work management
- Offer alcohol-free events and activities
- Include information about substance abuse into academic curricula
- Target prevention messages to times of high risk (e.g., freshman year, athletic events, spring break, etc.)
- DO NOT cancel Friday morning and afternoon classes and exams
- Work with landlords, neighborhood organizations, local governments and retailers to:
  - Limit accessibility of alcohol, tobacco & other drugs
  - Assure enforcement of laws, regulations & policies
  - Increase access to treatment
- Engage secondary and graduate schools in prevention efforts
- Allocate sufficient funds to substance abuse prevention, intervention & treatment
- Ensure substance abuse services are handled by trained professionals

Involve Students and Their Parents

- Educate students & their parents about school policies, enforcement and substance abuse
- Engage students in reducing substance use & abuse through evidence-based strategies
- Engage parents in prevention
- Report all substance use infractions of underage students to parents

Address Needs of High Risk Students

- Identify high risk students (e.g., Greeks, freshmen, athletes, high school users, etc.) & target services
- Train faculty, staff & students to recognize signs & symptoms of substance abuse & teach how to respond
- Use campus health centers to screen routinely and provide necessary services for substance abuse and co-occurring problems

Monitor Progress and Improve Results

- Monitor student substance abuse rates & adjust programs accordingly
- Scientifically evaluate efficacy of strategies & programs and adjust accordingly

Parents

- Set good examples for children and young adults by not abusing alcohol or prescription drugs, using other drugs or smoking.
- Talk with your children about substance use from an early age and continue these conversations through college. Have a comprehensive discussion about substance use--its risks, your expectations, and the consequences you will enforce should they violate the rules--during the summer prior to their departure for college.
- Set clear expectations and disapproval of underage drinking, alcohol abuse, smoking and other drug use in both high school and college.
- Get help fast when children show signs of trouble with substances or related mental health problems.
- Work with your child's school (e.g., by serving on campus task forces, requesting notification of substance use policy violations) to prevent and reduce drinking and alcohol abuse, smoking and other drug use and their resulting consequences.

Trustees and Alumni

- Insist that schools address the culture of substance abuse in a comprehensive way and track progress in preventing and reducing the problem.
- Set a good example for college students when returning to campus by not drinking excessively, smoking, using other drugs or otherwise encouraging such behavior among students.
- Demonstrate support for college and university policies that aim to curb students' drinking, smoking and other drug use.

Students

- Accept responsibility for your own health and respect the rights of others by not drinking if underage, drinking excessively if of age, smoking or using other drugs.
- Learn the signs and symptoms of substance abuse, the health and career consequences, and where to turn if you develop a problem.
- Get help fast for peers in need.
- Get engaged in solving the problem of student substance abuse.

National Greek Organizations

- Establish a Greek culture not grounded in substance use and abuse.
- Overhaul and continually monitor pledge programs to eliminate the hazing practices that often involve underage drinking and excessive substance use.
- Enforce consistently the organizations' policies and regulations with regard to substance use and promptly shut down chapters that violate those rules.

The National Collegiate Athletic Association (NCAA)

- Heed the call of the American Medical Association, the Center for Science in the Public Interest, 246 university presidents, more than 180 national, state and local organizations, North Carolina basketball coach Dean Smith and former Nebraska football coach Tom Osborne to eliminate beer and all other alcohol advertising during all NCAA event broadcasts.

State Governments

- Assist in changing the culture of campus substance abuse through, for example, banning smoking on state college and university campuses and enforcing state substance abuse laws.

- Restrict alcohol outlet retail density around college campuses.

- Raise taxes on alcohol and tobacco.

- Prohibit alcohol and tobacco advertising, sponsorships and promotions on campus and in broadcasts of state college athletic events and alcohol and tobacco promotions in retail establishments immediately surrounding the campus.

Federal Government

- Enforce the provisions of the Drug Free Schools and Communities Act that require institutions of higher learning that receive federal funds to implement a program to prevent students' and employees' unlawful use or possession of alcohol or illicit drugs.

- Provide more funding for the development of innovative, science-based approaches to preventing and reducing student substance use and ensure that these approaches are rigorously evaluated for effectiveness in accordance with scientific principles of program evaluation.

- If alcohol and tobacco industries do not cease advertising and marketing practices designed to attract student users, subject them to rigorous government regulation.

Alcohol and Tobacco Merchants

- Cease all advertising and marketing practices designed to attract student users--including on-campus and event advertising, product placements and promotional giveaways--which compromise student health and inflict harm for the purpose of profit.

Strategies to Reduce Student Substance Use and Abuse for Parents, Students, Trustees & Alumni, Greek Organizations, NCAA, Policymakers and Alcohol & Tobacco Merchants

Parents

- Set good examples by not abusing alcohol or prescription drugs, smoking or using illicit drugs
- Set clear expectations & disapproval of student substance use & abuse
- Keep lines of communication open about substance abuse, including during college years
- Get help fast for teens in trouble
- Work with your child's college/university to prevent & reduce substance abuse

Students

- Don't drink if underage, abuse alcohol if of age, smoke, abuse prescription drugs or use illicit drugs
- Learn signs & symptoms of substance abuse, the health & career consequences & where to get help
- Get help fast for peers in need
- Get engaged in solving substance abuse problems on your campus

Trustees and Alumni

- Insist that your school change the culture of student substance abuse
- Set a good example for undergrads
- Support school policies to curb abuse

National Greek Organizations

- Establish Greek culture not grounded in substance abuse
- Overhaul and monitor pledge programs
- Enforce substance abuse policies & shut down non-complying chapters

NCAA

- Eliminate beer and other alcohol advertising during all NCAA event broadcasts

State Government

- Ban smoking on state college & university campuses
- Enforce state substance abuse laws
- Restrict alcohol outlet retail density around college campuses
- Raise taxes on alcohol & tobacco
- Prohibit alcohol & tobacco ads, sponsorships & promotions on campuses & retailers surrounding them

Federal Government

- Enforce Drug Free Schools and Communities Act
- Provide increased funding for research & evaluation
- Regulate alcohol & tobacco advertising & marketing to underage youth

Alcohol & Tobacco Merchants

- Cease all alcohol & tobacco advertising and marketing practices to attract student users

Appendix A
Overview of CASA's Study

More than a decade ago, CASA convened its landmark *Commission on Substance Abuse at Colleges and Universities* to understand better the issues surrounding substance abuse at our nation's colleges and universities. For 20 months, that *Commission*--comprised of college presidents, physicians, researchers, legislators, judges and corporate executives--examined relevant data, met with experts in the field, spoke with college presidents, conducted hearings, held student focus groups and examined existing programs.

The *Commission* issued two reports; the first, *The Smoke-Free Campus: A Report by the Commission on Substance Abuse at Colleges and Universities*, was released in 1993 and focused on smoking. The second, *Rethinking Rites of Passage: Substance Abuse on America's Campuses*, was released in 1994 and focused on what remains the largest substance abuse problem facing colleges and universities today: abusive drinking.

In 2002, CASA reconvened and expanded the *Commission* to examine what progress, if any, has been made in the intervening years and to determine what it will take for institutions of higher learning to take seriously the challenge of reducing alcohol, other drug and tobacco use among college students and the related harm to themselves and others.

CASA's *Commission on Substance Abuse at Colleges and Universities II* was chaired by Reverend Edward (Monk) Malloy, President Emeritus, University of Notre Dame. Using the findings from our original research in this area as a backdrop, CASA, with guidance from the *Commission*, conducted a comprehensive analysis over the past four years, including:

- A review of alcohol abuse on college campuses, supported by the largest coordinated effort by fraternities and sororities to date. This review was made

possible through the efforts of the late James Emison, Norval Stephens and the Stephens Charitable Trust, Norman R. Carpenter, the University of California at Irvine, DePauw University and 18 fraternities and sororities. This review included:

- A nationally representative telephone survey of 162 college and university representatives regarding the alcohol-control programs and policies currently implemented in their schools;
- A mail survey of elected volunteers and appointed staff directors of a sample of fraternity and sorority (Greek) organizations in the U.S. concerning their response to the problem of college student alcohol use and abuse;
- Interviews with leading researchers in the field of college drinking regarding new research findings and prevention approaches; and
- A review of the research literature related to college student alcohol use.

- An examination of the links between depression, substance abuse and engaged learning, sponsored by Sally Engelhard Pingree and The Charles Engelhard Foundation as part of the *Bringing Theory to Practice Project*.[*] This work included:
  - An in-depth review of existing literature on college student substance use, mental health and engaged learning and the nexus among these topics;
  - A series of six focus groups with male and female college students from New York, Chicago and Dallas to provide an in-depth look at students' beliefs and perceptions related to various substances of abuse, mental health issues and student engagement; and
  - A nationally representative telephone survey of 2,000 full-time college students attending four-year colleges and universities.[†] (See Appendix B)

- An examination of smoking, illicit drug use and controlled prescription drug abuse among college students, funded by the National Institute on Drug Abuse and The American Legacy Foundation which included:
  - Documentation of evidence-based actions that can be taken to reduce smoking, illicit drug use and prescription drug abuse among college students;
  - Identification of national organizations currently involved in attempting to reduce smoking and drug abuse at the college level, what solutions they have put forward, what projects are currently underway to address the problem and what has been learned about the problem as a result of these efforts;
  - Convening of two panels/focus groups, one of college students and one of students' parents, to provide insight into their perceptions of the nature and extent of substance abuse on college campuses, actions college administrations take to prevent or reduce such abuse and their perceptions of the efficacy of these actions; and,
  - A nationally representative online survey of 224 college administrators regarding their schools' policies and programs related to all forms of

[*] The *Bringing Theory to Practice Project* seeks to advance engaged student learning and determine how it might improve the quality of students' education, development, health and commitment to civic engagement.

[†] Substance use prevalence rates reported in CASA's national survey of college students are comparable in most cases to the rates reported in the *Monitoring the Future* (MTF) study--the national data set used as the main source in this report of prevalence estimates for student substance use.

substance use among college students. This survey replicated, updated and added new information to our administrator survey that focused primarily on alcohol. (See Appendix C)

- CASA's Substance Abuse Data Analysis Center (SADAC[SM]) conducted extensive analyses of six national data sets--CASA's survey of 2,000 college students, CASA's 2002 and 2005 surveys of college administrators, the National Institute on Drug Abuse's (NIDA) *Monitoring the Future* (MTF) study, the Substance Abuse and Mental Health Services Administration's (SAMHSA) *National Survey on Drug Use and Health* (NSDUH), and the American College Health Association's (ACHA) *National College Health Assessment* (NCHA) survey.

  - The *Monitoring the Future* (MTF) study is an ongoing survey conducted by the University of Michigan's Institute for Social Research of the behaviors, attitudes and values of American secondary school students, college students and young adults. Each year, a total of approximately 50,000 8th, 10th and 12th grade students are surveyed. In addition, annual follow-up questionnaires are mailed to a sample of each graduating class for a number of years after their initial participation. The information presented in this report is derived from these ongoing panel surveys of high school graduates. The college student population covered in this survey comprises full-time students, one to four years post-high school, enrolled in a two- or four-year college.

  - The *National Survey on Drug Use and Health* (NSDUH) includes in-person (household) interviews with approximately 70,000 randomly selected individuals aged 12 and older. The population covered by the survey is the civilian, non-institutionalized population residing within the United States and the District of Columbia. Persons excluded from the population covered include active-duty military personnel, persons with no fixed household address (e.g., homeless and/or transient persons not in shelters) and residents of institutional group quarters, such as jails and hospitals. The survey provides national and state-level estimates of the past month, past year and lifetime use of tobacco products, alcohol, illicit drugs and the abuse (non- medical use) of prescription drugs.

  - *The National College Health Assessment* (NCHA) survey, of the American College Health Association, is a survey available to colleges and universities interested in providing estimates of students' health habits, behaviors and perceptions. More than 350,000 students at more than 300 colleges and universities across the country have taken the survey. The NCHA has been used by two-year and four-year public and private institutions. Only schools that randomly selected students, or surveyed students in randomly selected classrooms, are part of the national databases. Because the schools are self-selecting, however, the NCHA databases cannot be said to be generalizable to all schools and students in the United States.

- CASA reviewed approximately 800 articles, reports, books and other reference materials related to college student smoking, drinking and drug use and analyzed the most relevant and current information from these sources for this report.

Appendix B
CASA's National Survey of College Students

CASA conducted a nationally representative survey of 2,000 college students. Schulman, Ronca, & Bucuvalas, Inc. (SRBI), an independent survey research organization, recruited respondents and conducted a telephone survey with full-time four-year undergraduate college students, ages 18 and older. The survey was conducted between November 3, 2004 and January 9, 2005. The interviews averaged 26 minutes in length. All interviews were conducted by professional telephone interviewers from SRBI's telephone interviewing center, located in New York City.

CASA's Institutional Review Board (IRB) granted approval to conduct this survey and respondents, all of whom were age 18 and older, provided oral informed consent.

The sample was purchased by SRBI from the American Student List (ASL). ASL offered the largest and most widely used list of students in the United States. The ASL database included approximately six million students who were attending approximately 1,000 colleges and universities in the United States. The ASL file included the college name so that the sample was restricted to traditional four-year colleges and universities and stratified to ensure adequate representation of schools by region, type and enrollment size. The ASL sample file also included class year so that the sample was stratified to ensure adequate representation across the four-year college span. The ASL data file included school telephone, as well as school address, so it permitted efficient contact by either telephone or mail.

Questionnaire Development

CASA staff designed a preliminary draft of the survey instrument based on prior questionnaires of college students and on findings from the focus groups. After review and revisions by SRBI questionnaire development staff, SRBI

conducted cognitive testing of the questionnaire. The objective for the testing was to ensure that the question wording and flow were logical and clearly understood by respondents and that the response categories provided reflected actual anticipated responses. Nine cognitive interviews were conducted between August 31 and September 2, 2004 in SRBI's Silver Spring, MD office. Test subjects were recruited from local colleges and received a monetary incentive to participate. Participants were both male and female, ranged from freshmen to seniors and attended four-year public and private colleges.

The cognitive testing took about 45 minutes per study subject. Prior to beginning the cognitive interview, the interviewer explained to respondents that they were to think aloud to the degree possible as they answered questions. They also were told that the interviewer would ask additional probe questions after they answered each survey question. The interviewer recorded written notes on the draft questionnaire as the interviews were conducted. The test interviews were audio-taped for subsequent review when the written notes were not sufficient. At the end of the nine cognitive interviews, the research team reviewed the findings with CASA. Suggestions from the testing were incorporated into an updated questionnaire.

Data Collection Protocol

The survey was conducted by professional interviewers who were experienced in performing sensitive interviews and specially trained to conduct CASA's survey. Interview staff was monitored closely throughout the data collection process by supervisors. The survey used computer-assisted telephone interviewing (CATI) to reduce interviewer error and bias in both data collection and data recording. The training session for telephone interviewers for the survey was held on October 5, 2004. The pretest for the survey, which was conducted to ensure that the data collection protocol went smoothly, commenced immediately following training. Another round of revisions was made to the questionnaire as a result of findings from the pretest. The field period began on November 3, 2004.

Initial Contact

An advance letter introducing the study was mailed to all potential respondents. Initial telephone contact was attempted during the hours of the day and days of the week that had the greatest probability of reaching a respondent. Initially, the primary interviewing period was between 5:30 p.m. and 10:00 p.m. on weekdays; between 9:00 a.m. and 10:00 p.m. on Saturdays; and between 10:00 a.m. and 10:00 p.m. on Sundays. However, students kept odd hours, so interviewing hours were extended to 9:00 a.m. to 10:00 p.m. during the weekdays.

If the interview could not be conducted at the time of initial contact, the interviewer rescheduled the interview at a time convenient to the respondent. Interviews were scheduled at all hours in order to accommodate students' schedules. If a respondent was reached initially, unlimited callbacks were made to conduct an interview. Because college students have varying schedules, appointments were set at the respondent's request.

Interviewers made attempts to call unanswered telephone numbers on different days and at different times in order to obtain the highest possible response rate. Numbers where busy signals were encountered were redialed 15 minutes after the initial contact attempt. Cases were classified as final "No answer" only after five or more unsuccessful attempts.

If the respondent was reached at the time of initial contact, but was, for some reason, unable to finish the interview, the interviewer asked the respondent when would be a convenient time for them to complete the interview. This date and time was recorded in the CATI system, which automatically scheduled callbacks.

The initial contact with the designated respondent is crucial to the success of the project. Most refusals take place before the interviewer has even completed the survey introduction. Numerous studies have shown that an interviewer's approach at the time of the first contact is the single most important factor in convincing a respondent to participate in a

survey. Many respondents react more to the interviewer and the rapport that is established between them than to the subject of the interview or the questions asked. This positive first impression of the interviewer is key to securing the interview.

If respondents appeared reluctant or uncertain to participate, SRBI's toll free number was provided to verify the authenticity of the survey.

Participation and Response Rates

Response rates are a critical issue in any sample survey because they may indicate a serious source of non-sampling error. Although the initial sample is drawn according to systematic and unbiased procedures, the achieved sample is determined by the proportion of the drawn sample that agrees to participate. To the extent that those who agree to participate are different from those who refuse to participate, the achieved sample will differ from the population it represents. In order to minimize such bias, surveys attempt to achieve the highest response rate possible--given the tradeoffs between survey objective, level of effort and timing.

In order to attain the highest possible response rate, an interviewing strategy with the following major components was followed:

1) Careful development and refinement of the initial contact script. (Most refusals occur within the first minute of contact. The first two or three sentences in the survey introduction may have a dramatic effect on response rate.) This included:

    - Identifying the sponsor as Columbia University;
    - Explaining the social utility of the survey;
    - Assuring respondents that they would not have to answer any questions that they do not want to; and
    - Telling the respondent the approximate length of the interview.

2) Assignment of all cases to a group of thoroughly trained and experienced interviewers, highly motivated and carefully monitored and controlled by SRBI's field staff.

3) Special training for all interviewers on how to overcome initial reluctance, disinterest or hostility during the contact phase of the interview.

4) Unlimited callbacks once a case is reached, until the case reaches final disposition or the field period ends. Appointments for callbacks were set at the respondent's convenience.

5) The maintenance and regular review of field outcome data in a sample-reporting file, derived from both the sample control so that patterns and problems in both response rate and production rates can be detected, analyzed and resolved.

The participation rate represents one of the most critical measures of potential sample bias because it indicates the degree of self-selection by potential respondents into or out of the survey. The participation rate is calculated as the number of completed interviews, including those that screen out as ineligible, divided by the total number of completed interviews, terminated interviews, and refusals to interview. It should be noted that the inclusion of screen outs in the numerator and denominator is mathematically equivalent to discounting the refusals by the estimated rate of ineligibility among refusals. Based on the standard calculations, the response rate for the survey was 45.8 percent and the participation rate was 84.8.

Procedures for Protecting Confidentiality

Respondents were informed during the survey introduction that their answers will be kept strictly confidential and that participation is

completely voluntary. Respondents were told that their answers were not linked to their name, telephone number or any other identifying information.

All interviewers were required to sign a confidentiality agreement that specifies that no identification of respondents or their answers would be revealed to other persons who were not specifically involved with this project as an employee of SRBI. The confidentiality of respondents' survey answers was protected by keeping all identifiers on the sample record sheet, which was linked to the interview responses only by a unique ID number.

Sample Characteristics

A diverse sample of students was recruited for this survey. Fifty-six percent of the sample was female. The majority (74 percent) was white, 10 percent African-American, seven percent Hispanic/Latino, six percent Asian/Pacific Islander, one percent American Indian/Alaskan Native and six percent of mixed race.[*] Sixty-one percent of the sample characterized themselves as single, 31 percent as in a long-term relationship, four percent as engaged, three percent as married and one percent as separated or divorced.

Students represented various political views, with 31 percent characterizing themselves as liberal, 31 percent as "middle of the road, " 24 percent as conservative and six and four percent, respectively, characterizing themselves as "far left" and "far right."[†] Most students indicated that they were somewhat (33 percent) or very (32 percent) strongly affiliated to their religion or spiritual practice.

Respondents included freshmen (26 percent), sophomores (21 percent), juniors (23 percent) and seniors (30 percent). Nearly two-thirds (63 percent) attended public schools (37 percent attended private). The majority of students characterized their schools as competitive (56 percent as very or highly competitive, 26 percent as competitive and 17 percent as not so competitive) and most described their schools as large (69 percent said over 5,000 students). Twelve percent of students were members of a fraternity or sorority and most lived in a campus residence hall (dormitory) (56 percent) or off-campus housing (33 percent).

Reported rates of substance use among respondents were similar to those of larger national surveys of college students, including the 2005 *Monitoring the Future* (MTF) study, which was the source of the substance use prevalence rates reported in Chapter II. With the exception of binge drinking, reported rates of substance use in CASA's survey of students were slightly lower than those in the 2005 MTF (current drinking: 64 percent vs. 70.1 percent; binge drinking: 53 percent vs. 40.1 percent; current prescription drug use: 2.5 percent vs. 3.1 percent; current marijuana use: 13 percent vs. 17.1 percent; current smoking: 19.9 percent vs. 23.8 percent).[‡] Results also were comparable to data from the *National College Health Assessment* of the American College Health Association. CASA's survey results fall within the confidence interval of plus or minus three percentage points of the MTF study, suggesting that CASA's survey is comparable in external validity (i.e., representativeness) to larger national surveys of college students.

[*] An additional four percent characterized their racial background as "other" and one percent did not answer the question.

[†] Six percent did not respond to the question.

[‡] The time periods in which the 2005 MTF survey and CASA's student survey were conducted were slightly different. Data for the 2005 MTF were collected in 2005 whereas data for CASA's survey were collected between November 2004 and January 2005.

CASA Student Survey

Screener

S1. May I speak to [NAME FROM SAMPLE]?

1 Yes / Speaking
2 New respondent comes to phone
3 Not home – arrange callback
4 Refused **(THANK AND TERMINATE)**

Introduction: Hello, my name is _____ from SRBI, a national research company. We are conducting a survey about college life on behalf of Columbia University.

We recently sent you a letter describing the study.

The goal of the study is to interview college students from all across the country about various aspects of college life, including their educational, social and health-related experiences, so that more can be done to improve the college experience for students like you.

Your participation in this project is completely voluntary. The information you provide will be held in strict confidence. Your answers will not be linked to your name or telephone number or any other information that can identify you. Your answers will be combined with those of thousands of other college students who have agreed to participate in this survey.

You may refuse to answer any question. You may also discontinue your participation at any point.

[The survey will take approximately 30 minutes to complete.]

S2. CONTINUE?

1 Yes (CONTINUE)
2 Schedule callback
3 Wants letter (Schedule callback for one week later)
4 Refused **(THANK AND TERMINATE)**

S3. Are you enrolled in a four-year college or university as a…

1 Full-time student, or a
2 Part-time student? **(SCREEN OUT)**
3 (vol) not currently enrolled **(SCREEN OUT)**
4 (vol) Don't Know **(SCREEN OUT)**
5 (vol) Refused **(SCREEN OUT)**

S4. In terms of completed credit hours, are you considered a….

1 freshman	26%
2 sophomore	21%
3 junior	23%
4 senior, or	30%
5 graduate student? **(SCREEN OUT)**	
6 (vol) Don't know **(SCREEN OUT)**	
7 (vol) Refused **(SCREEN OUT)**	

S5. How old are you?

___ age (SCREEN OUT IF UNDER 18):	
18	18%
19	21%
20	19%
21	20%
22-25	18%
26 or older	4%
refused (SCREEN OUT)	<0.5%

S6. GENDER BY OBSERVATION

1 male	44%
2 female	56%

Survey Instrument

Section A: Engagement

Let's begin with a few questions about how you spend your time.

A1. How does the amount of time you spent working for pay in this semester of college compare to the amount of time you spent in your senior year of high school? Did you…

1 spend more time working for pay in college	40%
2 less time in college, or (SKIP TO A1b)	31%
3 about the same amount of time? (SKIP TO A2)	28%
4 (vol) don't know/refused (SKIP TO A2)	1%

A1a. Why do you work more in college? Is it because…

1 you need the money more	72%
2 you have more free time	9%
3 more interesting work options are available, or	12%
4 some other reason? (specify)_____	6%
5 (vol) don't know/refused (SKIP TO A2)	1%

A1b. Why do you work less in college? Is it because…

1 you don't need the money as much	8%
2 you don't have as much free time	33%
3 you want to focus on your studies	45%
4 can't find a job, or	3%
5 some other reason? (specify)_____	10%
6 (vol) don't know/refused	<0.5%

A2. How does the amount of time you spent doing extra-curricular activities such as sports, the arts, students clubs or student government in this semester of college compare to your senior year of high school? Did you…

1 spend more time doing these kinds of extra-curricular activities in college	28%
2 less time in college, or (SKIP TO A2b)	46%
3 about the same amount of time? (SKIP TO A3)	26%
4 (vol) don't know/refused (SKIP TO A3)	<0.5%

A2a. Why do you spend more time doing these kinds of extra-curricular activities in college? Is it because…

1 you have more free time	12%
2 you are more interested in the activities	28%
3 more interesting activities are available	34%
4 you feel pressure to get involved in activities	3%
5 required	7%
6 you are an athlete, or	7%
7 some other reason? (specify)_____	9%
8 (vol) don't know/refused (SKIP TO A3)	1%

A2b. Why do you spend less time doing these kinds of extra-curricular activities in college? Is it because…

1 you have less free time	45%
2 you are not interested in the activities	12%
3 you want to focus on your studies, or	34%
4 some other reason? (specify)_____	8%
5 (vol) don't know/refused	1%

A3. How does the amount of time you spent doing non-required campus or community service activities, such as tutoring, counseling, or volunteering in this semester of college compare to your senior year of high school? Did you…

1 spend more time doing service activities in college	25%
2 less time in college, or (SKIP TO A3b)	34%
3 about the same amount of time? (SKIP TO A4)	41%
4 (vol) don't know/refused (SKIP TO A4)	<0.5%

A3a. Why do you spend more time doing service activities in college? Is it because…

1 you have more free time	10%
2 you are more interested in the activities	33%
3 more interesting activities are available	32%
4 you feel pressure to get involved	6%
5 required, or	12%
6 some other reason? (specify)_____	7%
7 (vol) don't know/refused (SKIP TO A4)	1%

A3b. Why do you spend less time doing service activities in college? Is it because…

1 you have less free time	53%
2 you are not interested in the activities	13%
3 you want to focus on your studies, or	23%
4 some other reason? (specify)_____	10%
5 (vol) don't know/refused	1%

A4. How does the amount of time you spent doing political activities such as organizing demonstrations, protests, rallies, petitions or campaigns in this semester of college compare to your senior year of high school? Did you…

1 spend more time doing political activities in college	24%
2 less time in college, or (SKIP TO A4b)	17%
3 the same amount of time? (SKIP TO A5)	58%
4 (vol) don't know/refused (SKIP TO A5)	1%

A4a. Why do you spend more time on political activities in college? Is it because…

1 you have more free time	4%
2 you are more interested in the activities	45%
3 more interesting activities are available	33%
4 you feel pressure to get involved	3%
5 required	2%
6 of legal age/18, or	6%
7 some other reason? (specify)_____	7%
8 (vol) don't know/refused (SKIP TO A5)	<0.5%

A4b. Why do you spend less time on political activities in college? Is it because…

1 you have less free time	31%
2 you are not interested in the activities	44%
3 you want to focus on your studies, or	17%
4 some other reason? (specify)_____	7%
5 (vol) don't know/refused	1%

A5. How does the amount of time you spent in social activities such as hanging out with friends, partying or dating in this semester of college compare to the amount of time you spent in your senior year of high school? Did you…

1 spend more time socializing in college	50%
2 less time in college, or (SKIP TO A5b)	20%
3 about the same amount of time? (SKIP TO A6)	30%
4 (vol) don't know/refused (SKIP TO A6)	<0.5%

A5a. Why do you socialize more in college? Is it because…

1 you've met more people who you like to socialize with	65%
2 you have more free time	21%
3 there's more pressure to socialize	2%
4 more freedom/independence, or	4%
5 some other reason? (specify)_____	6%
6 (vol) don't know/refused (SKIP TO A6)	1%

A5b. Why do you socialize less in college? Is it because…

1 you haven't met as many people who you like to socialize with	17%
2 you don't have as much free time	73%
3 there's less pressure to socialize, or	4%
4 some other reason? (specify)_____	5%
5 (vol) don't know/refused	1%

A6. During this semester of college, how many hours per week on average do you spend performing the following types of activities?

A6a. Working for pay

0 hours (none)	36%
1-10 hours	26%
11-20 hours	23%
21-30 hours	8%
31 or more hours	6%

A6b. Athletics or sports

0 hours (none)	38%
1-10 hours	48%
11-20 hours	10%
21-30 hours	2%
31 or more hours	1%

A6c. The arts (fine arts, dance, music, drama)

0 hours (none)	59%
1-10 hours	34%
11-20 hours	4%
21-30 hours	2%
31 or more hours	1%

A6d. Student government

0 hours (none)	85%
1-5 hours	13%
6 or more hours	2%

A6e. Non-required campus or community service activities, such as tutoring, counseling, or volunteering

0 hours (none)	41%
1-5 hours	49%
6-10 hours	7%
11 or more hours	3%

A6f. Political activities such as organized demonstrations, protests, rallies, petitions or campaigns

0 hours (none)	76%
1-5 hours	22%
6 or more hours	2%

Now I'd like to ask you some questions about educational experiences you've had in college that have gone beyond standard classroom activities.

A7. While in college, how often have you had a course in which you felt that the faculty truly valued your personal involvement and input? Would you say…

1 frequently	53%
2 occasionally	35%
3 rarely, or	10%
4 never?	2%
5 (vol) don't know/refused	<0.5%

A8. While in college, how often have you had a course that specifically included service learning, where students are required to perform service activities and then reflect with the faculty on how that service relates to the course content? Would you say…

1 frequently	9%
2 occasionally	24%
3 rarely, or	30%
4 never? (SKIP TO A9)	36%
5 (vol) don't know/refused (SKIP TO A9)	<0.5%

A8a. How valuable did you find this type of learning? Would you say…

1 very valuable	41%
2 somewhat valuable	51%
3 not too valuable, or	6%
4 not valuable at all?	1%
5 (vol) don't know/refused	<0.5%

A8b. In which courses did you have this type of learning? Would you say…[MULTIPLE MENTION]

1 required course	63%
2 elective course	37%
3 independent study or internship, or	8%
4 another course? (specify) _____	2%
5 (vol) don't know/refused	1%

A9. While in college, how often have you worked closely with a faculty member on a research project, an independent study project, or an internship where you felt that your input was very important or valued? Would you say…

1 frequently	14%
2 occasionally	23%
3 rarely, or	23%
4 never? [SKIP TO A10]	41%
5 (vol) don't know/refused [SKIP TO A10]	<0.5%

A9a. How valuable did you find this type of learning? Would you say…

1 very valuable	63%
2 somewhat valuable	32%
3 not too valuable, or	4%
4 not valuable at all?	1%
5 (vol) don't know/refused	<0.5%

A9b. In which situations did you have this type of learning? Would you say…[MULTIPLE MENTION]

1 required course	55%
2 elective course	26%
3 independent study or internship, or	27%
4 another course? (specify) _____	2%
5 (vol) don't know/refused	1%

A10. While in college, how often have you had a course or other educational experience that inspired you or significantly changed your perspective? Would you say…

1 frequently	22%
2 occasionally	49%
3 rarely, or	22%
4 never? (SKIP TO A11)	7%
5 (vol) don't know/refused (SKIP TO A11)	<0.5%

A10a. In which situations did you have this experience? Would you say…[MULTIPLE MENTION]

1 required course	60%
2 elective course	47%
3 independent study or internship, or	9%
4 another course? (specify) _____	2%
5 (vol) don't know/refused	1%

A10b. What was it that inspired or affected you in this way? Would you say it was… [MULTIPLE MENTION]

1 the intellectual challenge	44%	5 that you had increased personal responsibility, or	22%
2 the chance to reflect on larger social issues	40%	6 something else? (specify) _____	5%
3 that your input was valued	20%	7 (vol) don't know/refused	2%
4 the experience of working with a mentor or faculty member	27%		

A11. While in college, how often have you had a course that motivated you to make an active contribution to a larger goal or purpose? Would you say…

1 frequently	15%
2 occasionally	39%
3 rarely, or	29%
4 never? (SKIP TO A12)	17%
5 (vol) don't know/refused (SKIP TO A12)	<0.5%

A11a. In what types of courses did you have this experience? Would you say… [MULTIPLE MENTION]

1 required course	62%
2 elective course	41%
3 independent study or internship, or	6%
4 another course? (specify) _____	2%
5 (vol) don't know/refused	<0.5%

A11b. What was it that motivated you? Would you say it was… [MULTIPLE MENTION]

1 the intellectual challenge	38%	5 that you had increased personal responsibility, or	23%
2 the chance to reflect on larger social issues	39%	6 something else? (specify) _____	3%
3 that your input was valued	22%	7 (vol) don't know/refused	2%
4 the experience of working with a mentor or faculty member	21%		

A12. While in college, how often have you actively sought out an educational experience that would involve greater personal responsibility for your own learning, such as getting involved in research, independent study, an internship, or service learning? Would you say…

1 frequently	19%
2 occasionally	34%
3 rarely, or	23%
4 never?	24%
5 (vol) don't know/refused	<0.5%

A13. While in college, how often have faculty, administrators or other school staff actively encouraged students to get involved in these forms of learning experiences? Would you say…

1 frequently	44%
2 occasionally	37%
3 rarely, or	15%
4 never?	4%
5 (vol) don't know/refused	<0.5%

A14. While in college, how often have you participated in an extra-curricular activity that inspired you or significantly changed your perspective? Would you say…

1 frequently	21%
2 occasionally	37%
3 rarely, or	24%
4 never? (SKIP TO A15)	18%
5 (vol) don't know/refused (SKIP TO A15)	<0.5%

A14a. In what activities did you have this experience? Would you say… [MULTIPLE MENTION]

1 a job (worked for pay)	20%	6 campus or community service	26%
2 athletics	23%	7 political activities, or	10%
3 the arts	19%	8 some other activity? (specify)	
4 student club or organization	39%	_____	7%
5 student government	6%	9 (vol) don't know/refused	1%

A14b. What was it that inspired you or affected you in this way? Would you say… [MULTIPLE MENTION]

1 the intellectual challenge	23%	5 that you had increased personal responsibility, or	38%
2 the chance to reflect on larger social issues	38%	6 something else? (specify)	
3 that your input was valued	26%	_____	6%
4 the experience of working with a mentor or faculty member	19%	7 (vol) don't know/refused	1%

A15. While in college, how often have you participated in a job or an extra-curricular activity that motivated you to make an active contribution to a larger goal or purpose? Would you say…

1 frequently	20%
2 occasionally	33%
3 rarely, or	22%
4 never? (SKIP TO A16)	25%
5 (vol) don't know/refused (SKIP TO A16)	<0.5%

A15a. In what activities did you have this experience? Would you say…[MULTIPLE MENTION]

1 a job (worked for pay)	38%	6 campus or community service activities	24%
2 athletics	14%	7 political activities, or	7%
3 the arts	12%	8 some other activity (specify) _____	5%
4 student club or organization	32%	9 (vol) don't know/refused	2%
5 student government	4%		

A15b. What was it that motivated you? Would you say… [MULTIPLE MENTION]

1 the intellectual challenge	27%	5 that you had increased personal responsibility, or	39%
2 the chance to reflect on larger social issues	34%	6 something else? (specify) _____	4%
3 that your input was valued	29%	7 (vol) don't know/refused	1%
4 the experience of working with a mentor or faculty member	18%		

A16. What is your top priority while you are in college? [DO NOT READ]

1 learn	44%	6 become more knowledgeable or skilled in your field of interest	5%
2 get a degree	36%	7 become involved in politics	<0.5%
3 have fun	1%	8 get a good job after graduation	3%
4 network/make connections in the business world	1%	9 other (specify) _____	7%
5 figure out the career you would like to go into	2%	10 (vol) don't know/refused	<0.5%

Section B: Stress

Now I'd like to ask you some questions about stress.

B1. How big of a problem is student stress at your school? Would you say stress is a…

1 very big	28%
2 moderate, or	60%
3 very small problem?	10%
4 (vol) don't know/refused	1%

B2. How stressed does your schoolwork make you feel? Would you say…

1 very stressed	25%
2 somewhat stressed	47%
3 a little stressed, or	23%
4 not stressed at all?	6%
5 (vol) don't know/refused	0%

B3. How stressed does your involvement in extra-curricular activities make you feel? Would you say…

1 very stressed	7%
2 somewhat stressed	21%
3 a little stressed, or	30%
4 not stressed at all?	41%
5 (vol) don't know/refused	<0.5%

B4. How often do you feel overwhelmed by all you have to do? Would you say…

1 frequently	33%
2 occasionally	42%
3 rarely, or	21%
4 never?	4%
5 (vol) don't know/refused	0%

B5. What would you say are the main sources of stress or anxiety for you? Would you say… [MULTIPLE MENTION]

1 school work	76%	6 family issues	17%
2 extracurricular activities	16%	7 concerns about your post-college plans, or	33%
3 social life/friends	17%	8 something else? (specify) _____	2%
4 dating	14%	9 (vol) don't know/refused	1%
5 financial pressures	41%		

B6. What do you typically do to relieve stress? Anything else? [DO NOT READ]
[MULTIPLE MENTION]

1 socialize with friends/go out/ party	30%	11 play sports; engage in outdoor activities (hiking, rock climbing, surfing, skiing)	12%
2 spend time with girlfriend/ boyfriend	2%	12 see a movie, watch TV, listen to music, play video/computer games, surf the Internet	24%
3 have sex	1%	13 shop	1%
4 talk to parents or other relatives	3%	14 read, sew, do art projects	10%
5 talk to an advisor/counselor/ therapist	1%	15 study	2%
6 take a nap/sleep	14%	16 pray/meditate	4%
7 take a walk; go to a park or the beach	4%	17 smoke	1%
8 take a brief trip/vacation	2%	18 drink alcohol	4%
9 exercise/work out	30%	19 use drugs	1%
10 relax/take a break	6%	20 other (specify)_____	12%
		21 (vol) don't know/refused	3%

B7. How does stress in college compare to stress in high school? Would say that you have…

1 more stress in college,	68%
2 less stress in college, or	9%
3 about the same amount of stress?	22%
4 (vol) don't know/refused	1%

Section C: Mental Health

The next set of questions are about mental health issues.

C1. In the past 12 months, how often have you…
C1a. Felt things were hopeless? Would you say…

1 frequently	5%
2 occasionally	14%
3 rarely, or	29%
4 never?	52%
5 (vol) don't know/refused	<0.5%

C1b. Felt mentally exhausted? Would you say…

1 frequently	17%
2 occasionally	35%
3 rarely, or	32%
4 never?	16%
5 (vol) don't know/refused	<0.5%

C1c. Felt very sad? Would you say…

1 frequently	7%
2 occasionally	25%
3 rarely, or	46%
4 never?	23%
5 (vol) don't know/refused	<0.5%

C1d. Felt so depressed that it was difficult to function? Would you say…

1 frequently	3%
2 occasionally	8%
3 rarely, or	24%
4 never?	65%
5 (vol) don't know/refused	<0.5%

C1e. Felt very anxious or panicked? Would you say…

1 frequently	7%
2 occasionally	24%
3 rarely, or	37%
4 never?	33%
5 (vol) don't know/refused	0%

C2. Have you ever been diagnosed with depression?

1 yes	12%
2 no (SKIP TO C3)	87%
3 (vol) don't know/refused (SKIP TO C3)	<0.5%

C2a. Were you first diagnosed while you were in college?

1 yes	35%
2 no	65%
3 (vol) don't know/refused	0%

C3. Have you ever been diagnosed with an anxiety disorder such as panic disorder or generalized anxiety disorder?

1 yes	6%
2 no (SKIP TO C4)	93%
3 (vol) don't know/refused (SKIP TO C4)	<0.5%

C3a. Were you first diagnosed while you were in college?

1 yes	50%
2 no	50%
3 (vol) don't know/refused	0%

C4. Have you ever been diagnosed with an eating disorder such as anorexia or bulimia?

1 yes	2%
2 no (SKIP TO C5)	98%
3 (vol) don't know/refused (SKIP TO C5)	<0.5%

C4a. Were you first diagnosed while you were in college?

1 yes	27%
2 no	73%
3 (vol) don't know/refused	0%

C5. Have you ever been diagnosed with any other psychological or emotional disorder?

1 yes	3%
2 no (SKIP TO C6)	97%
3 (vol) don't know/refused (SKIP TO C6)	<0.5%

C5a. What were you diagnosed with?

1 response: _____
2 (vol) don't know/refused

C5b. Were you first diagnosed while you were in college?

1 yes	35%
2 no	65%
3 (vol) don't know/refused	0%

C6. Are you currently in treatment or therapy for any psychological or emotional problem?

1 yes	6%
2 no	94%
5 (vol) don't know/refused	<0.5%

C7. Are you currently taking medication prescribed to you for any psychological or emotional problem?

1 yes	7%
2 no (SKIP TO C8)	93%
3 (vol) don't know/refused (SKIP TO C8)	<0.5%

C7a. What are you taking?

1 response: _____
2 (vol) don't know/refused

C8. How big of a problem is student depression on your campus? Would you say depression is a…

1 very big	5%
2 moderate, or	37%
3 very small problem?	50%
4 (vol) don't know/refused	8%

C9. How common is it for students at your school to seek professional counseling for symptoms of depression? Do you think it is…

1 very common	4%
2 somewhat common	29%
3 not too common, or	44%
4 not common at all?	14%
5 (vol) don't know/refused	9%

C10. Do you think there is a stigma attached to seeking out resources for depression?

1 yes	50%
2 no	45%
3 (vol) don't know/refused	5%

C13. Are you aware of any suicides in the past year among the students at your school?

1 yes	14%
2 no	86%
3 (vol) don't know/refused	<0.5%

C14. Are you aware of any suicide ATTEMPTS in the past year among the students at your school?

1 yes	20%
2 no	80%
3 (vol) don't know/refused	1%

C15. How often do you think incidents of date rape or other sexual violence occur among the students at your school? Would you say…

1 frequently	9%
2 occasionally	28%
3 rarely, or	51%
4 never? (SKIP TO C16)	10%
5 (vol) don't know/refused (SKIP TO C16)	2%

C15a. How often do you think one or more of the parties involved in the date rape or sexual violence were drinking alcohol or using drugs at the time? Would you say…

1 almost always	51%
2 frequently	30%
3 occasionally	11%
4 rarely, or	5%
5 never?	1%
6 (vol) don't know/refused	1%

C16. How accessible are school resources and services for helping students with stress, depression, suicide, eating disorders, or other psychological problems? Would you say…

1 very accessible	60%
2 somewhat accessible	32%
3 not too accessible, or	5%
4 not accessible at all?	1%
5 (vol) don't know/refused	2%

C17. What factors might keep a student from getting help for stress, depression, suicide, eating disorders, or other psychological problems? Anything else? [DO NOT READ] [MULTIPLE MENTION]

1 cost/no insurance	2%
2 wouldn't know where to go	10%
3 embarrassed/scared/someone might find out/ stigma	60%
4 in denial of problem/didn't think problem was serious	18%
5 peer pressure	4%
6 no time/too busy	4%
7 other (specify)_____	9%
8 (vol) don't know/refused	12%

Section D: Smoking

Now I am going to ask you some questions about smoking.

D1. Have you ever had a cigarette? By this I mean a whole cigarette, not just a few puffs.

1 yes	40%
2 no (SKIP TO D4)	60%
3 (vol) don't know/refused (SKIP TO D4)	<0.5%

D1a. Have you smoked a cigarette within the last 30 days?

1 yes	21%
2 no (SKIP TO D2)	19%
3 (vol) don't know/refused (SKIP TO D2)	0%

D1a1. In the last 30 days, on how many days did you smoke cigarettes?

1-5 days	37%
6-10 days	9%
11-24 days	14%
25 or more days	38%

D2. Why do you smoke? Do you smoke… [MULTIPLE MENTION]

1 to relax or reduce stress	38%	6 social smoker	11%
2 to fit in or because of social pressure	16%	7 to experiment	7%
		8 do not smoke	5%
3 to help you focus or concentrate	6%	9 some other reason? (Specify)	
4 to control your appetite or eat less	3%	_____	12%
5 because you can't stop	12%	10 (vol) don't know/refused	6%

D2a. IF TWO OR MORE ANSWERS IN D2: What is the most important reason to you for smoking? Would you say…ONLY SHOW THE SELECTED CHOICES FROM D2.

1 to relax or reduce stress	35%	6 social smoker	11%
2 to fit in or because of social pressure	14%	7 to experiment	7%
		8 do not smoke	5%
3 to help you focus or concentrate	2%	9 some other reason? (Specify)	
4 to control your appetite or eat less	< 0.5%	_____	13%
		10 (vol) don't know/refused	6%
5 because you can't stop	8%		

D3a. How does the amount you smoke in college compare to the amount you smoked in high school. Do you smoke…

1 more in college,	44%
2 less in college, or	27%
3 about the same amount?	28%
4 (vol) don't know/refused	1%

D4. Do you think your school has effective or well-enforced smoking-related policies to reduce or prevent student smoking?

1 yes	42%
2 no	54%
3 school doesn't have a policy	1%
4 (vol) don't know/refused	3%

Section E: Alcohol

Now I am going to ask you some questions about alcohol.

E1. Have you ever had a drink of alcohol? [A "drink" is a glass of wine, a bottle of beer, a wine cooler, a shot glass of liquor, or a mixed drink.]

1 yes	86%
2 (vol) don't know/refused (SKIP TO E5)	<0.5%

E1a. Have you had a drink of alcohol within the last 30 days?

1 yes	64%
2 no (SKIP TO E1b)	22%
3 never drank (SKIP TO E1b)	14%
4 (vol) don't know/refused (SKIP TO E1b)	<0.5%

E1a1. In the last 30 days, on how many days did you drink alcohol?

1 day	13%
2-3 days	27%
4-5 days	21%
6-10 days	24%
11 or more days	15%

E1a2. In the last 30 days, on the days that you drank, how many drinks did you usually have?

1 drink	11%
2-3 drinks	34%
4-5 drinks	27%
6-10 drinks	22%
11 or more drinks	4%

E1a3. In the last TWO WEEKS, how many times have you had five or more alcoholic drinks on a single occasion?

0 (never)	47%
1 time	21%
2-3 times	17%
4-5 times	9%
6-10 times	5%
11 or more times	1%

E1b. During the school semester, on which days of the week do you normally drink? [MULTIPLE MENTION]

1 Mondays	3%	5 Fridays	65%
2 Tuesdays	4%	6 Saturdays	71%
3 Wednesdays	6%	7 Sundays	5%
4 Thursdays	24%	8 (vol) don't know/refused	12%

E1c. During the school semester, are you most likely to drink…

1 before an exam	< 0.5%
2 after an exam	19%
3 before going to class	< 0.5%
4 after class, or	9%
5 Do your drinking patterns not relate to your schoolwork?	68%
6 (vol) don't know/refused	3%

E2. Why do you drink alcohol? Do you drink… [MULTIPLE MENTION]

1 to get drunk	17%	6 because you can't stop	1%
2 to relax or reduce stress	40%	7 you enjoy the taste, or	36%
3 to forget about problems	7%	8 socialize/enjoyment	14%
4 to lose inhibitions	8%	9 some other reason? (specify) _____	10%
5 to fit in or because of social pressure	12%	10 (vol) don't know/refused	2%

E2a. IF TWO OR MORE ANSWERS IN E2: What is the most important reason to you for drinking? Would you say…ONLY SHOW THE SELECTED CHOICES FROM E2.

1 To get drunk	10%	6 Because you can't stop	0%
2 To relax or reduce stress	31%	7 You enjoy the taste	20%
3 To forget about problems	2%	8 socialize/enjoyment	11%
4 To lose inhibitions	3%	9 Some other reason? (specify) _____	13%
5 To fit in or because of social pressure	8%	10 (vol) don't know/refused	3%

E3a. How does your drinking in college compare to your drinking in high school. Do you drink…

1 more in college,	64%
2 less in college, or	16%
3 about the same amount?	19%
4 (vol) don't know/refused	1%

E4. Have you ever sought treatment or help for problems with alcohol?

1 yes	1%
2 no (SKIP TO E5)	99%

E4a. Did you seek help while you were in college?

1 yes	54%
2 no	46%

E4b. Are you currently receiving therapy or treatment for an alcohol-related disorder?

1 yes	25%
2 no	75%

E5. Does the social atmosphere at your school promote alcohol use?

1 yes	57%
2 no	42%
3 (vol) don't know/refused	1%

E7. While in college, how often has a faculty member at your school offered you alcohol?

1 frequently	1%
2 occasionally	3%
3 rarely, or	7%
4 never?	89%
5 (vol) don't know/refused	<0.5%

E8. How easy is it for students at your school who are under 21 to get alcohol? Would you say…

1 very easy	59%
2 somewhat easy	28%
3 not too easy, or	8%
4 not easy at all?	4%
5 (vol) don't know/refused	1%

E9. How would you compare the academic performance of the typical college student who drinks alcohol regularly with those who drink less often or not at all? Would you say…

Regular drinkers tend to:	
1 do better than other students	1%
2 do worse than other students, or	47%
3 do about the same as other students?	48%
4 (vol) don't know/refused	4%

E10. How concerned do you think your school is about students' drinking? Is your school…

1 very concerned	32%
2 somewhat concerned	44%
3 not too concerned, or	19%
4 not concerned at all?	4%
5 (vol) don't know/refused	<0.5%

E11. Do you think your school has effective or well-enforced alcohol-related policies to reduce or prevent student drinking?

1 yes	62%
2 no	36%
3 (vol) school doesn't have policy	< 0.5%
4 (vol) don't know/refused	2%

Section F: Drugs

(PROGRAMMING NOTE - OVERWRITE ALL PERSONAL IDENTIFIERS WHEN THIS SECTION BEGINS)

Now I am going to ask you some questions about drugs.

F1. Have you ever used marijuana?

1 yes	35%
2 no (SKIP TO F2)	64%
3 (vol) don't know/refused (SKIP TO F2)	<0.5%

F1a. Have you used marijuana within the last 30 days?

1 Yes	13%
2 No (SKIP TO F1b)	22%

F1a1. In the last 30 days, how many days did you use marijuana?

1 day	19%
2 days	19%
3-5 days	18%
6-10 days	12%
11 or more days	31%

F1b. How does your marijuana use in college compare to your marijuana use in your senior year of high school? Has your marijuana use…

1 increased in college,	35%
2 decreased in college, or	40%
3 stayed about the same?	24%
4 (vol) don't know/refused	<0.5%

F2. Have you ever used cocaine?

1 yes	5%
2 no (SKIP TO F3)	95%

F2a. Have you used cocaine within the last 30 days?

1 yes	1%
2 no	4%

F3. Have you ever used heroin?

1 yes	<0.5%
2 no (SKIP TO F4)	99%
3 (vol) don't know/refused (SKIP TO F4)	<0.5%

F3a. Have you used heroin within the last 30 days?

1 yes	0%
2 no	<0.5%

F4. Have you ever used club drugs like Ecstasy, GHB, or Special K?

1 yes	5%
2 no (SKIP TO F5)	95%
3 (vol) don't know/refused (SKIP TO F5)	<0.5%

F4a. Have you used any of these drugs within the last 30 days?

1 yes	1%
2 no	5%

F5. Have you ever taken a prescription **stimulant** drug such as Ritalin or Adderall that was NOT prescribed to you?

1 yes	8%
2 no (SKIP TO F6)	92%
3 (vol) don't know/refused (SKIP TO F6)	<0.5%

F5a. Have you done this within the last 30 days?

1 yes	2.5%
2 no	5.5%

F6. Have you ever taken a prescription **painkiller** such as OxyContin, Vicodin or Percocet that was NOT prescribed to you?

1 yes	9%
2 no (SKIP TO F7)	91%

F6a. Have you done this within the last 30 days?

1 yes	1.5%
2 no	7.5%

F7. Have you ever taken a prescription **tranquilizer** such as Xanax, Valium or Ativan that was NOT prescribed to you?

1 yes	5%
2 no (SKIP TO F8)	95%
3 (vol) don't know/refused (SKIP TO F8)	<0.5%

F7a. Have you done this within the last 30 days?

1 Yes	0.7%
2 No	4.3%

F8. Have you ever sought treatment or help for problems with drugs?

1 yes	1%
2 no (SKIP TO F9)	99%
3 (vol) Don't Know (SKIP TO F9)	<0.5%

F8a. Did you seek help while you were in college?

1 yes	0.1%
2 no	0.9%

F8b. Are you currently receiving therapy or treatment for a drug-related disorder?

1 yes	13%
2 no	87%

[IF NEVER USED ANY DRUGS (F1=2,3,4, and F2=2,3,4, and F3=2,3,4, and F4=2,3,4, and F5=2,3,4, and F6=2,3,4, and F7=2,3,4) SKIP TO F10]

F9. Why do you use drugs? Do you use drugs…[MULTIPLE MENTION]

1 to get high	40%	7 because you can't stop	2%
2 to relax or reduce stress	39%	8 enjoyment/fun	4%
3 to help you study	8%	9 experiment/curiosity, or	8%
4 to forget about problems	7%	10 some other reason? (specify)	10%
5 to lose inhibitions	5%	11 (vol) don't know/refused	3%
6 to fit in/social pressure	14%		

F9a. **IF TWO OR MORE ANSWERS IN F9:** What is the most important reason to you for using drugs? Would you say…**ONLY SHOW THE SELECTED CHOICES FROM F9.**

1 to get high	29%	7 because you can't stop	<0.5%
2 to relax or reduce stress	30%	8 enjoyment/fun	2%
3 to help you study	3%	9 experiment/curiosity, or	7%
4 to forget about problems	2%	10 some other reason? (specify)	11%
5 to lose inhibitions	1%	11 (vol) don't know/refused	4%
6 to fit in/social pressure	10%		

F10. Does the social atmosphere at your school promote drug use?

1 yes	18%
2 no	81%
3 (vol) don't know/refused	1%

F11b. While in college, how often has a faculty member at your school offered you drugs? Would you say…

1 frequently	<0.5%
2 occasionally	<0.5%
3 rarely, or	1%
4 never?	99%

F13. How would you compare the academic performance of the typical college student who uses drugs regularly with those who use drugs less often or not at all? Would you say…

Drug users tend to:	
1 do better than other students	1%
2 do worse than other students, or	74%
3 do about the same as other students?	20%
4 (vol) don't know/refused	4%

F14. How concerned do you think your school is about students' drug use? Is your school…

1 very concerned	35%
2 somewhat concerned	43%
3 not too concerned, or	18%
4 not concerned at all?	3%
5 (vol) don't know/refused	1%

F15. Do you think your school has effective or well-enforced drug-related policies to reduce or prevent student drug use?

1 yes	68%
2 no	29%
3 (vol) school doesn't have policies	<0.5%
4 (vol) don't know/refused	3%

F16. How accessible are school resources and services for helping students deal with substance abuse problems, including smoking, drinking and using drugs? Are resources…

1 very accessible	50%
2 somewhat accessible	38%
3 not too accessible, or	7%
4 not accessible at all?	2%
5 (vol) don't know/refused	3%

F18. What factors might keep a student from getting help for substance abuse problems, including smoking, drinking and using drugs? Anything else? [DO NOT READ-MULTIPLE MENTION]

1 cost/no insurance	1%
2 wouldn't know where to go	6%
3 embarrassed/scared/someone might find out/stigma	37%
4 in denial of problem/didn't think problem was serious	37%
5 doesn't want to stop	8%
6 peer pressure	5%
7 no time/too busy, or	2%
8 some other reason? (specify)_____	13%
9 (vol) don't know/refused	11%

Section G: General Substance Use Perception Questions

Now I'm going to ask you some questions about smoking, drinking and drug use on your campus.

G1. What percentage of students at your school do you think…

G1a. are regular smokers?

1-15 percent	19%
16-30 percent	28%
31-50 percent	30%
51-75 percent	14%
76 percent or more	5%
(vol) don't know/refused	4%

G1b. binge drink at least once a month? Binge drinking is having five or more alcoholic drinks on a single occasion.

0 percent	<0.5%
1-15 percent	7%
16-30 percent	12%
31-50 percent	25%
51-75 percent	32%
76 percent or more	20%
(vol) don't know/refused	4%

G1c. use marijuana at least once a month?

0 percent	1%
1-15 percent	28%
16-30 percent	27%
31-50 percent	22%
51-75 percent	10%
76 percent or more	4%
(vol) don't know/refused	9%

G1d. use cocaine at least once a month?

0 percent	7%
1-5 percent	37%
6-10 percent	17%
11-20 percent	10%
21 percent or more	11%
(vol) don't know/refused	19%

G1e. use heroin at least once a month?

0 percent	17%
1 percent	16%
2-5 percent	26%
6-10 percent	10%
11 percent or more	8%
(vol) don't know/refused	23%

G1f. use club drugs such as Ecstasy, GHB, or Special K at least once a month?

0 percent	7%
1 percent	11%
2-5 percent	27%
6-10 percent	14%
11 percent or more	21%
(vol) don't know/refused	19%

G1g. use prescription drugs that weren't prescribed to them at least once a month?

0 percent	5%
1-5 percent	27%
6-10 percent	16%
11-50 percent	31%
51 percent or more	5%
(vol) don't know/refused	16%

G2. How easy is it for students to get…

G2a. marijuana? Do you think it is…

1 very easy	36%
2 somewhat easy	41%
3 not too easy, or	14%
4 not easy at all?	4%
5 (vol) don't know/refused	6%

G2b. cocaine? Do you think it is…

1 very easy	6%
2 somewhat easy	22%
3 not too easy, or	36%
4 not easy at all?	21%
5 (vol) don't know/refused	15%

G2c. heroin? Do you think it is…

1 very easy	2%
2 somewhat easy	11%
3 not too easy, or	37%
4 not easy at all?	32%
5 (vol) don't know/refused	17%

G2d. club drugs such as ecstasy, GHB, or Special K? Do you think it is…

1 very easy	11%
2 somewhat easy	33%
3 not too easy, or	28%
4 not easy at all?	15%
5 (vol) don't know/refused	13%

G2e. prescription drugs for recreational use? Do you think it is…

1 very easy	20%
2 somewhat easy	41%
3 not too easy, or	22%
4 not easy at all?	9%
5 (vol) don't know/refused	9%

G3. Where do students get prescription drugs such as Ritalin, Adderall, OxyContin, Vicodin, Xanax or Valium without a prescription? [DO NOT READ] [MULTIPLE MENTION]

1 friends give the drugs to them	43%	4 take the drugs from friends' or relatives' medicine cabinets	4%
2 buy the drugs from friends or a dealer	13%	5 buy the drugs on-line (the Internet)	1%
3 family members give the drugs to them	4%	6 from someone with prescription	7%
		7 other (specify) _____	8%
		8 (vol) don't know/refused	30%

G4. How much do your parents' concerns or expectations influence whether or how much you smoke, drink or use drugs? Do they influence you…

1 very much	40%
2 somewhat	30%
3 not too much, or	13%
4 not at all?	17%
5 (vol) don't know/refused	<0.5%

Section H: Demographics

Now I would like to ask you some final questions.

H1. What are you majoring in?

1 response: _____ (SKIP TO H2)
2 undecided
3 (vol) don't know/refused (SKIP TO H2)

H1a. What will you most likely major in?

1 response: _____
2 (vol) don't know/refused

H2. Do you mostly get…

1 As	40%
2 Bs	53%
3 Cs	6%
4 Ds, or Fs	1%
6 (vol) don't know/refused	1%

H3. What is the highest academic degree that you intend to get? Would you say a…

1 Bachelor's degree (B.A., B.S.)	24%	5 Divinity degree (B.D., M.DIV.), or	< 0.5%
2 Master's degree (M.A., M.S., M.B.A.)	47%	6 some other degree? (specify) _____	< 0.5%
3 Doctorate (Ph.D., Ed.D.)	21%	7 (vol) don't know/refused	1%
4 professional degree (e.g., medical, dental, law)	6%		

H4. Are you a member of a fraternity or sorority?

1 yes	12%
2 no	88%
3 (vol) don't know/refused	<0.5%

H5. Do you currently live in…

1 a campus residence hall	56%	5 parent or guardian's home, or with other adult relatives, or	2%
2 fraternity or sorority house	2%	6 somewhere else? (specify) _____	
3 other university housing	7%	7 (vol) don't know/refused	<0.5%
4 off-campus housing	33%		

H6. How many miles away is your college from your permanent home? Would you say…

1 10 or less	20%
2 11-50	13%
3 51-100	16%
4 101-500, or	37%
5 over 500?	13%
6 (vol) don't know/refused	1%

H7. What is your current relationship status? Are you…

1 single	61%	4 married/domestic partner	3%
2 in a long-term committed dating relationship	31%	5 separated/divorced, or 6 Widowed?	1% 0%
3 engaged	4%	7 (vol) don't know/refused	<0.5%

H8. Do you consider yourself…

1 heterosexual	96%
2 gay or lesbian	1%
3 bisexual, or	2%
4 transgendered?	<0.5%
5 (vol) don't know/refused	1%

H9. How would you characterize your political views? Would you say…

1 far left	6%
2 liberal	31%
3 middle-of-the-road	31%
4 conservative, or	24%
5 far right?	4%
6 (vol) don't know/refused	6%

H10. Are you of Hispanic, Latino or Chicano origin?

1 yes	7%
2 no	92%
3 (vol) don't know/refused	<0.5%

H11. Which of the following categories best describes your racial background? Would you say…

1 White	74%	5 mixed race, or	6%
2 Black or African American	10%	6 other? (specify)	4%
3 Asian or Pacific Islander	6%	7 (vol) don't know/refused	1%
4 American Indian or Alaskan Native	1%		

H12. What's your current religious identification? [DO NOT READ]

1 none	13%	13 Roman Catholic	22%
2 Baptist	10%	14 Seventh Day Adventist	<0.5%
3 Buddhist	2%	15 Unitarian/Universalist	<0.5%
4 Episcopal	1%	16 United Church of Christ	3%
5 Hindu	1%	17 other Christian (specify)_____	10%
6 Islamic	1%	18 other Religion (specify)_____	2%
7 Jewish	2%	19 non-denominational spiritual practice	6%
8 Latter Day Saints (Mormon)	<0.5%	20 Agnostic (SKIP TO H14)	4%
9 Lutheran	7%	21 Atheist (SKIP TO H14)	3%
10 Methodist	7%	22 (vol) don't know/refused (SKIP TO H14)	5%
11 Presbyterian	3%		
12 Quaker	0%		

H13. How strongly affiliated are you currently to your religion or spiritual practice? Would you say…

1 very	32%
2 somewhat	33%
3 a little, or	19%
4 not at all?	16%
5 (vol) don't know/refused	<0.5%

H14. Were you…

1 born in the U.S., or did you	91%
2 come to the U.S. before age 6	3%
3 come to the U.S. between ages 6-12, or	1%
4 come to the U.S. after age 12?	4%
5 (vol) don't know/refused	1%

H15. Was your mother or primary female guardian...

1 born in the U.S., or	85%
2 born outside the U.S.?	14%
3 (vol) don't know/refused	1%

H16. Was your father or primary male guardian…

1 born in the U.S., or	84%
2 born outside the U.S.?	15%
3 (vol) don't know/refused	1%

H17. What is the highest level of education obtained by your mother or primary female guardian?

1 grammar school or less	1%	5 some college	13%
2 some high school	2%	6 college degree	34%
3 high school graduate/GED	24%	7 some graduate school	1%
4 postsecondary school other than college	3%	8 graduate degree	20%
		9 (vol) don't know/refused	1%

H18. What is the highest level of education obtained by your father or primary male guardian?

1 grammar school or less	1%	5 some college	11%
2 some high school	2%	6 college degree	30%
3 high school graduate/GED	25%	7 some graduate school	1%
4 postsecondary school other than college	2%	8 graduate degree	26%
		9 (vol) don't know/refused	2%

H19. What is your best estimate of your parents' or primary guardians total income last year? Consider income from all sources before taxes. Would you say…

1 less than $10,000	3%	6 $80,000 to less than $100,000	14%
2 $10,000 to less than $20,000	5%	7 $100,000 to less than $200,000, or	17%
3 $20,000 to less than $40,000	13%	8 $200,000 or more?	7%
4 $40,000 to less than $60,000	16%	9 (vol) don't know/refused	10%
5 $60,000 to less than $80,000	16%		

Appendix C
CASA's National Surveys of College Administrators

In the fall of 2002, CASA conducted a nationally representative survey of 162 college and university representatives regarding the alcohol-control programs and policies currently implemented in their schools. Three years later, in the fall of 2005, a second survey of college administrators was conducted with a broader focus on policies and programs related to all forms of substance use among college students. The methodologies of the two surveys are presented below followed by the questionnaires used for each survey.

CASA's 2002 College Administrator Survey: Alcohol Policies and Programs

Sample Selection

An initial random sample of 250 four-year accredited colleges and universities was drawn in proportion to the number of schools in each state. The sample was drawn from the most recent College Board database of U.S. institutions of higher education. The sample was examined to determine the precise characteristics of each institution and its student body. As a result of these examinations, 25 schools were subsequently replaced when it was determined that they were not four-year schools, they did not have students living on campus, they were primarily distance learning or correspondence colleges or their student body was composed primarily of older adults. Replacements were then randomly selected from substitutes that had been drawn at the time of the original sampling.

The sample size of colleges subsequently was reduced from 250 to 200 schools to allow for multiple interviews at schools where the responsibility for addressing the problem of alcohol abuse on campus was shared among several individuals or departments. This smaller

sample remained proportional to the number of schools per state.

Procedure

A project staff member made initial contact with each school by telephone either through the Office of Dean of Students or the Office of Student Affairs.* In this contact, school personnel were asked to identify the individual on campus most responsible for dealing with the issue of student alcohol use and abuse. The phone number of this individual was obtained during this initial contact.

Project staff called the contact on each campus to arrange a time for a telephone interview. At the time of this initial contact, the school representative was informed that the purpose of the interview was to determine current campus alcohol policies and practices.

Interviews occurred over a four-month period during the summer and fall of 2002. While repeated attempts were made to arrange interviews with representatives from each of the 200 institutions, efforts were eventually discontinued when 162 interviews had been completed. In this way, a response rate of 80 percent was achieved.

The 162 college representatives who were identified and interviewed held various positions on campus: 24.1 percent were from the counseling department; 42.6 percent were in student life or student affairs; 13.0 percent in health and wellness; 17.0 percent in substance abuse; and 2.5 percent in other departments.

School Demographics

The size of the student bodies of the institutions surveyed ranged from 114 to over 36,000. Four of the schools were exclusively female and nine were historically black colleges (HBC). Over 50 percent of the schools indicated a Greek presence on campus. Thirty-six percent of the schools were public institutions of higher education. While each school had some proportion of students living on campus, the proportions ranged from two percent to 100 percent of the student body. About one-quarter of the schools were located in rural areas, another one-quarter in urban areas and a little less than half were suburban.
(See Table C.1)

Table C.1
Demographic Overview

Students per school	
Less than 1,000	25 schools
1,001-5,000	75 schools
5,001-10,000	22 schools
10,001-15,000	6 schools
15,001-20,000	8 schools
More than 20,000	5 schools
Location	
Rural	27 percent
Suburban	44 percent
Urban	28 percent
Religiously affiliated	40 percent
Student population	
Female	3 percent
Co-educational	97 percent
Historically Black	6 percent
Graduate programs	73 percent
Greek life	56 percent
Type of school	
Private	62 percent
Public	36 percent

Survey Instrument

The survey instrument was developed and pre-tested during the summer of 2002. In developing the instrument, we constructed a framework that queried schools regarding their current policies and practices in a way that would indicate the extent to which they conformed to the "best practices" laid out in the NIAAA Task Force report, *A Call to Action: Changing the Culture of Drinking at U.S. Colleges*. Additional questions were included to help determine the methods school personnel employed in selecting their policies and practices. Finally, we asked representatives at

* Many colleges had only one or the other. In cases where a college had both types of offices, the interviewer first contacted the Office of the Dean of Students.

each school to tell us how they evaluated their current alcohol control programs.

Each interview began with the following open-ended inquiry, "*We want to know what your school is currently doing to prevent or to reduce student alcohol abuse on campus.*" This allowed for an initial, self-generated, unprompted response that may reflect the most salient approaches used on a particular college campus to combat student alcohol abuse. Following the initial open-ended question, a series of questions with specific prompts was presented to each respondent. The interview was arranged into four general areas of inquiry regarding alcohol control policies and programs:

- Environmental/campus-wide approaches;
- Individual and informational approaches;
- Campus and community coalitions/alliances; and,
- Comprehensive approaches.

CASA's 2005 College Administrator Survey: Substance Use Policies and Programs

The second survey CASA conducted was a nationally representative online survey of 224 college administrators. CASA's Institutional Review Board (IRB) granted approval to conduct this survey.

A college sampling frame was obtained from http://www.univsource.com/ (accessed 08/28/05), which lists all colleges by state. We restricted the frame to four-year public and private colleges and universities. We also attempted to eliminate self-identified online-only institutions. From this restricted frame, we calculated the proportion of schools that each state contributed to the total, so that an initial random sample of 260 could be drawn proportional to size. A second random sample of 158, also proportional to size, was subsequently drawn to increase the likelihood that at least 200 schools completed the online survey. The total number of schools that responded was 224 for a final participation rate of 54 percent. Results are presented as unweighted frequencies.

Data Collection Protocol

Two graduate student research assistants were responsible for establishing contact, ensuring that the target respondents received the online surveys and troubleshooting problems. To ensure consistency, the research assistants were trained to follow a designated protocol and follow a script when conducting all phone calls and e-mail correspondence with potential study participants.

Initial contact. The schools identified in the random sample were entered into a database and an initial contact's name and phone number were collected through online searches of the schools' Web sites. The initial contact often was the Dean of Students or the Director of Counseling Services. The ultimate goal was to have the initial contact help identify the individual at the school most directly responsible for overseeing policies and programs related to substance use and abuse and to recruit that individual to participate in the survey.

Target administrator. Once the appropriate administrator was identified, a scripted phone call was conducted asking the administrator to participate in the survey. Upon agreement to participate, the survey purpose and process was explained in detail, confidentiality was assured and the e-mail address of the administrator was recorded. A scripted e-mail was then immediately sent to the administrator with an embedded Web link to the online survey. Each school was assigned a unique three-digit identification number. The administrator was instructed to click on their individualized link and complete the survey to the best of their ability. Their responses were recorded immediately in the survey database and marked with their unique identification number.

Administrators were encouraged to contact the research assistants if they experienced any difficulties with the survey. Troubleshooting for

technical problems was provided with the assistance of the Systems Administrator at CASA. If technical problems were not easily resolved, respondents were offered to complete a paper copy of the survey that would be mailed with a postage-paid return envelope. In those instances (four cases), the survey was sent with a cover letter ensuring confidentiality and providing instructions to not write any identifying information on the survey or the return envelope.

Follow-up. To maximize participation rates, the status of each school's response was tracked using their unique identification number. Follow-up calls were made one week following the initial e-mail to any respondent who had agreed to complete the survey but had not yet done so. When the administrator was not available, voice-mail messages were left. Three weeks after the initial e-mail, a follow-up e-mail was sent to administrators who still had not completed the survey and another link to the survey instrument was provided.

Procedures for protecting confidentiality. Respondents were informed during the initial phone call that their answers will be kept strictly confidential and that participation is completely voluntary. Respondents were told that their answers would not be linked to their name or any other identifying information.

The confidentiality of respondents' survey answers were protected by keeping all identifiers on the sample record sheet separate from the database that contained participants' responses. The only link between the record sheet and the database was each respondent's unique three-digit identification number. Researchers with access to the database for conducting the statistical analyses did not have access to the record sheet containing the identifying information and those with access to the record sheet did not have access to the database.

Respondents who completed the survey via a paper copy were assured the same confidentiality as those who completed an online copy of the survey. The survey was returned to CASA in a postage-paid envelope that contained only the unique three-digit identification number of the participating school. The data were entered into the database by a staff member who did not have access to the identifying information associated with the identification number.

Participation and Response Rates

Survey administration began in late-September 2005 and continued through mid-February 2006. Of the 418 schools who were selected for the sample, 23 did not qualify due to their non-residential status, nine schools declined to participate, five schools were unable to be contacted through e-mail and the target administrator at five schools was unreachable. A total of 376 administrators agreed to participate and were sent a link to the online survey. A total of 224 administrators completed the survey.

Sample Characteristics

The target administrators who completed the survey held various administrative positions including Dean/Assistant Dean of Students/Student Affairs (19.6 percent), Alcohol and Other Drug (AOD) Education Coordinator (17.8 percent), VP of Student Affairs (14.5 percent), Director of Health Education or Health Services (9.8 percent), Director of Wellness/Student Development and Care (6.5 percent), Health Educator (4.7 percent), Director/Assistant Director of Residence Life (3.7 percent), and Director of Counseling (3.7 percent).

Approximately 19.6 percent of the administrators responded as *Other* and recorded their position. Some of the unique positions included Coordinator of Student Activities/Involvement, Director of Student Services, the Coordinator of Fraternity and Sorority Life, Director of Outreach, Director of the Safety, Environment and Education Center, Director of Career Services, Director of the Sexual Assault Program, and Director of the Student Development Center.

School Characteristics

Approximately half of the respondents characterized their schools as private (51.9 percent), 48.1 percent as public. Thirty-four percent of schools were religiously affiliated: 17.9 percent Protestant, 9.3 percent Catholic, and 6.8 percent categorized as *Other*.

Respondents indicated the location of the school as urban (35.8 percent), suburban (35.8 percent) or rural (28.4 percent). Approximately half (52.1 percent) of the schools had a student population under 5,000; 18.4 percent, 5,000-9,999; 13.5 percent, 10,000 to 20,000; and 16 percent, over 20,000. Nearly 40 percent (38.5 percent) of respondents were at NCAA Division I schools; 15.5 percent, Division II; 30.4 percent, Division III; and 15.5 percent were not affiliated with the NCAA.

Student Population

While 11.8 percent of respondents reported that 100 percent of students were full-time undergraduates, the majority of schools (61 percent) reported that most (80 to 99 percent) of students were full-time undergraduates; 20.6 percent reported 60 to 79 percent, and 6.6 percent reported 59 percent or less. The vast majority of schools (80.4 percent) reported that 19 percent or less of the student population were members of a Greek organization (fraternity/ sorority), 16.8 percent reported 20 to 39 percent, and 2.8 percent reported 40 to 79 percent.

The majority of schools (79.1 percent) reported that about half (40 to 59 percent) of the student population was male; 14.4 percent reported that less than 40 percent was male and 6.5 percent reported that 60 percent or more was male.

Most schools (59.9 percent) reported that 19 percent or less of the student population was comprised of racial or ethnic minorities; 24.3 percent reported 20 to 39 percent; 8.6 percent reported 40 to 59 percent; 5.3 percent reported 60 to 79 percent and 2.0 percent reported 80 to 99 percent.

CASA's 2002 College Administrator Survey: Alcohol Policies and Programs

The National Center on Addiction and Substance Abuse at Columbia University is conducting a brief survey of college personnel who deal with the problem of alcohol abuse on campus. The Office of Student Affairs at _____ gave us your name as the key individual to talk with at _____. It is important to understand from the outset that none of the schools (200 are being called) will be identified by name, region, or location. We are only interested in summarizing the responses of all of the colleges to this survey. We are conducting this survey to find out what colleges and universities are doing today to combat alcohol abuse on campus. Again, it is important to reiterate that your name does not appear on this questionnaire nor does the name of your school. Thank you for your time.

1. We want to know what your school is currently doing to prevent or to reduce student alcohol abuse on campus? Could you tell us what approaches your school has taken to combat student alcohol abuse?

There are a number of general areas in which schools have attempted to combat student alcohol abuse. I'm going to ask you briefly about four of these areas to see if there's been any discussion of doing anything else in these areas that you may not have already mentioned.

2. The first area concerns environmental approaches designed to change the school environment to reduce underage drinking. Banning or registering kegs on campus would be an example of an environmental approach. Can you think of anything your college is doing in the environmental area to combat student alcohol abuse that you haven't already mentioned?

   (Prompt about social norms marketing here if not previously mentioned.): Correct perception about % of students drinking and the amount they drink

   (Prompt about freshmen orientation here if not previously mentioned--what do they say about drinking and what information do they provide to students--to parents.)

   (Prompt about what school does to communicate the institution's alcohol polices to students and parents before and after they arrive on campus)

   (Prompt about limiting alcohol availability on campus)

   (Prompt about banning alcohol advertising on campus)

   (Prompt about alcohol-free events if not previously mentioned)

   (Prompt about enforcing 21 year-old drinking laws)

   (Prompt about Friday classes if not previously mentioned)

   (Prompt about peer advocates: students educating other students or buddy for students in trouble)

   (Prompt about promoting positive message through forms of media)

2a. Is there anything in the environmental area that your college is considering doing in the near future to reduce college student alcohol abuse?

2b. Is there anything else in the area of environmental approaches that you think might be effective at reducing college student alcohol abuse? (Something they do not do, but think would be useful)

2c. Are there any environmental approaches promoted nationally that you think would not be feasible or that would not be effective on your campus?

3. The second area I'm going to ask you about concerns individual or group approaches to combating student alcohol abuse. Treatment programs or screening for at-risk students would be examples of individual or group approaches. Can you think of anything your college is doing in this area to combat student alcohol abuse that you haven't already mentioned?

(Prompt here about counseling center and student health center and their programs if not previously mentioned.)

(Prompt about teaching drinking reduction or controlled drinking skills?)

(Prompt about screening, outreach, training, and staff requirements)

(Prompt about providing students with information comparing their individual drinking to campus norms)

(Prompt about addressing the special needs of groups such as racial/ethnic minorities, women, athletes, members of the Greek system, students of different ages, gay students, and lesbian students.)

3a. Is there anything in the area of individual or group approaches that your college is considering doing in the near future?

3b. Is there anything else in the area of individual or group approaches that you think might be effective at reducing college student alcohol abuse?

3c. Are there any individual or group approaches promoted nationally that you think would not be feasible or that would not be effective on your campus?

4. The third area I'm going to ask you about concerns approaches that involve forming alliances with the surrounding community. Can you think of anything your college is doing in this area to combat student alcohol abuse that you haven't already mentioned? (e.g., Police, local bars, local businesses, landlords, neighbors…)

(Prompt about a task force with both college and community members serving on it)

4a. Is there anything in the area of college-community approaches that your college is considering doing in the near future?

4b. Is there anything else in the area of college-community approaches that you think might be effective at reducing college student alcohol abuse?

4c. Are there any college-community alliance approaches promoted nationally that you think would not be feasible or that would not be effective on your campus?

5. The final area I'm going to ask you about concerns the selection of your alcohol abuse prevention approaches and their evaluation. How did your school decide to use the approaches that it is currently employing to combat student alcohol abuse?

5a. Are there any ways that you can think of that would improve the selection of approaches your school uses?

5b. How does your school evaluate the effectiveness of the approaches that it is currently using? That is, what do you do to determine whether or not they are helping to reduce the problem? (e.g., How do you evaluate how effective your social norms marketing is?)

(Prompt about surveys administered to students)

5c. Are there any ways that you can think of that would improve these evaluation processes?

5d. On what level are students involved in developing and implementing the programs that the school currently runs and plans on running in the future?

6. Are you familiar with the recent report of the National Institute on Alcohol Abuse and Alcoholism report on alcohol abuse on college campuses?

Yes No

6a. If yes, have you read the report?

Yes No

7. What other drugs besides alcohol do students use at your school?

CASA's 2005 College Administrator Survey: Substance Use Policies and Programs

1. What is your position at the college?

Dean of Students/Student Affairs	19.2%
Vice President of Student Affairs	11.7%
Director of Health Services	4.7%
Director of Health Education	5.1%
Director of Wellness	5.1%
Health Educator	4.7%
Alcohol/other drugs education coordinator	16.4%
Other (please specify)_____	33.2%

2. Colleges and universities have many competing priorities. What is your estimation of your school's priorities with regard to the following issues: *Please rank the issues below by writing a number next to each issue indicating its level of priority. A "1" would indicate the most prominent priority and a "10" would indicate the least prominent priority. Please leave the item blank if you don't feel you can provide an accurate estimate. Note: The same number cannot be applied to more than one item.*

   Note: percentages represent only the proportion of respondents who listed the option as their first priority.

Funding	29.3%
Athletics	1.1%
Academics	52.2%
Research	4.3%
Preventing student crime/violence	1.1%
Addressing student stress, anxiety, depression	0.5%
Addressing student drinking	2.2%
Addressing student smoking	3.3%
Addressing student illicit drug use	1.1%
Addressing student prescription drug abuse	4.9%

3. Does your school collect information to help understand rates and/or consequences of substance use among students?

Yes	84.2%
No	11.9%
Don't know	4.0%

4. On a scale of 1-5, with 1 being "not a problem" and 5 being "a major problem," how big of a problem is each of the following types of substances at your college? *Please enter a number from 1-5 in the space next to each type of substance. Please leave the item blank if you don't feel you can provide an accurate estimate.*

	1	2	3	4	5
Tobacco/cigarettes	11.9%	26.2%	41.1%	14.9%	5.9%
Alcohol	5.3%	9.7%	22.8%	32.5%	29.6%
Marijuana	4.9%	19.6%	38.7%	27.5%	9.3%
Other Illicit Drugs (e.g., heroin, cocaine, crack, amphetamines, methamphetamines, hallucinogens, club drugs)	18.6%	39.2%	28.1%	11.1%	3.0%
Prescription Stimulants (e.g., Ritalin, Adderall)	14.1%	39.4%	29.8%	13.1%	3.5%
Prescription Painkillers/Opioids/Narcotics (e.g., OxyContin, Vicodin, Percocet, Codeine)	23.4%	42.9%	18.8%	10.5%	4.2%
Prescription Tranquilizers (e.g., Xanax, Valium)	25.4%	43.9%	15.9%	9.5%	5.3%
Steroids	38.8%	42.6%	9.0%	6.4%	3.2%

5. How has alcohol use among students at your college changed over approximately the past decade?

Alcohol use has increased.	32.9%
Alcohol use has decreased	24.1%
Alcohol use has not changed.	42.9%
Don't know	0.0%

6. How has tobacco use among students at your college changed over approximately the past decade?

Tobacco use has increased	27.6%
Tobacco use has decreased	48.7%
Tobacco use has not changed	23.7%
Don't know	0.0%

7. How has illicit drug use among students at your college changed over approximately the past decade?

Illicit drug use has increased	32.4%
Illicit drug use has decreased	24.8%
Illicit drug use has not changed	42.8%
Don't know	0.0%

8. How has prescription drug abuse among students at your college changed over approximately the past decade?

Prescription drug abuse has increased	69.0%
Prescription drug abuse has decreased	8.6%
Prescription drug abuse has not changed	22.4%
Don't know	0.0%

9. Are your responses to the above four questions based on:

Objective data	11.9%
Your perceptions/opinion	16.6%
A combination of objective data and your perceptions/opinion	62.7%
Other (please specify)_____	8.8%

10. Who at your school has *primary* responsibility for enforcement of substance abuse control efforts? *Please select one option.*

Campus public safety office or department	35.5%
Local police	2.5%
Resident Assistants	17.3%
Director of Judicial Affairs/Judicial Committee	27.4%
Other (please specify)_____	17.3%

11. What is the resident assistant (RA) *required* to do to help control student substance use? *Please check all that apply.*

	No	Yes
Provide warnings to students caught using prohibited substances	65.3%	34.7%
Advise/counsel students caught using prohibited substances	71.0%	29.0%
Report student caught using prohibited substances to the college administration	31.7%	68.3%
Report student caught using prohibited substances to the campus police	68.5%	31.5%
Report student caught using prohibited substances to the local police	95.9%	4.1%
Refer student caught using prohibited substances to health services	79.3%	20.7%
Other (please specify) _____	87.8%	12.2%
No role	97.7%	2.3%
Don't know	97.7%	2.3%

12. What kind of training, if any, do RAs receive in dealing with student substance use?

Open-ended questions; responses not included.

13. What types of policies has your school implemented to prevent or control the use of alcohol? (By this we mean rules or regulations aimed specifically at controlling alcohol use or enforcing rules related to alcohol use. Later there will be questions about prevention or treatment programs, activities or interventions.) *Please check all that apply*.

	No	Yes
Alcohol prohibited on campus for everyone (students, faculty, staff, alumni) regardless of age	76.9%	23.1%
Alcohol prohibited only for all students, regardless of age	84.2%	15.8%
Alcohol prohibited only for students under 21 years of age	43.3%	56.7%
Alcohol prohibited in common areas	48.6%	51.4%
Alcohol prohibited at sporting events	54.3%	45.7%
No beer kegs allowed on campus	46.4%	53.6%
No alcohol-related advertising/product endorsements/sponsored events	44.6%	55.4%
Permission/authorization required for all events where alcohol will be served on campus	43.9%	56.1%
Trained alcohol servers required at all events where alcohol will be served on campus	62.2%	37.8%
Students required to sign alcohol agreement before coming to campus	95.0%	5.0%
Friday or Saturday morning classes and exams are held	78.7%	21.3%
Other (please specify _____)	88.7%	11.3%
Don't know	100.0%	0.0%

14. If someone is caught violating alcohol policies, what are the sanctions? *Please check all that apply.*

	No	Yes
Parents are notified	60.8%	39.2%
Campus police are notified	71.2%	28.8%
Student referred to local law enforcement authorities	91.9%	8.1%
Student must go before university judicial committee	41.7%	58.3%
Fines (please specify _____)	63.3%	36.7%
Probation, suspension or expulsion	50.5%	49.5%
Other (please specify _____)	51.8%	48.2%
No sanctions	99.1%	0.9%
Don't know	100.0%	0.0%

15. What types of policies has your school implemented to prevent or control the use of tobacco? (By this we mean rules or regulations aimed specifically at controlling tobacco use or enforcing rules related to tobacco use. Later there will be questions about prevention or treatment programs, activities or interventions.) *Please check all that apply.*

	No	Yes
Entire campus is tobacco-free	86.4%	13.6%
No smoking indoors anywhere/all buildings smoke-free	29.0%	71.0%
All residence halls are tobacco-free	42.3%	57.7%
Designated smoke-free public areas	79.2%	20.8%
Students must be a certain number of feet away from the building to smoke	59.6%	40.4%
No tobacco advertising/product endorsements/sponsored events	56.8%	43.2%
Other (please specify _____)	94.6%	5.4%
Don't know	99.1%	0.9%

16. What types of sanctions has your school implemented to prevent or control the use of illicit drugs? (By this we mean rules, regulations or sanctions aimed specifically at controlling illicit drug use or enforcing rules related to illicit drug use. Later there will be questions about prevention or treatment programs, activities or interventions.) *Please check all that apply.*

	No	Yes
Parents are notified	58.6%	41.4%
Campus police are notified	49.1%	50.9%
Student referred to local law enforcement authorities	70.7%	29.3%
Student must go before university judicial committee	37.7%	62.3%
Fines (please specify _____)	75.1%	24.9%
Probation, suspension or expulsion	40.4%	59.6%
Other (please specify _____)	67.9%	32.1%
Don't know	99.1%	0.9%

17. What types of sanctions has your school implemented to prevent or control the abuse of prescription drugs? (By this we mean rules, regulations or sanctions aimed specifically at controlling prescription drug abuse or enforcing rules related to prescription drug abuse. Later there will be questions about prevention or treatment programs, activities or interventions.) *Please check all that apply.*

	No	Yes
Parents are notified	70.%3	29.7%
Campus police are notified	69.5%	30.5%
Student referred to local law enforcement authorities	86.0%	14.0%
Student must go before university judicial committee	57.4%	42.6%
Fines (please specify _____)	85.1%	14.9%
Probation, suspension or expulsion	57.4%	42.6%
Other (please specify _____)	77.4%	22.6%
Don't know	81.9%	18.1%

18. Other than the alcohol control or enforcement policies we have discussed, what types of prevention or treatment programs has your school implemented to address student alcohol use? *Please check all that apply.*

	No	Yes
Required course or curriculum infusion programs	79.6%	20.4%
Other educational programs or resources (e.g., Priming for Life, B.A.C. Zone Cards, Alcohol 101, AlcoholEDU)	35.6%	64.4%
Peer educator programs	48.7%	51.3%
Parent education/engagement	65.6%	34.4%
Social norms marketing	60.4%	39.6%
Public service announcements, media campaigns or demonstrations on campus	61.7%	38.3%
Alternative, alcohol-free campus events	28.7%	71.3%
Alcohol training programs for bar owners, managers, bouncers or servers	77.4%	22.6%
Targeted programs for high-risk populations (e.g., fraternity, sorority, athletes, freshmen)	52.0%	48.0%
Targeted programs for high-risk events (e.g., homecoming, 21st birthday)	72.1%	27.9%
Screening at health services	60.4%	39.6%
Provide treatment on campus	58.7%	41.3%
Provide AA or other self-help programs on campus	68.6%	31.4%
Refer to off campus treatment	31.3%	68.8%
Refer to off campus AA or other self-help programs	43.0%	57.0%
Other (please specify _____)	89.1%	10.9%

19. Other than the tobacco control or enforcement policies we have discussed, what types of prevention or treatment programs has your school implemented to address student tobacco use? *Please check all that apply.*

	No	Yes
Required course or curriculum infusion programs	95.5%	4.5%
Other educational programs or resources	62.9%	37.1%
Peer educator programs	65.8%	34.2%
Parent education/engagement	96.8%	3.2%
Social norms marketing	81.4%	18.6%
Public service announcements, media campaigns or demonstrations on campus	74.3%	25.7%
Targeted programs for high-risk populations (e.g., fraternity, sorority, athletes, freshmen)	93.7%	6.3%
Screening at health services	70.1%	29.9%
Provide smoking cessation programs on campus	57.6%	42.4%
Provide pharmacotherapy (e.g., Nicotine Replacement Therapy; antidepressants) on campus	77.5%	22.5%
Provide self-help programs on campus	81.9%	18.1%
Refer to off campus smoking cessation programs	66.2%	33.8%
Refer to off campus pharmacotherapy (e.g., Nicotine Replacement Therapy; antidepressants)	81.4%	18.6%
Refer to off campus self-help programs	75.7%	24.3%
Other (please specify _____)	95.9%	4.1%

20. Other than the drug control or enforcement policies we have discussed, what types of prevention or treatment programs has your school implemented to address student illicit drug use? *Please check all that apply*.

	No	Yes
Required course or curriculum infusion programs	90.5%	9.5%
Other educational programs or resources	54.1%	45.9%
Peer educator programs	67.1%	32.9%
Parent education/engagement	86.4%	13.6%
Social norms marketing	84.2%	15.8%
Public service announcements, media campaigns or demonstrations on campus	78.7%	21.3%
Targeted programs for high-risk populations (e.g., fraternity, sorority, athletes, freshmen)	79.2%	20.8%
Screening at health services	70.1%	29.9%
Provide treatment on campus	66.8%	33.2%
Provide self-help programs on campus	81.9%	18.1%
Refer to off campus treatment	35.9%	64.1%
Refer to off campus self-help programs	53.6%	46.4%
Other (please specify _____)	95.5%	4.5%

21. Other than the drug control or enforcement policies we have discussed, what types of prevention or treatment programs has your school implemented to address student prescription drug abuse? *Please check all that apply.*

	No	Yes
Required course or curriculum infusion programs	95.5%	4.5%
Other educational programs or resources	72.2%	27.8%
Peer educator programs	78.7%	21.3%
Parent education/engagement	94.1%	5.9%
Social norms marketing	97.7%	2.3%
Public service announcements, media campaigns or demonstrations on campus	88.7%	11.3%
Targeted programs for high-risk populations (e.g., fraternity, sorority, athletes, freshmen)	91.4%	8.6%
Screening at health services	72.9%	27.1%
Provide treatment on campus	71.7%	28.3%
Provide self-help programs on campus	84.6%	15.4%
Refer to off campus treatment	47.5%	52.5%
Refer to off campus self-help programs	63.5%	36.5%
Other (please specify _____)	95.9%	4.1%

22. What is your school's mechanism for identifying students at high risk for substance abuse? *Please check all that apply.*

	No	Yes
Referrals	25.4%	74.6%
Students who have gone to health services for substance related issues	49.3%	50.7%
Students who have gone through the standards or judiciary committee	28.6%	71.4%
Surveying students	70.7%	29.3%
Known family history of substance abuse	94.1%	5.9%
Other (please specify _____)	93.7%	6.3%
None	98.6%	1.4%
Don't know	98.2%	1.8%

23. Are there any programs, policies or services that specifically target any of the following high-risk student populations or high-risk times/events? *Please check all that apply.*

	No	Yes
Freshmen	34.7%	65.3%
Fraternity/Sorority members	61.0%	39.0%
Athletes	43.9%	56.1%
Pre-enrollment	82.4%	17.6%
Homecoming or the Big Game	85.1%	14.9%
Spring Weekend or other traditional events	78.4%	21.6%
21st Birthdays	77.5%	22.5%
Events for seniors leading up to graduation	88.2%	11.8%
Spring break	59.0%	41.0%
Pledging or rushing	80.5%	19.5%
End of the semester or midterms/finals week	79.6%	20.4%
Other (please specify _____)	97.7%	2.3%
Don't know	96.8%	3.2%

24. In your opinion, to what extent does the average parent want to be involved in issues related to their child's substance use or abuse?

Very much	44.0%
Somewhat	48.8%
A little or not at all	7.1%
Don't know	0.0%

25. In your opinion, to what extent does the average parent want to be notified of their child's alcohol or drug problems?

Very much	62.9%
Somewhat	32.3%
A little or not at all	4.8%
Don't know	0.0%

26. Which of the following best represents your school's position regarding who bears *primary* responsibility to prevent underage student drinking? *Please select only one option.*

The students should assume responsibility for themselves	31.0%
The school	34.5%
Local law enforcement	5.2%
Parents	3.4%
Other (please specify _____)	25.9%
Don't know	0.0%

27. Aside from underage drinking, which of the following best represents your school's position regarding who bears *primary* responsibility to prevent alcohol abuse/drug use among all students? *Please select only one option.*

The students should assume responsibility for themselves	65.5%
The school	20.2%
Local law enforcement	1.2%
Parents	1.8%
Other (please specify _____)	11.3%
Don't know	0.0%

28. What are the barriers to implementing more effective policies, programs or strategies for reducing or preventing substance use on your campus? *Please rank the barriers by writing a number next to each item indicating the degree to which it represents a barrier to change. A "1" would indicate the most prominent barrier and a "10" would indicate the least prominent barrier. Please leave the space blank if you don't feel you can provide an accurate estimate. Note: The same number cannot be applied to more than one item.*

Note: percentages represent only the proportion of respondents who listed the option as the most prominent barrier.

Student substance use seen as a normal rite of passage	37.8%
Limited financial resources/funding	34.3%
Few/minor consequences of student substance use	3.5%
Low student support	4.9%
Low faculty support	1.4%
Low priority for top college officials	7.7%
Low parental support	0.7%
Limited availability of effective policies, programs or strategies	2.8%
Low alumni support	4.9%
Fear of undermining admissions	2.1%

29. What do you think it would take for your school to implement more effective substance abuse policies or strategies? *Please rank the options by writing a number next to each item indicating the degree to which it would help to bring about change. A "1" would indicate something that would help bring about the most change and a "10" would indicate something that would bring about the least change. Please leave the item blank if you don't feel you can provide an accurate estimate. Note: The same number cannot be applied to more than one item.*

Note: percentages represent only the proportion of the respondents who listed the option as something that would bring about the most change.

Increased substance-related student accidents/deaths	36.1%
Increased substance-related violence	2.8%
More financial resources	17.4%
More leadership or support from top college officials	7.6%
More staff to focus on substance use issues	11.8%
Availability of programs with demonstrated efficacy	6.3%
More liability lawsuits against schools	2.1%
Increased alumni support	2.1%
Increased student support	13.2%
Increased parent support	0.7%

30. If you had the support of the administration, what would be the *main* thing your school would need to effectively address the problem of student substance use and abuse? *Please select only one option.*

Active engagement of parents	4.5%
Change in school culture regarding alcohol, tobacco and drug use	62.8%
Active use of health services staff in education, prevention, screening, treatment	8.3%
Training and better use of residence assistants (RA's) in education, prevention, identification and response/referral	5.1%
Elimination of alcohol/tobacco advertising and promotions on campus	0.0%
Active engagement of alumni	0.6%
Other (please specify _____)	18.6%

31. If your school were to make significant and effective efforts to really reduce student smoking, drinking and drug use, do you think it would: *Please check one option for each set of responses:*

Increase alumni support	23.9%
Decrease alumni support	8.4%
Have no effect on alumni support	67.7%
Increase parental satisfaction	84.8%
Decrease parental satisfaction	1.3%
Have no effect on parental satisfaction	13.9%
Increase student interest in enrolling in the school	34.2%
Decrease student interest in enrolling in the school	11.6%
Have no effect on student interest in enrolling in the school	54.2%
Increase the school's legal liability	6.5%
Decrease the school's legal liability	73.4%
Have no effect on the school's legal liability	20.1%

32. Is your school private or public?

Private	0.0%
Public	100.0%

33. Does it have a religious affiliation?

Catholic	27.3%
Protestant	52.7%
Jewish	0.0%
Other (please specify _____)	20.0%
None	0.0%

34. Where is it located?

A rural area	28.4%
A suburban area	35.8%
An urban area	35.8%

35. What would you estimate is the size of the undergraduate student body (total number of students)?

Under 5,000	52.1%
5,000-9,999	18.4%
10,000-20,000	13.5%
Over 20,000	16.0%

36. Which, if any, NCAA division is your school in?

Division 1	38.5%
Division 2	15.5%
Division 3	30.4%
None	15.5%
Don't know	0.0%

37. Approximately what percentage of undergraduate students is full time?

19 percent or less	2.2%
20 percent to 39 percent	0.7%
40 percent to 59 percent	3.7%
60 percent to 79 percent	20.6%
80 percent to 99 percent	61.0%
100 percent	11.8%
Don't know	0.0%

38. Approximately what percentage of students lives on campus?

19 percent or less	60.0%
20 percent to 39 percent	20.0%
40 percent to 59 percent	0.0%
60 percent to 79 percent	0.0%
80 percent to 99 percent	20.0%
100 percent	0.0%
Don't know	0.0%

39. Approximately what percentage of students is a member of a Greek organization (fraternity/sorority)?

19 percent or less	80.4%
20 percent to 39 percent	16.8%
40 percent to 59 percent	2.1%
60 percent to 79 percent	0.7%
80 percent to 99 percent	0.0%
100 percent	0.0%
Don't know	0.0%

40. Approximately what percentage of students is male?

19 percent or less	3.9%
20 percent to 39 percent	10.5%
40 percent to 59 percent	79.1%
60 percent to 79 percent	5.2%
80 percent to 99 percent	1.3%
100 percent	0.0%
Don't know	0.0%

41. Approximately what percentage of students is a racial or ethnic minority?

19 percent or less	59.9%
20 percent to 39 percent	24.3%
40 percent to 59 percent	8.6%
60 percent to 79 percent	5.3%
80 percent to 99 percent	2.0%
100 percent	0.0%
Don't know	0.0%

42. Do you have any other thoughts/comments/suggestions about what the main barriers are to reducing student substance abuse and/or what an effective strategy might be to attain this goal?

Thank you very much for completing this survey.

Chapter II
Notes

[1] Office of Applied Studies, & Substance Abuse and Mental Health Services Administration. (2006).
[2] U.S. Census Bureau. (2005).
[3] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[4] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1994).
Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[5] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[6] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[7] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[8] White, A. M., Kraus, C. L., & Swartzwelder, H. S. (2006).
[9] White, A. M., Kraus, C. L., Kestenbaum, L. A., Mitchell, J. R., Shah, K., & Swartzwelder, H. S. (2005).
[10] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[11] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[12] Clements, R. (1999).
[13] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[14] Clements, R. (1999).
[15] Knight, J. R., Wechsler, H., Kuo, M., Seibring, M., Weitzman, E. R., & Schuckit, M. A. (2002).
[16] McCabe, S. E. (2002).
[17] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[18] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[19] Shinew, K. J., & Parry, D. C. (2005).
[20] Shinew, K. J., & Parry, D. C. (2005).
[21] Wechsler, H., Kuo, M., Lee, H., & Dowdall, G. W. (2000).
[22] Clements, R. (1999).
[23] O'Malley, P. M., & Johnston, L. D. (2002).
[24] Ham, L. S., & Hope, D. A. (2003).
[25] Meilman, P. W., Presley, C. A., & Cashin, J. R. (1995).
[26] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[27] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[28] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
McCabe, S. E., Teter, C. J., & Boyd, C. J. (2005).
[29] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[30] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[31] McCabe, S. E., Knight, J. R., Teter, C. J., & Wechsler, H. (2005).
McCabe, S. E., Teter, C. J., Boyd, C. J., Knight, J. R., & Wechsler, H. (2005).
[32] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007a).
[33] McCabe, S. E., Teter, C. J., Boyd, C. J., Knight, J. R., & Wechsler, H. (2005).
[34] McCabe, S. E., Knight, J. R., Teter, C. J., & Wechsler, H. (2005).
[35] McCabe, S. E., Teter, C. J., Boyd, C. J., Knight, J. R., & Wechsler, H. (2005).
[36] McCabe, S. E., Knight, J. R., Teter, C. J., & Wechsler, H. (2005).
[37] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[38] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[39] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[40] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[41] Mohler-Kuo, M., Lee, J. E., & Wechsler, H. (2003).
[42] Shinew, K. J., & Parry, D. C. (2005).
[43] Mohler-Kuo, M., Lee, J. E., & Wechsler, H. (2003).
[44] Bell, R., Wechsler, H., & Johnston, L. D. (1997).
[45] Boyd, C. J., McCabe, S. E., & d'Arcy, H. (2003).
[46] Meilman, P. W., Presley, C. A., & Cashin, J. R. (1995).
[47] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[48] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1993).

[49] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[50] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[51] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[52] Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000).
[53] Moran, S., Wechsler, H., & Rigotti, N. A. (2004).
[54] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[55] Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000).
[56] Wechsler, H., Rigotti, N. A., Gledhill-Hoyt, J., & Lee, H. (1998).
[57] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007a).
[58] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003a).
[59] Wetter, D. W., Kenford, S. L., Welsch, S. K., Smith, S. S., Fouladi, R. T., Fiore, M. C., et al. (2004).
[60] Wechsler, H., Rigotti, N. A., Gledhill-Hoyt, J., & Lee, H. (1998).
[61] Wechsler, H., Rigotti, N. A., Gledhill-Hoyt, J., & Lee, H. (1998).
[62] Meilman, P. W., Presley, C. A., & Cashin, J. R. (1995).
[63] Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000).
[64] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006).
[65] Green, G. A., Uryasz, F. D., Petr, T. A., & Bray, C. D. (2001).
[66] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007a).
[67] Weitzman, E. R., & Chen, Y.-Y. (2005a).
[68] Jones, S. E., Oeltmann, J., Wilson, T. W., Brener, N. D., & Hill, C. V. (2001).
[69] Boyd, C. J., McCabe, S. E., & d'Arcy, H. (2003).
[70] Feigelman, W., Gorman, B. S., & Lee, J. A. (1998).
[71] Jackson, K. M., Sher, K. J., & Wood, P. K. (2000).
[72] McCabe, S. E., Teter, C. J., & Boyde, C. J. (2006).
[73] McCabe, S. E., Teter, C. J., Boyd, C. J., Knight, J. R., & Wechsler, H. (2005).
[74] McCabe, S. E., Knight, J. R., Teter, C. J., & Wechsler, H. (2005).
[75] McCabe, S. E., & Boyd, C. J. (2005).
[76] Dierker, L., Lloyd-Richardson, E., Stolar, M., Flay, B., Tiffany, S., Collins, L., et al. (2006).
Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000).
Lenz, B. K. (2004).
[77] Weitzman, E. R., & Chen, Y.-Y. (2005a).
[78] Reed, M. B., Wang, R., Shillington, A. M., Clapp, J. D., & Lange, J. E. (2007).

Chapter III
Notes

[1] Musgrave-Marquart, D., Bromley, S. P., & Dalley, M. B. (1997).
Vickers, K. S., Patten, C. A., Bronars, C., Lane, K., Stevens, S. R., Croghan, I. T., et al. (2004).
[2] Presley, C. A., Leichliter, J. S., & Meilman, P. W. (1998).
[3] White, A. M., Jamieson-Drake, D. W., & Swartzwelder, H. S. (2002).
[4] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[5] Vik, P. W., Tate, S. R., Carrello, P., & Field, C. (2000).
[6] Wechsler, H., Molnar, B. E., Davenport, A. E., & Baer, J. S. (1999).
[7] McCabe, S. E., Teter, C. J., & Boyd, C. J. (2005).
[8] Low, K. G., & Gendaszek, A. E. (2002).
[9] Bell, R., Wechsler, H., & Johnston, L. D. (1997).
[10] Bell, R., Wechsler, H., & Johnston, L. D. (1997).
McCabe, S. E., Teter, C. J., Boyd, C. J., Knight, J. R., & Wechsler, H. (2005).
[11] Boyd, C. J., McCabe, S. E., & d'Arcy, H. (2003).
[12] Strote, J., Lee, J. E., & Wechsler, H. (2002).
[13] Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000).
[14] Lenz, B. K. (2004).
[15] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[16] Bon, S. R., Hittner, J. B., & Lawandales, J. P. (2001).
[17] American College Health Association. (2005a).
[18] Hingson, R. W., Heeren, T., Winter, M. R., & Wechsler, H. (2003).
[19] Pope, H. G., Ionescu-Pioggia, M., & Pope, K. W. (2001).
[20] Boyd, C. J., McCabe, S. E., & d'Arcy, H. (2003).
[21] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007b).
[22] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[23] American College Health Association. (2005a).
[24] Vik, P. W., Tate, S. R., Carrello, P., & Field, C. (2000).
[25] Kaplan-Woolner, J. (2005).
[26] Sowah, G. (2006).
[27] FootballGuys.com. (2006).
[28] Hingson, R., Heeren, T., Winter, M., & Wechsler, H. (2005).
[29] American College Health Association. (2005a).
[30] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999).
[31] Parks, K. A., & Fals-Stewart, W. (2004).
[32] Brener, N. D., McMahon, P. M., Warren, C. W., & Douglas, K. A. (1999).
[33] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999).
[34] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[35] Steptoe, A., Wardle, J., Bages, N., Sallis, J. F., Sanabria-Ferrand, P.-A., & Sanchez, M. (2004).
[36] Wechsler, H., Davenport, A. E., Dowdall, G. W., Moeykins, B., & Castillo, S. (1994).
[37] Vik, P. W., Tate, S. R., Carrello, P., & Field, C. (2000).
[38] Christie, J., Fisher, D., Kozup, J. C., Smith, S., Burton, S., & Creyer, E. H. (2001).
[39] Office of Applied Studies, & Substance Abuse and Mental Health Services Administration. (2003).
[40] Perkins, H. W. (2002a).
[41] Wechsler, H., Molnar, B. E., Davenport, A. E., & Baer, J. S. (1999).
[42] Engs, R. C., & Aldo-Benson, M. (1995).
[43] National Institute on Alcohol Abuse and Alcoholism. (1990).
[44] Grodstein, F., Goldman, M. B., & Cramer, D. W. (1994).
[45] National Institute on Alcohol Abuse and Alcoholism. (2000).
[46] Johnson, P. B., & Richter, L. (2002).
[47] Bonnie, R. J., & O'Connell, M. E. (Eds.). (2004).
[48] Obernier, J. A., Bouldin, T. W., & Crews, F. T. (2002).

[49] Zeigler, D. W., Wang, C. C., Yoast, R. A., Dickinson, B. D., McCaffree, M. A., Robinowitz, C. B., et al. (2005).
[50] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002).
[51] Davis, R., & DeBarros, A. (2006).
[52] Wechsler, H., Molnar, B. E., Davenport, A. E., & Baer, J. S. (1999).
[53] White, A. M., Jamieson-Drake, D. W., & Swartzwelder, H. S. (2002).
[54] White, A. M., Jamieson-Drake, D. W., & Swartzwelder, H. S. (2002).
[55] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[56] Vik, P. W., Tate, S. R., Carrello, P., & Field, C. (2000).
[57] O'Brien, M. C., McCoy, T. P., Champion, H., Mitra, A., Robbins, A., Teuschlser, H., et al. (2006).
[58] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. (2004).
[59] Hingson, R., Heeren, T., Winter, M., & Wechsler, H. (2005).
[60] Phoenix House, American Council for Drug Education, & Children of Alcoholics Foundation. (2006).
[61] Davis, R., & DeBarros, A. (2006).
[62] National Institute on Drug Abuse. (2004a).
[63] National Institute on Drug Abuse. (2004a).
[64] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007a).
[65] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2005a).
[66] National Institute on Drug Abuse. (2005).
[67] National Institute on Drug Abuse. (2004b).
[68] Office of National Drug Control Policy. (2003a).
[69] Office of National Drug Control Policy. (2004).
[70] Office of National Drug Control Policy. (2003b).
[71] Brook, J. S., Richter, L., & Rubenstone, L. (2000).
[72] Office of the Surgeon General. (1994).
[73] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2006a).
[74] Gold, D. R., Wang, X., Wypij, D., Speizer, F. E., Ware, J. H., & Dockery, D. W. (1996).
Holmen, T. L., Barrett-Connor, E., Holmen, J., & Bjermer, L. (2000).
Kandel, D. B., & Chen, K. (2000).
[75] DiFranza, J. R., Savageau, J. A., Rigotti, N. A., Aetcher, K., Ockene, J. K., McNeill, A. D., et al. (2002).
Kandel, D. B., & Chen, K. (2000).
Perkins, K. A. (2001).
The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003a).
[76] Paulus, D., Saint-Remy, A., & Jeanjean, M. (2000).
[77] Bousser, M. G., & Kittner, S. J. (2000).
Office on Smoking and Health. (1983).
[78] Office of the Surgeon General. (2001).
[79] Arday, D. R., Govino, G. A., Schulman, J., Nelson, D. E., Mowery, P., & Samet, J. M. (1995).
[80] Wu, L.-T., & Anthony, J. C. (1999).
[81] Breslau, N., & Klein, D. F. (1999).
[82] Benton, S. A., Robertson, J. M., Tseng, W.-C., Newton, F. B., & Benton, S. L. (2003).
[83] Silverman, M. M., Meyer, P. M., Sloane, F., Raffel, M., & Pratt, D. M. (1997).
[84] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. (2003).
[85] National Mental Health Association. (2003).
[86] Brener, N. D., Barrios, L. C., & Hassan, S. S. (1999).
[87] Cavaiola, A. A., & Lavender, N. (1999).
[88] Rivinus, T. M. (1990).
[89] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007a).
[90] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007a).
[91] Knight, J. R., Wechsler, H., Kuo, M., Seibring, M., Weitzman, E. R., & Schuckit, M. A. (2002).
[92] Dawson, D. A., Grant, B. F., Stinson, F. S., & Chou, P. S. (2005).
[93] Grant, B. F., & Dawson, D. A. (1997).
[94] Foster, S. E., Vaughan, R. D., Foster, W. H., & Califano, J. A. (2006).

[95] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007a).
[96] Jackson, K. M., Sher, K. J., & Wood, P. K. (2000).
[97] Zickler, P. (2003).
[98] Mansvelder, H. D., & McGehee, D. S. (2000).
[99] Hampl, J. S., & Betts, N. M. (1999).
[100] Hunter, S. M. (2001).
[101] Feigelman, W., Gorman, B. S., & Lee, J. A. (1998).
[102] Higher Education Center. (2000a).
[103] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2006a).
[104] Clements, R. (1999).
[105] American College Health Association. (2005a).
[106] Wechsler, H., Kuo, M., Lee, H., & Dowdall, G. W. (2000).
[107] Meilman, P. W., Presley, C. A., & Lyerla, R. (1994).
[108] Meilman, P. W., Presley, C. A., & Cashin, J. R. (1995).
[109] Perkins, H. W. (2002a).
[110] Hingson, R., Heeren, T., Winter, M., & Wechsler, H. (2005).
[111] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[112] Wechsler, H., Davenport, A. E., Dowdall, G. W., Moeykins, B., & Castillo, S. (1994).
[113] Yu, J. (2001).
[114] Wechsler, H., Lee, J. E., Hall, J., Wagenaar, A. C., & Lee, H. (2002).
[115] Knight, J. R., Wechsler, H., Kuo, M., Seibring, M., Weitzman, E. R., & Schuckit, M. A. (2002).
Office on Smoking and Health. (2006).
[116] Bickel, R. D., & Lake, P. F. (1999).
Lake, P. F. (1999).
[117] O'Neil, S. E., Parra, G. R., & Sher, K. J. (2001).
[118] Jennison, K. M. (2004).
[119] Sher, K. J., Bartholow, B. D., & Nanda, S. (2001).
[120] Pennsylvania Liquor Control Board. (2005).
[121] Association of American Medical Colleges. (2007).

Chapter IV
Notes

[1] Bierut, L. J., Dinwiddie, S. H., Begleiter, H., Crowe, R. R., Hesselbrock, V., Nurnberger, J. I., et al. (1998).
Han, C., McGue, M. K., & Iacono, W. G. (1999).
Heath, A. C., Bucholz, K. K., Madden, P. A. F., Dinwiddie, S. H., Slutske, W. S., Bierut, L. J., et al. (1997).
Kendler, K., Neale, M. C., Sullivan, P., Corey, L. A., Gardner, C. O., & Prescott, C. A. (1999).
Kendler, K. S., Neale, M. C., Heath, A. C., Kessler, R. C., & Eaves, L. J. (1994).
Maes, H. H., Woodard, C. E., Murrelle, L., Meyer, J. M., Silberg, J. L., Hewitt, J. K., et al. (1999).
Merikangas, K. R., Stolar, M., Stevens, D. E., Goulet, J., Presig, M. A., Fenton, B., et al. (1998).
Prescott, C. A., Aggen, S. H., & Kendler, K. S. (1999).
van den Bree, M. B. M., Johnson, E. O., Neale, M. C., & Pickens, R. W. (1998).
Zickler, P. (2000).
[2] Austin, G., & Prendergast, M. (1991).
Merikangas, K. R., Stolar, M., Stevens, D. E., Goulet, J., Preisig, M. A., Fenton, B., et al. (1998).
[3] Herman, A. I., Philbeck, J. W., Vasilopoulos, N. L., & Depetrillo, P. B. (2003).
[4] Wall, T. L., Shea, S. H., Luczak, S. E., & Cook, T. A. R. (2005).
[5] Weitzman, E. R., & Wechsler, H. (2000).
[6] Ellis, D. A., Zucker, R. A., & Fitzgerald, H. E. (1997).
Kushner, M. G., & Sher, K. J. (1993).
O'Neil, S. E., Parra, G. R., & Sher, K. J. (2001).
Perkins, H. W., & Berkowitz, A. D. (1991).
Wechsler, H., Dowdall, G. W., Maenner, G., Gledhill-Hoyt, J., & Lee, H. (1998).
[7] Engs, R. C. (1990).
[8] Baer, J. S. (2002).
[9] Weitzman, E. R., & Wechsler, H. (2000).
[10] Richter, L., & Richter, D. M. (2001).
The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001).
[11] Andrews, J. A., Hops, H., Ary, D., Tildesley, E., & Harris, J. (1993).
Jackson, C., Henriksen, L., & Dickinson, D. (1999).
Kandel, D. B., & Andrews, K. (1987).
Peterson, P. L., Hawkins, J. D., Abbott, R. D., & Catalano, R. F. (2006).
[12] Bylund, C. L., Imes, R. S., & Baxter, L. A. (2005).
[13] Andrews, J. A., Hops, H., & Duncan, S. C. (1997).
Bandura, A. (1977).
Biederman, J., Faraone, S. V., Monuteaux, M. C., & Feighner, J. A. (2000).
[14] Weitzman, E. R., Nelson, T. F., & Wechsler, H. (2003).
[15] Boyle, J. R., & Boekeloo, B. O. (2006).
[16] Wechsler, H., Lee, J. E., Nelson, T. F., & Kuo, M. (2002).
[17] Harford, T. C., Wechsler, H., & Muthen, B. O. (2002).
[18] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003a).
[19] Yu, J., & Shacket, R. W. (2001).
[20] Weitzman, E. R., Nelson, T. F., & Wechsler, H. (2003).
[21] O'Malley, P. M., & Johnston, L. D. (2002).
[22] Duncan, G. J., Boisjoly, J., Kremer, M., Levy, D. M., & Eccles, J. (2005).
[23] Hingson, R., Heeren, T., Zakocs, R., Winter, M., & Wechlser, H. (2003).
[24] Leibsohn, J. (1994).
[25] Leibsohn, J. (1994).
[26] Boyd, C. J., McCabe, S. E., & d'Arcy, H. (2003).
[27] Stewart, S. H., Karp, J., Pihl, R. O., & Peterson, R. A. (1997).
The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003b).
[28] Teter, C. J., McCabe, S. E., Cranford, J. A., Boyd, C. J., & Guthrie, S. K. (2005).
[29] Park, C. L., & Grant, C. (2005).

[30] Austin, E. W., & Chen, Y. J. (2003).
Simons, J. S., & Gaher, R. M. (2004).
[31] Park, C. L., & Levenson, M. R. (2002).
[32] Burke, R. S., & Stephens, R. S. (1999).
Gilles, D. M., Turk, C. L., & Fresco, D. M. (2006).
[33] McCarthy, D. M., Miller, T. L., Smith, G. T., & Smith, J. A. (2001).
[34] Cashin, J. R., Presley, C. A., & Meilman, P. W. (1998).
[35] Ham, L. S., & Hope, D. A. (2003).
[36] O'Hare, T. (2005).
[37] Perkins, H. W. (1999).
[38] Park, C. L., & Levenson, M. R. (2002).
[39] Johnson, T. J., & Cohen, E. A. (2004).
[40] Kadison, R. (2005).
Teter, C. J., McCabe, S. E., Cranford, J. A., Boyd, C. J., & Guthrie, S. K. (2005).
[41] Center for Substance Abuse Research, University of Maryland. (2005).
[42] McCabe, S. E., Teter, C. J., & Boyd, C. J. (2005).
McCabe, S. E., Cranford, J. A., Boyd, C., & Teter, C. J. (2007).
[43] Teter, C. J., McCabe, S. E., LaGrange, K., Cranford, J. A., & Boyd, C. J. (2006).
[44] Arria, A. M., & Wish, E. D. (2005).
Hall, K. M., Irwin, M. M., Bowman, K. A., Frankenberger, W., & Jewett, D. C. (2005).
Center for Substance Abuse Research, University of Maryland. (2005).
[45] Center for Substance Abuse Research, University of Maryland. (2005).
[46] Jacobs, A. (2005, July 31).
[47] Center for Substance Abuse Research, University of Maryland. (2005).
[48] Harmon, A. (2005, November 16).
Jacobs, A. (2005, July 31).
[49] Hendricks, P. S., & Brandon, T. H. (2005).
[50] Office of the Surgeon General. (2001).
[51] Nichter, M., Nichter, M., Lloyd-Richardson, E., Flaherty, B., Carkoglu, A., & Taylor, N. (2006).
[52] Krukowski, R. A., Solomon, L. J., & Naud, S. (2005).
[53] American Psychiatric Association. (1994).
[54] Voelker, R. (2006).
[55] Voelker, R. (2006).
[56] Gallagher, R. P. (2005).
[57] Arehart-Treichel, J. (2002).
O'Connor, E. M. (2001).
[58] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2005b).
Weitzman, E. R. (2004).
[59] Lanier, C. A., Nicholson, T., & Duncan, D. (2001).
[60] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2005b).
[61] Lenz, B. K. (2004).
[62] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2005b).
[63] Petrakis, I. L., Gonzalez, G., Rosenheck, R., & Krystal, J. H. (2002).
[64] Johnson, J. G., Cohen, P., Pine, D. S., Klein, D. F., Kasen, S., & Brook, J. S. (2000).
[65] Krahn, D., Kurth, C., Demitrack, M., & Drewnowski, A. (1992).
[66] Krahn, D., Kurth, C., Demitrack, M., & Drewnowski, A. (1992).
[67] Anderson, D. A., Martens, M. P., & Cimini, M. D. (2005).
[68] Krahn, D. D., Kurth, C. L., Gomberg, E., & Drewnowski, A. (2005).
[69] Holderness, C. C., Brooks-Gunn, J., & Warren, M. P. (1994).
Wiederman, M. W., & Pryor, T. (1996).
[70] Wiederman, M. W., & Pryor, T. (1996).
[71] Ross, H. E., & Ivis, F. (1999).
[72] Zweben, J. E. (1987).
[73] Substance Abuse and Mental Health Services Administration. (1997).
Wiederman, M. W., & Pryor, T. (1996).

Zweben, J. E. (1987).
[74] Krahn, D. D., Kurth, C. L., Gomberg, E., & Drewnowski, A. (2005).
[75] Lenz, B. K. (2004).
[76] Klesges, R. C., & Klesges, L. M. (1988).
[77] Wilson, J. J., & Levin, F. R. (2005).
[78] Biederman, J., Monuteaux, M. C., Mick, E., Spencer, T., Wilens, T. E., Silva, J. M., Snyder, L. E., & Faraone, S.V. (2006).
[79] Burke, R. S., & Stephens, R. S. (1999).
Gilles, D. M., Turk, C. L., & Fresco, D. M. (2006).
[80] Burke, R. S., & Stephens, R. S. (1999).
[81] Walitzer, K. S., & Sher, K. J. (1996).
Wright, L. S. (1983).
[83] Hussong, A. M. (2003).
[84] Weitzman, E. R., Nelson, T. F., & Wechsler, H. (2003).
[85] American College Health Association. (2005a).
[86] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998).
[87] Bell, R., Wechsler, H., & Johnston, L. D. (1997).
[88] Boyd, C. J., McCabe, S. E., & d'Arcy, H. (2003).
[89] Shinew, K. J., & Parry, D. C. (2005).
[90] Anonymous (personal communication, April 6, 2006).
[91] Lenz, B. K. (2004).
Stockdale, M. S., Dawson-Owens, H. L., & Sagrestano, L. M. (2005).
[92] Nichter, M., Nichter, M., Lloyd-Richardson, E., Flaherty, B., Carkoglu, A., & Taylor, N. (2006).
[93] Read, J. P., Wood, M. D., Kahler, C. W., Maddock, J. E., & Palfai, T. P. (2003).
[94] Hall, K. M., Irwin, M. M., Bowman, K. A., Frankenberger, W., & Jewett, D. C. (2005).
[95] Levy, K. B., O'Grady, K. E., Wish, E. D., & Arria, A. M. (2005).
[96] Young, A. M., Morales, M., McCabe, S. E., Boyd, C. J., & d'Arcy, H. (2004).
[97] Ham, L. S., & Hope, D. A. (2003).
[98] Zamboanga, B. L., Bean, J. L., Pietras, A. C., & Pabon, L. C. (2005).
[99] Gettleman, J. (2005, October 16).
[100] Zamboanga, B. L., Bean, J. L., Pietras, A. C., & Pabon, L. C. (2005).
[101] Johnson, T. J., & Cohen, E. A. (2004).
[102] Del Boca, F. K., Darkes, J., Greenbaum, P. E., & Goldman, M. S. (2004).
[103] Neighbors, C., Spieker, C. J., Oster-Aaland, L., Lewis, M. A., & Bergstrom, R. L. (2005).
[104] Martell, D., & Atkin, C. (2002).
[105] Neighbors, C., Spieker, C. J., Oster-Aaland, L., Lewis, M. A., & Bergstrom, R. L. (2005).
[106] Gettleman, J. (2005, October 16).
[107] Neighbors, C., Spieker, C. J., Oster-Aaland, L., Lewis, M. A., & Bergstrom, R. L. (2005).
[108] Neighbors, C., Oster-Aaland, L., Bergstrom, R. L., & Lewis, M. A. (2006).
[109] Smeaton, G. L., Josiam, B. M., & Dietrich, U. C. (1998).
[110] United Press International. (2004).
[111] American Medical Association. (2006).
[112] Apostolopoulos, Y., Sonmez, S., & Yu, C. H. (2002).
[113] American Medical Association. (2006).
[114] American College Health Association. (2005b).
Kilmer, J. R., Walker, D. D., Lee, C. M., Palmer, R. S., Mallett, K. A., Fabiano, P., et al. (2006).
Martens, M. P., Page J.C., Mowry, E. S., Damann, K. M., Taylor, K. K., & Cimini, M. D. (2006).
Perkins, H. W., Meilman, P. W., Leichliter, J. S., Cashin, J. R., & Presley, C. A. (1999).
[115] Ham, L. S., & Hope, D. A. (2005).
Hartzler, B., & Fromme, K. (2003).
Kilmer, J. R., Walker, D. D., Lee, C. M., Palmer, R. S., Mallett, K. A., Fabiano, P., et al. (2006).
Korcuska, J. S., & Thombs, D. L. (2003).
Perkins, H. W., Haines, M. P., & Rice, R. (2005).
Perkins, H. W., & Wechsler, H. (1996).
Sher, K. J., Bartholow, B. D., & Nanda, S. (2001).

Vickers, K. S., Patten, C. A., Bronars, C., Lane, K., Stevens, S. R., Croghan, I. T., et al. (2004).
[116] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2005b).
[117] McCabe, S. E., Knight, J. R., Teter, C. J., & Wechsler, H. (2005).
[118] McCabe, S. E., Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Kloska, D. D. (2005).
Read, J. P., Wood, M. D., Davidoff, O. J., McLacken, J., & Campbell, J. F. (2002).
[119] McCabe, S. E., Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Kloska, D. D. (2005).
Read, J. P., Wood, M. D., Davidoff, O. J., McLacken, J., & Campbell, J. F. (2002).
[120] McCabe, S. E., Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Kloska, D. D. (2005).
Read, J. P., Wood, M. D., Davidoff, O. J., McLacken, J., & Campbell, J. F. (2002).
[121] Cashin, J. R., Presley, C. A., & Meilman, P. W. (1998).
[122] Ozegovic, J. J., Bikos, L. H., & Szymanski, D. M. (2001).
[123] Cashin, J. R., Presley, C. A., & Meilman, P. W. (1998).
[124] Harford, T. C., Wechsler, H., & Muthen, B. O. (2002).
McCabe, S. E. (2002).
[125] Cashin, J. R., Presley, C. A., & Meilman, P. W. (1998).
[126] Wechsler, H. (1996).
[127] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[128] McCabe, S. E., Teter, C. J., & Boyd, C. J. (2005).
[129] McCabe, S. E., Knight, J. R., Teter, C. J., & Wechsler, H. (2005).
[130] McCabe, S. E., Teter, C. J., Boyd, C. J., Knight, J. R., & Wechsler, H. (2005).
[131] McCabe, S. E., Knight, J. R., Teter, C. J., & Wechsler, H. (2005).
[132] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2005b).
[133] Bell, R., Wechsler, H., & Johnston, L. D. (1997).
[134] Bell, R., Wechsler, H., & Johnston, L. D. (1997).
[135] Helm, H. W., Boward, M. D., McBride, D. C., & Del Rio, R. I. (2002).
[136] Stewart, C. (2001).
[137] Weitzman, E. R., & Chen, Y.-Y. (2005b).
[138] Nelson, T. F., & Wechsler, H. (2001).
[139] Nelson, T. F., & Wechsler, H. (2001).
[140] Nelson, T. F., & Wechsler, H. (2001).
[141] Nelson, T. F., & Wechsler, H. (2001).
[142] Higher Education Center. (2005).
National Collegiate Athletic Association. (2001).
[143] Higher Education Center. (2005).
[144] Wechsler, H., Davenport, A. E., Dowdall, G. W., Grossman, S. J., & Zanakos, S. I. (1997).
[145] Wechsler, H., Davenport, A. E., Dowdall, G. W., Grossman, S. J., & Zanakos, S. I. (1997).
[146] Higher Education Center. (2005).
National Collegiate Athletic Association. (2001).
[147] Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000).
[148] Wechsler, H., Davenport, A. E., Dowdall, G. W., Grossman, S. J., & Zanakos, S. I. (1997).
[149] Chaloupka, F. J., & Wechsler, H. (1996).
Weitzman, E. R., Folkman, A., Folkman, K. L., & Wechsler, H. (2003).
Williams, J., Pacula, R. L., Chaloupka, F. J., & Wechsler, H. (2004).
[150] Chaloupka, F. J., & Wechsler, H. (1996).
[151] Weitzman, E. R., Nelson, T. F., & Wechsler, H. (2003).
[152] Williams, J. (2005).
[153] Kuo, M., Wechsler, H., Greenberg, P., & Lee, H. (2003).
[154] Williams, J. (2005).
[155] Chaloupka, F. J., & Wechsler, H. (1996).
[156] Chaloupka, F. J., & Wechsler, H. (1996).
[157] McCabe, S. E., & Boyd, C. J. (2005).
[158] Harmon, A. (2005, November 16).

Peterson, T., & Stewart, K. (2005, July 26).
[159] Harmon, A. (2005, November 16).
[160] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2006b).
[161] McCabe, S. E., & Boyd, C. J. (2005).
[162] McCabe, S. E., & Boyd, C. J. (2005).
[163] Hall, K. M., Irwin, M. M., Bowman, K. A., Frankenberger, W., & Jewett, D. C. (2005).
[164] McCabe, S. E., & Boyd, C. J. (2005).
[165] McCabe, S. E., & Boyd, C. J. (2005).
[166] Stockdale, M. S., Dawson-Owens, H. L., & Sagrestano, L. M. (2005).
[167] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[168] Peterson, T., & Stewart, K. (2005, July 26).
[169] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
Wechsler, H., Lee, J. E., Nelson, T. F., & Lee, H. (2001).
[170] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[171] Harford, T. C., Wechsler, H., & Muthen, B. O. (2002).
[172] Princeton Review. (2006).
[173] Dreyer, N. (2002).
[174] Associated Press. (2006).
[175] Wechsler, H., Lee, J. E., & Rigotti, N. A. (2001).
[176] Wechsler, H., Lee, J. E., & Rigotti, N. A. (2001).
[177] Gfroerer, J. C., Greenblatt, J. C., & Wright, D. A. (1997).
[178] Curley, B. (2006).
[179] Erenberg, D. F., & Hacker, G. A. (1997).
[180] Snyder, L. B., Milici, F. F., Slater, M., Sun, H., & Strizhakova, Y. (2006).
[181] Foster, S. E., Vaughan, R. D., Foster, W. H., & Califano, J. A. (2006).
[182] Kuo, M., Wechsler, H., Greenberg, P., & Lee, H. (2003).
[183] Wechsler, H., & Nelson, T. (2002, December 9).
[184] Christie, J., Fisher, D., Kozup, J. C., Smith, S., Burton, S., & Creyer, E. H. (2001).
[185] Erenberg, D. F., & Hacker, G. A. (1997).
[186] Distilled Spirits Council of the United States. (1998).
[187] Erenberg, D. F., & Hacker, G. A. (1997).
[188] U.S.Census Bureau. (2005).
[189] Beer Institute. (2003).
[190] Wilkes, M. S., Bell, R. A., & Kravitz, R. L. (2000).
[191] TobaccoFreeKids.org. (2005).
Rigotti, N. A., Moran, S. E., & Wechsler, H. (2005).
Sepe, E., & Glantz, S. A. (2002).
[192] TobaccoFreeKids.org. (2005).
[193] TobaccoFreeKids.org. (2005).
[194] Rigotti, N. A., Moran, S. E., & Wechsler, H. (2005).
[195] Farrell, E. F. (2005, March 18).
[196] Rigotti, N. A., Moran, S. E., & Wechsler, H. (2005).
[197] TobaccoFreeKids.org. (2005).
[198] Rigotti, N. A., Moran, S. E., & Wechsler, H. (2005).
[199] Weitzman, E. R., Nelson, T. F., & Wechsler, H. (2003).
[200] Horovitz, B. (2005).
[201] Hoover, E. (2002, December 13).
[202] Byrd, R. C. (1998).
[203] Neal, D. J., Sugarman, D. E., Hustad, J. T. P., Caska, C. M., & Carey, K. B. (2005).
[204] Center for Science in the Public Interest. (2005).
[205] Simmons, K. (2005, November 19).
[206] Substance Abuse Funding Week. (2005, April 29).
Strickland, C. (2006, March 15).
[207] Strickland, C. (2006, March 15).
[208] Nelson, T. F., Naimi, T. S., Brewer, R. D., & Wechsler, H. (2005).

[209] Chaloupka, F. J., & Wechsler, H. (1996).
[210] Wechsler, H., Lee, J. E., Nelson, T. F., & Lee, H. (2003).
[211] Williams, J. (2005).
[212] Williams, J., Pacula, R. L., Chaloupka, F. J., & Wechsler, H. (2004).
[213] Chaloupka, F. J., Grossman, M., & Saffer, H. (1998).
Cook, P. J., & Moore, M. J. (2002).
Kenkel, D. S., & Manning, W. G. (1996).
[214] Chaloupka, F. J., & Wechsler, H. (1996).
[215] Czart, C., Pacula, R. L., Chaloupka, F. J., & Wechsler, H. (2001).
[216] Chaloupka, F. J., & Wechsler, H. (1997).
[217] Czart, C., Pacula, R. L., Chaloupka, F. J., & Wechsler, H. (2001).
[218] Chaloupka, F. J., & Wechsler, H. (1997).

Notes
Chapter V

[1] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002).
[2] Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
Safe and Drug-Free Schools Program. (2002).
Pacific Institute for Research and Evaluation. (2005).
[3] Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
Safe and Drug-Free Schools Program. (2002).
[4] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003c).
[5] Higher Education Center. (2005).
[6] Substance Abuse and Mental Health Services Administration. (2004).
[7] Halperin, A. C., & Rigotti, N. A. (2003).
[8] DeRicco, B., Associate Director, Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention (personal communication, October 13, 2006).
[9] U.S. Government Printing Office. (2003).
[10] U.S. Government Printing Office. (2003).
[11] Davidson, L., Associate Director for Local, State, Regional and National Organizations, Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention (personal communication, September 13, 2006).
Dejong, W., Director of the National Center for College Health and Safety (personal communication, September 13, 2006).
DeRicco, B., Associate Director, Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention (personal communication, September 15, 2006).
[12] Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[13] Weitzman, E. R., & Nelson, T. F. (2004).
[14] Higher Education Center. (2006).
Pacific Institute for Research and Evaluation. (2005).
[15] Higher Education Center. (2006).
Zimmerman, R. (2004).
[16] Pacific Institute for Research and Evaluation. (2005).
[17] Higher Education Center. (2006).
Zimmerman, R. (2004).
[18] Higher Education Center. (2006).
Pacific Institute for Research and Evaluation. (2005).
Weitzman, E. R., Nelson, T. F., Lee, H., & Wechsler, H. (2004).
Zimmerman, R. (2004).
[19] Pacific Institute for Research and Evaluation. (2005).
[20] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002).
Clapp, J. D., Johnson, M., Voas, R. B., Lange, J. E., Shillington, A., & Russell, C. (2005).
Nelson, T. F., Naimi, T. S., Brewer, R. D., & Wechsler, H. (2005).
Pacific Institute for Research and Evaluation. (2005).
[21] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1994).
Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[22] Ziemelis, A., Bucknam, R. B., & Elfessi, A. M. (2002).
[23] American Medical Association. (2003).
[24] Nelson, T. F., Weitzman, E. R., & Wechsler, H. (2005).
Weitzman, E. R., Nelson, T. F., Lee, H., & Wechsler, H. (2004).
[25] Pacific Institute for Research and Evaluation. (2005).
[26] Fisher, M. (2005, August 25).
[27] Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[28] Wechsler, H., Lee, J. E., Nelson, T. F., & Kuo, M. (2002).
[29] Del Boca, F. K., Darkes, J., Greenbaum, P. E., & Goldman, M. S. (2004).
[30] Del Boca, F. K., Darkes, J., Greenbaum, P. E., & Goldman, M. S. (2004).
The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1994).
Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).

[31] Hafner, K. (2005, November 6).
[32] Zwillich, T. (2004).
[33] Pacific Institute for Research and Evaluation. (2005).
[34] Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[35] Wieberg, S. (2005, November 16).
[36] Substance Abuse Funding Week. (2006, January 20).
[37] Kuo, M., Wechsler, H., Greenberg, P., & Lee, H. (2003).
[38] Campaign for Alcohol-Free Sports TV. (2003).
[39] Wieberg, S. (2005, November 16).
[40] Pacific Institute for Research and Evaluation. (2005).
[41] Wieberg, S. (2005).
[42] Wieberg, S. (2005, November 16).
[43] Wieberg, S. (2005, November 16).
[44] Halperin, A. C., & Rigotti, N. A. (2003).
[45] Halperin, A. C., & Rigotti, N. A. (2003).
[46] Czart, C., Pacula, R. L., Chaloupka, F. J., & Wechsler, H. (2001).
[47] Larimer, M. E., & Cronce, J. M. (2002).
Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
Safe and Drug-Free Schools Program. (2002).
[48] DeJong, W., & Langford, L. M. (2002).
Larimer, M. E., & Cronce, J. M. (2002).
Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[49] DeJong, W., & Langford, L. M. (2002).
Larimer, M. E., & Cronce, J. M. (2002).
[50] OutsideTheClassroom.com. (2005a).
[51] OutsideTheClassroom.com. (2005b).
[52] OutsideTheClassroom.com. (2005c).
[53] OutsideTheClassroom.com. (2005d).
[54] Hirschland, J. (2005, September 7).
[55] MyStudentBody.com. (2005).
[56] Chiauzzi, E., Green, T. C., Lord, S., Thum, C., & Goldstein, M. (2005).
[57] DeJong, W. (2002).
[58] National Institute on Alcohol Abuse and Alcoholism. (2002a).
Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[59] BACCHUS and GAMMA Peer Education Network. (2005).
[60] Perkins, H. W. (2002b).
Perkins, H. W., Meilman, P. W., Leichliter, J. S., Cashin, J. R., & Presley, C. A. (1999).
[61] Perkins, H. W. (2002b).
[62] Wechsler, H., Seibring, M., Liu, I.-C., & Ahl, M. (2004).
[63] Berkowitz, A. D. (2004).
Perkins, H. W., Haines, M. P., & Rice, R. (2005).
DeJong, W., Schneider, S. K., Towvim, L. G., Murphy, M. L., Doerr, E. E., Simonsen, N. R., et al. (2006).
[64] Clapp, J. D., Lange, J. E., Russel, C., Shillington, A., & Voas, R. B. (2003).
Granfield, R. (2005).
Wechsler, H., Nelson, T. F., Lee, J. E., Seibring, M., Lewis, C., & Keeling, R. P. (2003).
[65] Granfield, R. (2005).
[66] Granfield, R. (2005).
[67] Murray, S., & Gruley, B. (2000, November 2).
[68] Berkowitz, A. D. (2004).
[69] Wechsler, H., & Kuo, M. (2000).
Schemo, D. J. (2003, July 24).
[70] Hoover, E. (2002).
Murray, S., & Gruley, B. (2000, November 2).
[71] Wechsler, H., Seibring, M., Liu, I.-C., & Ahl, M. (2004).
[72] Hoover, E. (2002).

[73] Schemo, D. J. (2003, July 24).
[74] Reisberg, L. (2000, July 28).
[75] Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[76] Rhodes, W. A., Singleton, E., McMillan, T. B., & Perrino, C. S. (2005).
[77] Pacheco, M., President, University of Missouri (personal communication, November 8, 2006).
[78] Palmer, C. J., Lohman, G., Gehring, D. D., Carlson, S., & Garrett, O. (2001).
[79] Simmons, K. (2006, April 27).
[80] U.S. Census Bureau. (2004).
[81] Pacific Institute for Research and Evaluation. (2005).
[82] Wechsler, H., Seibring, M., Liu, I.-C., & Ahl, M. (2004).
[83] Wechsler, H., Lee, J. E., Gledhill-Hoyt, J., & Nelson, T. F. (2001).
[84] Williams, J., Pacula, R. L., Chaloupka, F. J., & Wechsler, H. (2004).
[85] Wechsler, H., Lee, J. E., Gledhill-Hoyt, J., & Nelson, T. F. (2001).
[86] Linowski, S., Director of Health Education at the University of Massachusetts, Amherst (personal communication, 2006).
[87] Wechsler, H., Lee, J. E., Gledhill-Hoyt, J., & Nelson, T. F. (2001).
[88] Chaloupka, F. J., & Wechsler, H. (1997).
[89] Etter, J.-F., Ronchi, A., & Perneger, T. V. (1999).
[90] Stockdale, M. S., Dawson-Owens, H. L., & Sagrestano, L. M. (2005).
[91] Czart, C., Pacula, R. L., Chaloupka, F. J., & Wechsler, H. (2001).
[92] Rigotti, N. A., Regan, S., Moran, S. E., & Wechsler, H. (2003).
[93] American College Health Association. (2005c).
[94] American Nonsmokers' Rights Foundation. (2007).
[95] Halperin, A. C., & Rigotti, N. A. (2003).
[96] Halperin, A. C., & Rigotti, N. A. (2003).
[97] Holl, J. (2005, August 23).
[98] Cave, D. (2005, September 21).
[99] Senate and General Assembly of the State of New Jersey. (2006).
[100] Ritch, W. A., & Begay, M. E. (2001).
[101] Halperin, A. C., & Rigotti, N. A. (2003).
[102] Office on Smoking and Health. (2006).
[103] Fisher, L. (2002).
[104] American Legacy Foundation. (2004).
[105] Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[106] Knight, J. R., Harris, S. K., Sherritt, L., Kelley, K., Van Hook, S., & Wechsler, H. (2003).
[107] Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[108] Hingson, R. W., Heeren, T., & Winter, M. R. (2006).
[109] McCabe, S. E., Boyd, C., Hughes, T. L., & d'Arcy, H. (2004).
[110] Patrick, M. (1988).
[111] Kinney, J., & Peltier, D. (1986).
[112] Foote, J., Wilkens, C., & Vavagiakis, P. (2004).
[113] Foote, J., Wilkens, C., & Vavagiakis, P. (2004).
[114] Heck, E. J., & Lichtenberg, J. W. (1990).
[115] Heck, E. J., & Williams, M. D. (1995).
[116] Bergen-Cico, D., Barretto, C., & Vermette, J. (2003).
[117] Wieberg, S. (2005, November 16).
[118] Wieberg, S. (2005, November 16).
[119] Wieberg, S. (2005).
[120] Stowe, S. (2005).
[121] Stowe, S. (2005).
[122] Wieberg, S. (2005, November 16).
[123] Tevya, T. O., & Monti, P. M. (2004).
[124] Larimer, M. E., & Cronce, J. M. (2002).
Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[125] Baer, J. S., Kivlahan, D. R., Blume, A. W., McKnight, P., & Marlatt, G. A. (2001).

Colby, S. M., Monti, P. M., Barnett, N. P., Rohsenow, D. J., Weissman, K., Spirito, A., et al. (1998).
Herman, K. C., & Fahnlander, B. (2003).
Marlatt, G. A., Baer, J. S., Kivlahan, D. R., Dimeff, L. A., Larimer, Me. E., Quigley, L. A., et al. (1998).
Substance Abuse and Mental Health Services Administration. (2004).
[126] Cooper, S., & Archer, J. (1999).
Tevyaw, T. O., & Monti, P. M. (2004).
[127] Baer, J. S., Marlatt, G. A., Kivlahan, D. R., Fromme, K., Larimer, M. E., & Williams, E. (1992).
Baer, J. S., Kivlahan, D. R., Blume, A. W., McKnight, P., & Marlatt, G. A. (2001).
Fromme, K., Marlatt, G. A., Baer, J. S., & Kivlahan, D. R. (1994).
Kivlahan, D. R., Marlatt, G. A., Fromme, K., Coppel, D. B., & Williams, E. (1990).
[128] Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a).
[129] U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention. (2003).
[130] Wechsler, H., Seibring, M., Liu, I.-C., & Ahl, M. (2004).
[131] Foote, J., Wilkens, C., & Vavagiakis, P. (2004).
[132] Matthews, C. R., Schmid, L. A., Goncalves, A. A., & Bursley, K. H. (1998).
Rickman, K. J., & Mackey, T. A. (1995).
Rivinus, T. M. (1988).
[133] Foote, J., Wilkens, C., & Vavagiakis, P. (2004).
[134] Foote, J., Wilkens, C., & Vavagiakis, P. (2004).
[135] DeBernardo, R. L., Aldinger, C. E., Dawood, O. R., Hanson, R. E., Lee, S.-J., & Rinaldi, S. R. (1999).
[136] Everett, S. A., Husten, C. G., Kann, L., Warren, C. W., Sharp, D., & Crossett, L. (1999).
[137] DeBernardo, R. L., Aldinger, C. E., Dawood, O. R., Hanson, R. E., Lee, S.-J., & Rinaldi, S. R. (1999).
[138] Black, D. R., Loftus, E. A., Chatterjee, R., Tiffany, S., & Babrow, A. S. (1993).
[139] Halperin, A. C., & Rigotti, N. A. (2003).
[140] Halperin, A. C., & Rigotti, N. A. (2003).
[141] Escoffery, C., McCormick, L., & Bateman, K. (2004).
[142] Obermayer, J. L., Riley, W. T., Asif, O., & Jean-Mary, J. (2004).
[143] Karlin-Resnick, J. (2004).
[144] Wechsler, H., Kelley, K., Seibring, M., Kuo, M., & Rigotti, N. A. (2001).
[145] Escoffery, C., McCormick, L., & Bateman, K. (2004).
Obermayer, J. L., Riley, W. T., Asif, O., & Jean-Mary, J. (2004).
Ramsay, J., & Hoffmann, A. (2004).
[146] Collegiate Risk Management. (2005).
[147] American College Health Association. (2006).
[148] Collegiate Risk Management. (2005).

Notes
Chapter VI

[1] Licciardone, J. C. (2003).
[2] Ryan, B. E., & DeJong, W. (1998).
[3] JoinTogether.org. (2004).
[4] Gallagher, R. P. (2005).
[5] Gallagher, R. P. (2005).
Wechsler, H., Kelley, K., Weitzman, E. R., San Giovanni, J. P., & Seibring, M. (2000).
[6] Winchester, D. (2005).
[7] Stowe, S. (2005).
[8] Denizet-Lewis, B. (2005, January 9).
[9] Sessa, F. M. (2005).
[10] Turrisi, R., Wiersma, K. A., & Hughes, K. K. (2000).
[11] Substance Abuse and Mental Health Services Administration. (2005).
[12] U.S.Government Printing Office. (2003).
[13] Hingson, R. W., & Howland, J. (2002).
Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002b).
Wechsler, H., Kelley, K., Weitzman, E. R., San Giovanni, J. P., & Seibring, M. (2000).
[14] Higher Education Center. (2006).
Pacific Institute for Research and Evaluation. (2005).

Notes
Chapter VII

[1] Turrisi, R., Wiersma, K. A., & Hughes, K. K. (2000).
[2] Turrisi, R., Wiersma, K. A., & Hughes, K. K. (2000).
[3] Galotti, K. M., & Mark, M. C. (1994).
Turrisi, R., Wiersma, K. A., & Hughes, K. K. (2000).
[4] Turrisi, R., Wiersma, K. A., & Hughes, K. K. (2000).
[5] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003a).
[6] National Institute on Alcohol Abuse and Alcoholism. (2002b).
[7] Turrisi, R., Jaccard, J., Taki, R., Dunnam, H., & Grimes, J. (2001).
[8] Marklein, M. B. (2005).
[9] Lange, J. E., Clapp, J., Turrisi, R., Reavy, R., Jaccard, J., Johnson, M., et al. (2002).
Turrisi, R., Jaccard, J., Taki, R., Dunnam, H., & Grimes, J. (2001).
[10] Davis, R., & DeBarros, A. (2006).
[11] Turrisi, R., Jaccard, J., Taki, R., Dunnam, H., & Grimes, J. (2001).
[12] Turrisi, R., Wiersma, K. A., & Hughes, K. K. (2000).
[13] Turrisi, R., Jaccard, J., Taki, R., Dunnam, H., & Grimes, J. (2001).
Turrisi, R., Wiersma, K. A., & Hughes, K. K. (2000).
[14] Turrisi, R., Jaccard, J., Taki, R., Dunnam, H., & Grimes, J. (2001).
[15] U.S.Department of Education. (1998).
[16] U.S.Government Printing Office. (2001).
[17] Epstein, J. C. (1999).
[18] Zweig, K. L., & Thompson, J. (2001).
Tye, L. (2000, October 12).
[19] Syracuse University. (2006).
[20] U. S. Department of Education, Office of Elementary and Secondary Education, Safe and Drug-Free Schools Program. (2002).
[21] Sax, L. J., Keup, J. R., Gilmartin, S. K., Stolzenberg, E. B., & Harper, C. (2002).
[22] Fletcher, B. W., & Epstein, J. (1996).
[23] Kapner, D. A. (2003, May).
[24] Journal of Blacks in Higher Education. (2005).
[25] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2004).
Meilman, P. W., Presley, C. A., & Cashin, J. R. (1995).
Meilman, P. W., Presley, C. A., & Lyerla, R. (1994).
[26] Kapner, D. A. (2003, May).
[27] Redd, K. E. (2002).
[28] Kapner, D. A. (2003, May).
[29] Kapner, D. A. (2003, May).
[30] National Pan-Hellenic Council Incorporated. (2005).
[31] Kimbrough, W. M., & Hutchenson, P. A. (1998).
[32] Fenzel, L. M. (2005).
[33] Kapner, D. A. (2003, May).
[34] Mumford, K. (2001).
[35] Elkins, B., Helms, L. B., & Pierson, C. T. (2003).
MacLachlan, J. (2000).
[36] MacLachlan, J. (2000).
[37] Elkins, B., Helms, L. B., & Pierson, C. T. (2003).
MacLachlan, J. (2000).
[38] MacLachlan, J. (2000).
[39] Lake, P. F., & Epstein, J. C. (2000).
[40] Mothers Against Drunk Driving (MADD). (2005).
[41] Lake, P. F., & Epstein, J. C. (2000).
[42] Lake, P. F. (1999).
[43] Lake, P. F. (1999).

Mumford, K. (2001).
Nero v. Kansas State University, 253 Kan. 567, 861 P.2d 768, (1993).
[44] MacLachlan, J. (2000).
Mumford, K. (2001).
[45] Mumford, K. (2001).
[46] Lake, P. F. (1999).
[47] Mumford, K. (2001).
[48] Buffa, D. (2005, July 11).
[49] Bickel, R. D., & Lake, P. F. (1999).
Lake, P. F. (1999).
[50] Lake, P. F. (1999).
Lake, P. F., & Epstein, J. C. (2000).
[51] Lake, P. F. (1999).
[52] Dixon v. Alabama State Board of Education, 294 F. 2d 150, 5th Cir., (1961).
[53] Bickel, R. D., & Lake, P. F. (1999).
[54] Bickel, R. D., & Lake, P. F. (1999).
Lake, P. F. (1999).
[55] Lake, P. F. (1999).
[56] Alcohol Epidemiology Program. (2005).
[57] Lake, P. F., & Epstein, J. C. (2000).
[58] Bradshaw v. Rawlings, 612 F.2d, 3d Cir., (1979).
Lake, P. F. (1999).
[59] Bickel, R. D., & Lake, P. F. (1999).
[60] Baldwin v.Zoradi, 176 Cal. Rptr. 809, 123 Cal. App. 3d, 275 (Cal. App. 5 Dist.) (1981). In Lake, P. F. (1999).
[61] Rabel v. Illinois Wesleyen University, 514 N.E.2d 552 Ill. App. Ct., (1987).
[62] Lake, P. F. (1999).
[63] Reisberg, L. (1998).
[64] Reisberg, L. (1998).
[65] Higher Education Center. (2000b).
[66] Badger Herald. (2002).
[67] JoinTogether.org. (2000).
[68] Shea, C. (1995).
[69] Tye, L. (2000, October 12).
[70] Epstein, J. C. (2000).
[71] Knoll v. Board of Regents of the University of Nebraska, 601 N.W.2d 757, (1999).
[72] MacLachlan, J. (2000).
[73] Knoll v. Board of Regents of the University of Nebraska, 601 N.W.2d 757, (1999).
[74] MacLachlan, J. (2000).
[75] Tysver, R. (2000, August 9).
[76] MacLachlan, J. (2000).
[77] Lake, P. F. (2001).
[78] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003d).
Cashin, J. R., Presley, C. A., & Meilman, P. W. (1998).
Higher Education Center. (2002).
Nelson, T. F., & Wechsler, H. (2001).
Higher Education Center. (2005).
National Collegiate Athletic Association. (2001).
Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000).
[79] Mumford, K. (2001).
[80] Elkins, B., Helms, L. B., & Pierson, C. T. (2003).
[81] Mumford, K. (2001).
[82] Whipple, E. G. (2005).
[83] Elkins, B., Helms, L. B., & Pierson, C. T. (2003).
[84] Elkins, B., Helms, L. B., & Pierson, C. T. (2003).

[85] Davies v. Butler, 602 P.2d 605, Nev., (1979).
[86] Aquila Govan, D. (2001).
[87] Ballour v. Sigma Nu General Fraternity, 352 S.E.2d 488, S.C. Ct. App., (1986).
[88] Aquila Govan, D. (2001).
[89] Denizet-Lewis, B. (2005, January 9).
[90] Estate of Hernandez v. Arizona Board of Regents, 866 P.2d 1330, (1994).
[91] Mumford, K. (2001).
[92] MacLachlan, J. (2000).
Mumford, K. (2001).
[93] Coghlan v. Beta Theta Pi Fraternity, 133 Idaho 388, 987, P. 2d 300, 987 P.2d 300, (1999).
[94] Fried, G. B. (1997).
[95] Rosellini, L. (2001).
SportsLawNews.com. (2000).
[96] U.S.College Hockey Online. (2000).
[97] Fried, G. B. (1997).
[98] Davidson College. (2005).
[99] Davidson College. (2006).
[100] Davidson College. (2005).
[101] Associated Press. (2005).
Rivoire, K. (2005).
Massachusetts Institute of Technology (MIT) News Office. (2005).
[102] Farrell, E. F. (2001).
[103] Curtin, D. (2002, August 19).
[104] Denizet-Lewis, B. (2005, January 9).
Phi Delta Theta. (2005).
[105] Denizet-Lewis, B. (2005, January 9).
[106] Denizet-Lewis, B. (2005, January 9).
[107] Denizet-Lewis, B. (2005, January 9).
Aquila Govan, D. (2001).
[108] Whipple, E. G. (2005).
Phi Delta Theta. (2005).

Bibliography

ABC News Internet Ventures. (2006). *'Death by alcohol' warns of college binge drinking risks: Patty and Rich Spady say they had no idea about the culture of college drinking.* [On-line]. Retrieved June 14, 2006 from the World Wide Web: http://abcnews.go.com/GMA/Health/story?id=2065494&page=1.

Alcohol Epidemiology Program. (2005). *Social host liability.* [On-line]. Retrieved July 22, 2005 from the World Wide Web: http://www.epi.umn.edu/alcohol/policy/hostliab.shtm.

American College Health Association. (2005a). *National College Health Assessment Web summary.* [On-line]. Retrieved December 1, 2005 from the World Wide Web: http://www.acha.org.

American College Health Association. (2005b). *American College Health Association-National College Health Assessment: Reference group executive summary, Spring*. Baltimore, MD: American College Health Association.

American College Health Association. (2005c). *Position statement on tobacco on college and university campuses*. Baltimore, MD: American College Health Association.

American College Health Association. (2006). *American College Health Association-National College Health Assessment: Reference group data report: Fall 2005*. Baltimore, MD: American College Health Association.

American Legacy Foundation. (2004). *Three North Carolina historically black colleges and universities receive grant [Press release]*. [On-line]. Retrieved March 1, 2007 from the World Wide Web: http://www.americanlegacy.org/416.htm .

American Medical Association. (2003). *A matter of degree: The national effort to reduce high-risk drinking among college students.* [On-line]. Retrieved March 26, 2003 from the World Wide Web: http://www.ama-assn.org.

American Medical Association. (2006). *Sex and intoxication among women more common on spring break according to AMA poll.* [On-line]. Retrieved March 9, 2006 from the World Wide Web: http://www.ama-assn.org/ama/pub/category/print/16083.html.

American Nonsmokers' Rights Foundation. (2007). *Colleges and universities with smokefree air policies.* [On-line]. Retrieved January 25, 2007 from the World Wide Web: http://www.no-smoke.org/pdf/smokefreecollegesuniversities.pdf.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders: DSM-IV*. Washington, DC: American Psychiatric Association.

Anderson, D. A., Martens, M. P., & Cimini, M. D. (2005). Do female college students who purge report greater alcohol use and negative alcohol-related consequences? *International Journal of Eating Disorders, 37*(1), 65-68.

Andrews, J. A., Hops, H., & Duncan, S. C. (1997). Adolescent modeling of parent substance use: The moderating effect of the relationship with the parent. *Journal of Family Psychology, 11*(3), 259-270.

Andrews, J. A., Hops, H., Ary, D., Tildesley, E., & Harris, J. (1993). Parental influence on early adolescent substance use: Specific and non-specific effects. *Journal of Early Adolescence, 13*(3), 285-310.

Apostolopoulos, Y., Sonmez, S., & Yu, C. H. (2002). HIV-risk behaviors of American spring break vacationers: A case of situational disinhibition. *International Journal of STD and AIDS, 13*(11), 733-743.

Aquila Govan, D. (2001). "Hazing out" the membership intake process in sororities and fraternities: Preserving the integrity of the pledge process versus addressing hazing liability. *Rutgers Law Review, 53*(3), 679-714.

Arday, D. R., Govino, G. A., Schulman, J., Nelson, D. E., Mowery, P., & Samet, J. M. (1995). Cigarette smoking and self-reported health problems among US high school seniors, 1982-1989. *American Journal of Health Promotion, 10*(2), 111-116.

Arehart-Treichel, J. (2002). Mental illness on rise on college campuses. *Psychiatric News, 37*(6), 6.

Arria, A. M., & Wish, E. D. (2005). Nonmedical use of prescription stimulants among students. *Psychiatric Annals, 35*(3), 228-235.

Associated Press. (2005). *MIT settles with family of student who overdosed on nitrous oxide.* [On-line]. Retrieved July 19, 2005 from the World Wide Web: http://news.bostonherald.com.

Associated Press. (2006). *University of Texas tops party school list.* [On-line]. Retrieved September 20, 2006 from the World Wide Web: http://www.usatoday.com/news/nation/2006-08-21-party-school-list_x.htm.

Association of American Medical Colleges. (2007). *Medical schools seek security of student background checks.* [On-line]. Retrieved February 9, 2007 from the World Wide Web: http://www.aamc.org/newsroom/reporter/oct04/background.htm.

Austin, E. W., & Chen, Y. J. (2003). The relationship of parental reinforcement of medical messages to college students' alcohol-related behaviors. *Journal of Health Communication, 8*(2), 157-169.

Austin, G., & Prendergast, M. (1991). *Prevention research update: Young children of substance abusers* (8th ed.). Portland, OR: Western Regional Center for Drug-Free Schools and Communities, Northwest Regional Educational Center.

BACCHUS and GAMMA Peer Education Network. (2005). *2004 Annual report: Catch the wave of peer education!* [On-line]. Retrieved August 16, 2005 from the World Wide Web: http://www.bacchusgamma.org/pdf/2004annualreport.pdf.

Badger Herald. (2002). *University of Wisconsin-Madison: Parties reach settlement in MIT fraternity death case.* [On-line]. Retrieved July 26, 2005 from the World Wide Web: http://badgerherald.com.

Baer, J. S. (2002). Student factors: Understanding individual variation in college drinking. *Journal of Studies on Alcohol, Suppl.14*(63), 40-53.

Baer, J. S., Kivlahan, D. R., Blume, A. W., McKnight, P., & Marlatt, G. A. (2001). Brief intervention for heavy-drinking college students: 4-year follow-up and natural history. *American Journal of Public Health, 91*(8), 1310-1316.

Baer, J. S., Marlatt, G. A., Kivlahan, D. R., Fromme, K., Larimer, M. E., & Williams, E. (1992). An experimental test of three methods of alcohol risk reduction with young adults. *Journal of Consulting and Clinical Psychology, 60*(6), 974-979.

Baldwin v. Zoradi, 176 Cal. Rptr. 809, 123 Cal. App. 3d, 275 (Cal. App. 5 Dist.) (1981). In Lake, P. F. (1999). The rise of duty and the fall of in loco parentis and other protective tort doctrines in higher education law. *Missouri Law Review, 64(1), 1-28.*

Ballou v. Sigma Nu General Fraternity, 352 S.E.2d 488, S.C. Ct. App., (1986).

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.

Beer Institute. (2003). *Advertising and marketing code.* [On-line]. Retrieved June 5, 2003 from the World Wide Web: http://www.beerinstitute.org.

Bell, R., Wechsler, H., & Johnston, L. D. (1997). Correlates of college student marijuana use: Results of a US national survey. *Addiction, 92*(5), 571-581.

Benton, S. A., Robertson, J. M., Tseng, W.-C., Newton, F. B., & Benton, S. L. (2003). Changes in counseling center client problems across 13 years. *Professional Psychology: Research and Practice, 34*(1), 66-72.

Bergen-Cico, D., Barretto, C., & Vermette, J. (2003). *The impact of alcohol and other drug policies on gender and referrals to substance abuse counseling.* Unpublished manuscript.

Berkowitz, A. D. (2004). *The social norms approach: Theory, research and annotated bibliography.* [On-line]. Retrieved February 23, 2006 from the World Wide Web: http://www.alanberkowitz.com/articles/social_norms.pdf.

Bickel, R. D., & Lake, P. F. (1999). *The rights and responsibilities of the modern university: Who assumes the risks of college life?* Durham, NC: Carolina Academic Press.

Biederman, J., Faraone, S. V., Monuteaux, M. C., & Feighner, J. A. (2000). Patterns of alcohol and drug use in adolescents can be predicted by parental substance use disorders. *Pediatrics, 106*(4), 792-797.

Biederman, J., Monuteaux, M. C., Mick, E., Spencer, T., Wilens, T. E., Silva, J. M., Snyder, L. E., & Faraone, S.V. (2006). Young adult outcome of attention deficit hyperactivity disorder: a controlled 10-year follow-up study. *Psychological Medicine, 36*(2), 167-179.

Bierut, L. J., Dinwiddie, S. H., Begleiter, H., Crowe, R. R., Hesselbrock, V., Nurnberger, J. I., et al. (1998). Familial transmission of substance dependence: Alcohol, marijuana, cocaine, and habitual smoking: A report from the Collaborative Study on the Genetics of Alcoholism. *Archives of General Psychiatry, 55*(11), 982-988.

Black, D. R., Loftus, E. A., Chatterjee, R., Tiffany, S., & Babrow, A. S. (1993). Smoking cessation interventions for university students: Recruitment and program design considerations based on social marketing theory. *Preventive Medicine, 22*(3), 388-399.

Bon, S. R., Hittner, J. B., & Lawandales, J. P. (2001). Normative perceptions in relations to substance use and HIV-related sexual behaviors of college students. *Journal of Psychology, 135*(2), 165-178.

Bonnie, R. J., & O'Connell, M. E. (Eds.). (2004). *Reducing underage drinking: A collective responsibility*. Washington, DC: National Academy Press.

Bousser, M. G., & Kittner, S. J. (2000). Oral contraceptives and stroke. *Cephalalgia, 20*(3), 183-189.

Boyd, C. J., McCabe, S. E., & d'Arcy, H. (2003). Ecstasy use among college undergraduates: Gender, race and sexual identity. *Journal of Substance Abuse Treatment, 24*(3), 209-215.

Boyle, J. R., & Boekeloo, B. O. (2006). Perceived parental approval of drinking and its impact on problem drinking behaviors among first-year college students. *Journal of American College Health, 54*(4), 238-244.

Bradshaw v. Rawlings, 612 F.2d, 3d Cir., (1979).

Brener, N. D., Barrios, L. C., & Hassan, S. S. (1999). Suicidal ideation among college students in the United States. *Journal of Consulting and Clinical Psychology, 67*(6), 1004-1008.

Brener, N. D., McMahon, P. M., Warren, C. W., & Douglas, K. A. (1999). Forced sexual intercourse and associated health-risk behaviors among female college students in the United States. *Journal of Consulting and Clinical Psychology, 67*(2), 252-259.

Breslau, N., & Klein, D. F. (1999). Smoking and panic attacks: An epidemiologic investigation. *Archives of General Psychiatry, 56*(12), 1141-1147.

Brook, J. S., Richter, L., & Rubenstone, L. (2000). Consequences of adolescent drug use on psychiatric disorders in early adulthood. *Annals of Medicine, 32*(6), 401-407.

Buffa, D. (2005, July 11). Gal suing college over rape. *New York Post*, p. 24.

Burke, R. S., & Stephens, R. S. (1999). Social anxiety and drinking in college students: A social cognitive theory analysis. *Clinical Psychology Review, 19*(5), 513-530.

Bylund, C. L., Imes, R. S., & Baxter, L. A. (2005). Accuracy of parents' perceptions of their college student children's health and health risk behaviors. *Journal of American College Health, 54*(1), 31-37.

Byrd, R. C. (1998). *Alcohol advertising in college athletics.* [On-line]. Retrieved June 5, 2003 from the World Wide Web: http://www.senate.gov/~byrd.

Campaign for Alcohol-Free Sports TV. (2003). *A project of the Center for Science in the Public Interest: Americans say "Beer ads foul televised college sports": Survey highlights, November.* [On-line]. Retrieved August 31, 2005 from the World Wide Web: http://www.cspinet.org/booze/CAFST/CSPIsurvey.pdf.

Cashin, J. R., Presley, C. A., & Meilman, P. W. (1998). Alcohol use in the Greek system: Follow the leader? *Journal of Studies on Alcohol, 59*(1), 63-70.

Cavaiola, A. A., & Lavender, N. (1999). Suicidal behavior in chemically dependent adolescents. *Adolescence, 34*(136), 735-744.

Cave, D. (2005, September 21). Codey plans stricter limits on smoking: Higher buying age is among goals. *New York Times*, p. B5.

Center for Science in the Public Interest. (2005). *Advocacy news: NCAA executive committee passes the buck on alcohol ads.* [On-line]. Retrieved September 28, 2005 from the World Wide Web: http://www.cspinet.org/booze/2005/WashingtonRpt050923.htm.

Center for Substance Abuse Research, University of Maryland. (2005). *DEWS Maryland drug early warning system (DEWS): DEWS investigates: New student drug research (SDR) survey: Examines prescription stimulant misuse among college students.* [On-line]. Retrieved August 31, 2005 from the World Wide Web: http://www.cesar.umd.edu/cesar/pubs/20050703.pdf .

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. (2003). *Web-based injury statistics query and reporting system (WISQARS) homepage.* [On-line]. Retrieved August 25, 2003 from the World Wide Web: http://www.cdc.gov/ncipc/wisqars.

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. (2004). *Water-related injuries.* [On-line]. Retrieved February 12, 2004 from the World Wide Web: http://www.cdc.gov/ncipc/.

Chaloupka, F. J., & Wechsler, H. (1996). Binge drinking in college: The impact of price, availability, and alcohol control policies. *Contemporary Economic Policy, 14*(4), 112-124.

Chaloupka, F. J., & Wechsler, H. (1997). Price, tobacco control policies and smoking among young adults. *Journal of Health Economics, 16*(3), 359-373.

Chaloupka, F. J., Grossman, M., & Saffer, H. (1998). The effects of price on the consequences of alcohol use and abuse. In M. Galanter (Ed.), *Recent developments in alcoholism, volume 16: The consequences of alcohol* (pp. 331-346). New York: Plenum Press.

Chiauzzi, E., Green, T. C., Lord, S., Thum, C., & Goldstein, M. (2005). My student body: A high-risk drinking prevention web site for college students. *Journal of American College Health, 53*(6), 263-274.

Christie, J., Fisher, D., Kozup, J. C., Smith, S., Burton, S., & Creyer, E. H. (2001). The effects of bar-sponsored alcohol beverage promotions across binge and nonbinge drinkers. *Journal of Public Policy and Marketing, 20*(2), 240-253.

Clapp, J. D., Johnson, M., Voas, R. B., Lange, J. E., Shillington, A., & Russell, C. (2005). Reducing DUI among US college students: Results of an environmental prevention trial. *Society for the Study of Addiction, 100*(3), 327-334.

Clapp, J. D., Lange, J. E., Russel, C., Shillington, A., & Voas, R. B. (2003). A failed norms social marketing campaign. *Journal of Studies on Alcohol, 64*(3), 409-414.

Clayton, M. (1999, September 29). Fuller picture emerges of college drinking: For the first time, a study tallies number of alcohol-related deaths. *Christian Science Monitor,* p. 2.

Clements, R. (1999). Prevalence of alcohol-use disorders and alcohol-related problems in a college student sample. *Journal of American College Health, 48*(3), 111-118.

Coghlan v. Beta Theta Pi Fraternity, 133 Idaho 388, 987, P. 2d 300, 987 P.2d 300, (1999).

Colby, S. M., Monti, P. M., Barnett, N. P., Rohsenow, D. J., Weissman, K., Spirito, A., et al. (1998). Brief motivational interviewing in a hospital setting for adolescent smoking: A preliminary study. *Journal of Consulting and Clinical Psychology, 66*(3), 574-578.

Collegiate Risk Management. (2005). *Protecting the nation's most underinsured population: College students: The case for mandatory student health insurance.* [On-line]. Retrieved February 13, 2007 from the World Wide Web: http://www.collegiaterisk.com/news_studenthealthnewsletter_12.html#Protecting.

Cook, P. J., & Moore, M. J. (2002). The economics of alcohol abuse and alcohol-control policies: Price levels, including excise taxes, are effective at controlling alcohol consumption: Raising excise taxes would be in the public interest. *Health Affairs, 21*(2), 120-133.

Cooper, S., & Archer, J. (1999). Brief therapy in college counseling and mental health. *Journal of American College Health, 48*(1), 21-28.

Curley, B. (2006). *Panel debates merits of age 21 drinking law.* [On-line]. Retrieved November 14, 2006 from the World Wide Web: http://www.jointogether.org/news/features/2006/panel-debates-merits-of-age.html.

Curtin, D. (2002, August 19). Colorado State University taps policy to curb drinking fraternities, sororities to join CU, UNC in holding off-site parties. *Denver Post,* p. B-04.

Czart, C., Pacula, R. L., Chaloupka, F. J., & Wechsler, H. (2001). The impact of prices and control policies on cigarette smoking among college students. *Contemporary Economic Policy, 19*(2), 135-149.

Davidson College. (2005). *How liability affects you and your organization.* [On-line]. Retrieved July 19, 2005 from the World Wide Web: http://www2.davidson.edu/studentlife/involved/pcourt/pcourt_docs/PC_HowLiabilityAffectsYou.pdf.

Davidson College. (2006). *Patterson court website: About us.* [On-line]. Retrieved July 9, 2005 from the World Wide Web: http://www2.davidson.edu/studentlife/involved/pcourt/pcourt_home.asp.

Davies v. Butler, 602 P.2d 605, Nev., (1979).

Davis, R., & DeBarros, A. (2006). *In college, first year is by far the riskiest.* [On-line]. Retrieved January 26, 2006 from the World Wide Web: http://www.usatoday.com/news/nationa/2006-01-24-campus-deaths-cover_x.htm.

Dawson, D. A., Grant, B. F., Stinson, F. S., & Chou, P. S. (2005). Psychopathology associated with drinking and alcohol use disorders in the college and general adult populations. *Drug and Alcohol Dependence, 77*(2), 139-150.

DeBernardo, R. L., Aldinger, C. E., Dawood, O. R., Hanson, R. E., Lee, S.-J., & Rinaldi, S. R. (1999). An e-mail assessment of undergraduates' attitudes toward smoking. *Journal of American College Health, 48* (2), 61-66.

DeJong, W., Vince-Whitman, C., Colthurst, T., Cretella, M, Gillbreath, M., Rosati, M., & Zweig, K. (1998). *Environmental management: A comprehensive strategy for reducing alcohol and other drug use on college campuses.*Newton, MA: Higher Education Center for Alcohol and Other Drug Prevention.

DeJong, W. (2002). The role of mass media campaigns in reducing high-risk drinking among college students. *Journal of Studies on Alcohol, Suppl. 14,* 182-192.

DeJong, W., & Langford, L. M. (2002). A typology for campus-based alcohol prevention: Moving toward environmental management strategies. *Journal of Studies on Alcohol, Suppl. 14*, 140-147.

DeJong, W., Schneider, S. K., Towvim, L. G., Murphy, M. L., Doerr, E. E., Simonsen, N. R., et al. (2006). A multisite randomized trial of social norms marketing campaigns to reduce college student drinking. *Journal of Alcohol Studies, 67*(6), 868-879.

Del Boca, F. K., Darkes, J., Greenbaum, P. E., & Goldman, M. S. (2004). Up close and personal: Temporal variability in the drinking of individual college students during their first year. *Journal of Consulting and Clinical Psychology, 72*(2), 155-164.

Denizet-Lewis, B. (2005, January 9). Ban of brothers. *New York Times Magazine*, p. 32.

Department of Public Health, Executive Office of Health and Human Services, & The Commonwealth of Massachusetts. (2006). *Nicotine in cigarettes increases significantly since 1998* [Press Release]. [On-line]. Retrieved September 13, 2006 from the World Wide Web: http://www.mass.gov/?pageID=pressreleases&agId=Eeohhs2&prModName=dphpressrelease&prFile=pr_060829_nicotine.xml.

Dierker, L., Lloyd-Richardson, E., Stolar, M., Flay, B., Tiffany, S., Collins, L., et al. (2006). The proximal association between smoking and alcohol use among first year college students. *Drug and Alcohol Dependence, 81*(1), 1-9.

DiFranza, J. R., Savageau, J. A., Rigotti, N. A., Fletcher, K., Ockene, J. K., McNeill, A. D., et al. (2002). Development of symptoms of tobacco dependence in youths: 30 month follow up data from the DANDY study. *Tobacco Control, 11*(3), 228-235.

Distilled Spirits Council of the United States. (1998). *Code of good practice for distilled spirits advertising and marketing.* [On-line]. Retrieved June 5, 2003 from the World Wide Web: http://www.discus.org.

Dixon v. Alabama State Board of Education, 294 F. 2d 150, 5th Cir., (1961).

Dreyer, N. (2002). *Group asks for end to 'party school' lists.* [On-line]. Retrieved September 15, 2006 from the World Wide Web: http://www.dailytexanonline.com.

Duncan, G. J., Boisjoly, J., Kremer, M., Levy, D. M., & Eccles, J. (2005). Peer effects in drug use and sex among college students. *Journal of Abnormal Child Psychology, 33*(3), 375-385.

Eigen, L. D. (1991). *Alcohol practices, policies, and potentials of American colleges and universities.* Rockville, MD: U.S. Department of Health and Human Services.

Elkins, B., Helms, L. B., & Pierson, C. T. (2003). Greek-letter organizations, alcohol, and the courts: A risky mix? *Journal of College Student Development, 44*(1), 67-80.

Ellis, D. A., Zucker, R. A., & Fitzgerald, H. E. (1997). The role of family influences in development and risk. *Alcohol Health and Research World, 21*(3), 218-226.

Engs, R. C. (1990). Family background of alcohol abuse and its relationship to alcohol consumption among college students: An unexpected finding. *Journal of Studies on Alcohol, 51*(6), 542-547.

Engs, R. C., & Aldo-Benson, M. (1995). The association of alcohol consumption with self-reported illness in university students. *Psychological Reports, 76*(3, Pt. 1), 727-736.

Epstein, J. C. (1999). *Parental notification: Fact or fiction.* [On-line]. Retrieved June 25, 2004 from the World Wide Web: http://edc.org/hec/pubs/articles/parentalnotification.html .

Epstein, J. C. (2000). *Letters to the editor: Prevent drinking now, or pay a price later.* [On-line]. Retrieved July 14, 2005 from the World Wide Web: http://chronicle.com.mizuna.cc.columbia.edu.

Erenberg, D. F., & Hacker, G. A. (1997). *Last call for high-risk bar promotions that target college students*. Washington, DC: Center for Science in the Public Interest (CSPI).

Escoffery, C., McCormick, L., & Bateman, K. (2004). Development and process evaluation of a web-based smoking cessation program for college smokers: Innovative tool for education. *Patient Education and Counseling, 53*(2), 217-225.

Estate of Hernandez v. Arizona Board of Regents, 866 P.2d 1330, (1994).

Etter, J.-F., Ronchi, A., & Perneger, T. V. (1999). Short-term impact of a university based smoke free campaign. *Journal of Epidemiology and Community Health, 53*(11), 710-715.

Everett, S. A., Husten, C. G., Kann, L., Warren, C. W., Sharp, D., & Crossett, L. (1999). Smoking initiation and smoking patterns among US college students. *Journal of American College Health, 48*(2), 55-60.

Faden, V. B., & Baskin, M. L. (2002). An evaluation of college online alcohol-policy information. *Journal of American College Health, 51*(3), 101-107.

Farrell, E. F. (2001). *Colleges' risk managers face a rising tide of litigation.* [On-line]. Retrieved August 2, 2005 from the World Wide Web: http://chronicle.com/weekly/v48/i12/12a02901.htm.

Farrell, E. F. (2005, March 18). The battle for hearts and lungs. *Chronicle of Higher Education,* p. 34.

Feigelman, W., Gorman, B. S., & Lee, J. A. (1998). Binge drinkers, illicit drug users, and polydrug users: An epidemiological study of American collegians. *Journal of Alcohol and Drug Education, 44*(1), 47-69.

Fenzel, L. M. (2005). Multivariate analyses of predictors of heavy episodic drinking and drinking-related problems among college students. *Journal of College Student Development, 46*(2), 126-140.

Fisher, L. (2002). Back to school: Smoking policies in US college residence halls. *Cancer Causes and Control, 13*(8), 787-789.

Fisher, M. (2005, August 25). University of Dayton: Taverns seek to curb alcohol: Signed agreement one of few in nation, school says. *Dayton Daily News,* p. A1.

Fletcher, B. W., & Epstein, J. (1996). Prevention efforts at historically black colleges and universities. *Catalyst, 1*(4), 5-8.

FootballGuys.com. (2006). *Fighting.* [On-line]. Retrieved February 28, 2007 from the World Wide Web: http://forums.footballguys.com/forum/lofiversion/index.php/t293726.html.

Foote, J., Wilkens, C., & Vavagiakis, P. (2004). A national survey of alcohol screening and referral in college health centers. *Journal of American College Health, 52*(4), 149-157.

Foster, S. E., Vaughan, R. D., Foster, W. H., & Califano, J. A. (2003). Alcohol consumption and expenditures for underage drinking and adult excessive drinking. *JAMA, 289*(8), 989-995.

Foster, S. E., Vaughan, R. D., Foster, W. H., & Califano, J. A. (2006). Estimate of the commercial value of underage drinking and adult abusive and dependent drinking to the alcohol industry. *Archives of Pediatrics and Adolescent Medicine, 160*(5), 473-478.

Fried, G. B. (1997). Illegal moves off-the-field: University liability for illegal acts of student-athletes. *Seton Hall Journal of Sport Law, 7*(1), 69-101.

Fromme, K., Marlatt, G. A., Baer, J. S., & Kivlahan, D. R. (1994). The alcohol skills training program: A group intervention for young adult drinkers. *Journal of Substance Abuse Treatment, 11*(2), 143-154.

Gallagher, R. P. (2005). *National survey of counseling center directors.* Alexandria, VA: International Association of Counseling Services.

Galotti, K. M., & Mark, M. C. (1994). How do high school students structure an important life decision? A short-term longitudinal study of the college decision-making process. *Review of Higher Education, 35* (5), 589-607.

Gettleman, J. (2005, October 16). As young adults drink to win, marketers join in. *New York Times,* Section 1, p. 1.

Gfroerer, J. C., Greenblatt, J. C., & Wright, D. A. (1997). Substance use in the US college-age population: Differences according to educational status and living arrangement. *American Journal of Public Health, 87*(1), 62-65.

Gilles, D. M., Turk, C. L., & Fresco, D. M. (2006). Social anxiety, alcohol expectancies, and self-efficacy as predictors of heavy drinking in college students. *Addictive Behaviors, 31*(3), 388-398.

Gold, D. R., Wang, X., Wypij, D., Speizer, F. E., Ware, J. H., & Dockery, D. W. (1996). Effects of cigarette smoking on lung function in adolescent boys and girls. *New England Journal of Medicine, 335*(13), 931-937.

Granfield, R. (2005). Alcohol use in college: Limitations on the transformation of social norms. *Addiction Research and Theory, 13*(3), 281-292.

Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 9*, 103-110.

Green, G. A., Uryasz, F. D., Petr, T. A., & Bray, C. D. (2001). NCAA study of substance use and abuse habits of college student-athletes. *Clinical Journal on Sport Medicine, 2001*(11), 51-56.

Grodstein, F., Goldman, M. B., & Cramer, D. W. (1994). Infertility in women and moderate alcohol use. *American Journal of Public Health, 84*(9), 1429-1432.

Grube, J. W. (1997). Preventing sales of alcohol to minors: Results from a community trial. *Addiction, 92*(Supplement 2), S251-S260.

Hafner, K. (2005, November 6). Thank god it's Thursday: How Thursday became the new Friday. *New York Times,* Section 4A, p. 22.

Hall, K. M., Irwin, M. M., Bowman, K. A., Frankenberger, W., & Jewett, D. C. (2005). Illicit use of prescribed stimulant medication among college students. *Journal of American College Health, 53*(4), 167-174.

Halperin, A. C., & Rigotti, N. A. (2003). US public universities' compliance with recommended tobacco-control policies. *Journal of American College Health, 51*(5), 181-188.

Ham, L. S., & Hope, D. A. (2003). College students and problematic drinking: A review of the literature. *Clinical Psychology Review, 23*(5), 719-759.

Ham, L. S., & Hope, D. A. (2005). Incorporating social anxiety into a model of college student problematic drinking. *Addictive Behaviors, 30*(1), 127-150.

Hampl, J. S., & Betts, N. M. (1999). Cigarette use during adolescence: Effects on nutritional status. *Nutrition Reviews, 57*(7), 215-221.

Han, C., McGue, M. K., & Iacono, W. G. (1999). Lifetime tobacco, alcohol and other substance use in adolescent Minnesota twins: Univariate and multivariate behavioral genetic analyses. *Addiction, 94*(7), 981-993.

Harford, T. C., Wechsler, H., & Muthen, B. O. (2002). The impact of current residence and high school drinking on alcohol problems among college students. *Journal of Studies on Alcohol, 63*(2), 271-279.

Harmon, A. (2005, November 16). Young, assured and playing pharmacist to friends. *New York Times,* p.A1

Hartzler, B., & Fromme, K. (2003). Heavy episodic drinking and college entrance. *Journal of Drug Education, 33*(3), 259-274.

Heath, A. C., Bucholz, K. K., Madden, P. A. F., Dinwiddie, S. H., Slutske, W. S., Bierut, L. J., et al. (1997). Genetic and environmental contributions to alcohol dependence risk in a national twin sample: Consistency of findings in women and men. *Psychological Medicine, 27*(6), 1381-1396.

Heck, E. J., & Lichtenberg, J. W. (1990). Validity of the CAGE in screening for problem drinking in college students. *Journal of College Student Development, 31*(4), 359-364.

Heck, E. J., & Williams, M. D. (1995). Using the CAGE to screen for drinking-related problems in college students. *Journal of Studies on Alcohol, 56*(3), 282-286.

Helm, H. W., Boward, M. D., McBride, D. C., & Del Rio, R. I. (2002). Depression, drug use, and gender differences among students at a religious university. *North American Journal of Psychology, 4*(2), 183-198.

Hendricks, P. S., & Brandon, T. H. (2005). Smoking expectancy associates among college smokers. *Addictive Behaviors, 30*(2), 235-245.

Herman, A. I., Philbeck, J. W., Vasilopoulos, N. L., & Depetrillo, P. B. (2003). Serotonin transporter promoter polymorphism and differences in alcohol consumption behaviour in a college student population. *Alcohol and Alcoholism, 38*(5), 446-449.

Herman, K. C., & Fahnlander, B. (2003). A motivational intervention to reduce cigarette smoking among college students: Overview and exploratory investigation. *Journal of College Counseling, 6*(1), 46-55.

Higher Education Center for Alcohol and Other Drug Prevention. (2002). *EDC social norms marketing research project home page.* [On-line]. Retrieved June 5, 2003 from the World Wide Web: http://www2.edc.org/snmrp/index.html.

Higher Education Center. (2000a). *Illegal drugs on campus.* [On-line]. Retrieved January 25, 2005 from the World Wide Web: http://www.edc.org/hec/pubs/catalyst15.html.

Higher Education Center. (2000b). *MIT settlement makes other colleges and universities take notice.* [On-line]. Retrieved July 16, 2004 from the World Wide Web: http://www.edc.org/hec/press-release/000915.html.

Higher Education Center. (2002). *Infofacts resources: College athletes and alcohol and other drug use.* [On-line]. Retrieved January 20, 2005 from the World Wide Web: http://www.edc.org/hec/pubs/factsheets/fact_sheet3.html.

Higher Education Center. (2005). *Higher Education Center for Alcohol and Other Drug Prevention Web site.* [On-line]. Retrieved February 2, 2005 from the World Wide Web: http://www.edc.org/hec/.

Hingson, R. W., & Howland, J. (2002). Comprehensive community interventions to promote health: Implications for college-age drinking problems. *Journal of Studies on Alcohol, Supplement 14,* 226-240.

Hingson, R., Heeren, T., Zakocs, R., Winter, M., & Wechlser, H. (2003). Age of first intoxication, heavy drinking, driving after drinking and risk of unintentional injury among U.S. college students. *Journal of Studies on Alcohol, 64*(1), 23-31.

Hingson, R. W., Heeren, T., & Winter, M. R. (2006). Age of alcohol-dependence onset: Associations with severity of dependence and seeking treatment. *Pediatrics, 118*(3), e755-e763.

Hingson, R. W., Heeren, T., Winter, M. R., & Wechsler, H. (2003). Early age of first drunkenness as a factor in college students' unplanned and unprotected sex attributable to drinking. *Pediatrics, 111*(1), 34-41.

Hingson, R. W., Heeren, T., Zakocs, R. C., Kopstein, A., & Wechsler, H. (2002). Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18-24. *Journal of Studies on Alcohol, 63*(2), 136-144.

Hingson, R., Heeren, T., Winter, M., & Wechsler, H. (2005). Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18 - 24: Changes from 1998 to 2001. *Annual Review of Public Health, 26,* 259-279.

Hirschland, J. (2005, September 7). New alcohol abuse awareness program draws first-years' ire. *Columbia Daily Spectator, Vol. CXXIX- No.72,* p. A1.

Holderness, C. C., Brooks-Gunn, J., & Warren, M. P. (1994). Co-morbidity of eating disorders and substance abuse: Review of the literature. *International Journal of Eating Disorders, 16*(1), 1-34.

Holl, J. (2005, August 23). New Jersey bans smoking in all college dormitories. *New York Times,* p. B7.

Holmen, T. L., Barrett-Connor, E., Holmen, J., & Bjermer, L. (2000). Health problems in teenage daily smokers versus nonsmokers, Norway, 1995-1997: The Nord-Trondelag Health Study. *American Journal of Epidemiology, 151*(2), 148-155.

Hoover, E. (2002). Binge thinking: Henry Wechsler has defined the student-drinking problem, for better or worse. *Chronicle of Higher Education, 49*(11), A34-A37.

Hoover, E. (2002, December 13). Reading and rioting: Colleges struggle to find ways to prevent postgame rampages. *Chronicle of Higher Education,* p. A40.

Hoover, E. (2004). Alcohol arrests on campuses increased again in 2002. *Chronicle of Higher Education, 50*(38), A33-A34.

Hoover, E. (2005). For the 12th straight year, arrests for alcohol rise on college campuses. *Chronicle of Higher Education, 51*(42), A31.

Horovitz, B. (2005). *Alcohol makers on tricky path in marketing to college crowd.* [On-line]. Retrieved January 6, 2006 from the World Wide Web: http://www.usatoday.com/money/advertising/2005-11-16-alcohol-money-cover-usat_x.htm.

Hunter, S. M. (2001). Quitting. In J. M. Samet & S.-Y. Yoon (Eds.), *Women and the tobacco epidemic: Challenges for the 21st century* (pp. 121-146). Geneva, Switzerland: World Health Organization.

Hussong, A. M. (2003). Social influences in motivated drinking among college students. *Psychology of Addictive Behaviors, 17*(2), 142-150.

Jackson, C., Henriksen, L., & Dickinson, D. (1999). Alcohol-specific socialization, parenting behaviors and alcohol use by children. *Journal of Studies on Alcohol, 60*(3), 362-367.

Jackson, K. M., Sher, K. J., & Wood, P. K. (2000). Trajectories of concurrent substance use disorders: A developmental, typological approach to comorbidity. *Alcoholism: Clinical and Experimental Research, 24* (6), 902-913.

Jacobs, A. (2005, July 31). The Adderall advantage. *New York Times,* p. A4.

Jennison, K. M. (2004). The short-term effects and unintended long-term consequences of binge drinking in college: A 10 year follow-up study. *American Journal of Drug and Alcohol Abuse, 30*(3), 659-684.

Johnson, J. G., Cohen, P., Pine, D. S., Klein, D. F., Kasen, S., & Brook, J. S. (2000). Association between cigarette smoking and anxiety disorders during adolescence and early adulthood. *JAMA, 284*(18), 2348-2351.

Johnson, P. B., & Richter, L. (2002). The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: Analyses from the 1997 National Household Survey on Drug Abuse. *Journal of Adolescent Health, 30*(3), 175-183.

Johnson, T. J., & Cohen, E. A. (2004). College students' reasons for not drinking and not playing drinking games. *Substance Use and Misuse, 39*(7), 1137-1160.

Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2004). *Monitoring the Future: National survey results on drug use, 1975-2003: Volume II: College students and adults ages 19-45* (NIH Pub. No. 04-5508) (NIH Pub. No. 02-5107). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2006). *Monitoring the Future: National survey results on drug use, 1975-2005: Volume II: College students and adults ages 19-45* (NIH Pub. No. 06-5584). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

JoinTogether.org. (2000). *Schools watched MIT case closely.* [On-line]. Retrieved September 29, 2006 from the World Wide Web: http://www.jointogether.org/news/headlines/inthenews/2000/schools-watched-mit-case.html.

JoinTogether.org. (2004). *Two university presidents honored for campus crackdown on alcohol abuse.* [On-line]. from the World Wide Web: http://www.jointogether.org/news/yourturn/announcements/2004/two-university-presidents-for.html.

Jones, S. E., Oeltmann, J., Wilson, T. W., Brener, N. D., & Hill, C. V. (2001). Binge drinking among undergraduate college students in the United States: Implications for other substance use. *Journal of American College Health, 50*(1), 33-38.

Journal of Blacks in Higher Education. (2005). *The persisting myth that the black colleges are becoming whiter.* [On-line]. Retrieved February 14, 2007 from the World Wide Web: http://www.jbhe.com/news_views/47_myth_blackcolleges.html.

Kadison, R. (2005). Getting an edge: Use of stimulants and antidepressants in college. *New England Journal of Medicine, 353*(11), 1089-1091.

Kandel, D. B., & Andrews, K. (1987). Processes of adolescent socialization by parents and peers. *International Journal of the Addictions, 22*(4), 319-342.

Kandel, D. B., & Chen, K. (2000). Extent of smoking and nicotine dependence in the United States: 1991-1993. *Nicotine and Tobacco Research, 2*(3), 263-274.

Kapner, D. A. (2003, May). *Info facts resources: Alcohol and other drug use at historically black colleges and universities*. Newton, MA: Higher Education Center for Alcohol and Other Drug Prevention.

Kaplan-Woolner, J. (2005). *Drunk student arrested for harassment: Charges are dropped in case.* [On-line]. Retrieved February 28, 2007 from the World Wide Web: http://www.oberlin.edu/stupub/ocreview/2005/10/7/news/article4.html.

Karlin-Resnick, J. (2004). Helping students stay clean and sober: More colleges create programs for recovering alcoholics and drug addicts. *Chronicle of Higher Education, 50*(49), A31.

Kendler, K. S., Neale, M. C., Heath, A. C., Kessler, R. C., & Eaves, L. J. (1994). A twin-family study of alcoholism in women. *American Journal of Psychiatry, 151*(5), 707-715.

Kendler, K., Neale, M. C., Sullivan, P., Corey, L. A., Gardner, C. O., & Prescott, C. A. (1999). A population-based twin study in women of smoking initiation and nicotine dependence. *Psychological Medicine, 29*(2), 299-308.

Kenkel, D. S., & Manning, W. G. (1996). Perspectives on alcohol taxation. *Alcohol Health and Research World, 20*(4), 230-238.

Kilmer, J. R., Walker, D. D., Lee, C. M., Palmer, R. S., Mallett, K. A., Fabiano, P., et al. (2006). Misperceptions of college student marijuana use: Implications for prevention. *Journal of Studies on Alcohol, 67*(2), 277-281.

Kimbrough, W. M., & Hutcheson P. A. (1998). The impact of membership in Black Greek-letter organizations on Black students' involvement in collegiate activities and their development of leadership skills. *Journal of Negro Education, 67*(2), 96-105.

Kinney, J., & Peltier, D. (1986). A model alcohol program for the college health service. *Journal of American College Health, 34*(5), 229-233.

Kivlahan, D. R., Marlatt, G. A., Fromme, K., Coppel, D. B., & Williams, E. (1990). Secondary prevention with college drinkers: Evaluation of an alcohol skills training program. *Journal of Consulting and Clinical Psychology, 58*(6), 805-810.

Klesges, R. C., & Klesges, L. M. (1988). Cigarette smoking as a dieting strategy in a university population. *International Journal of Eating Disorders, 7*(3), 413-419.

Knight, J. R., Harris, S. K., Sherritt, L., Kelley, K., Van Hook, S., & Wechsler, H. (2003). Heavy drinking and alcohol policy enforcement in a statewide public college system. *Journal of Studies on Alcohol, 64*(5), 696-703.

Knight, J. R., Wechsler, H., Kuo, M., Seibring, M., Weitzman, E. R., & Schuckit, M. A. (2002). Alcohol abuse and dependence among U.S. college students. *Journal of Studies on Alcohol, 63*(3), 263-270.

Knoll v. Board of Regents of the University of Nebraska, 601 N.W.2d 757, (1999).

Korcuska, J. S., & Thombs, D. L. (2003). Gender role conflict and sex-specific drinking norms: Relationships to alcohol use in undergraduate women and men. *Journal of College Student Development, 44*(2), 204-216.

Krahn, D. D., Kurth, C. L., Gomberg, E., & Drewnowski, A. (2005). Pathological dieting and alcohol use in college women: A continuum of behaviors. *Journal of Eating Behaviors, 6*(1), 43-52.

Krahn, D., Kurth, C., Demitrack, M., & Drewnowski, A. (1992). The relationship of dieting severity and bulimic behaviors to alcohol and other drug use in young women. *Journal of Substance Abuse, 4*(4), 341-353.

Krukowski, R. A., Solomon, L. J., & Naud, S. (2005). Triggers of heavier and lighter cigarette smoking in college students. *Journal of Behavioral Medicine, 28*(4), 335-345.

Kuo, M., Wechsler, H., Greenberg, P., & Lee, H. (2003). The marketing of alcohol to college students: The role of low prices and special promotions. *American Journal of Preventive Medicine, 25*(3), 204-211.

Kushner, M. G., & Sher, K. J. (1993). Comorbidity of alcohol and anxiety disorders among college students: Effects of gender and family history of alcoholism. *Addictive Behaviors, 18*(5), 543-552.

Lake, P. F. (1999). The rise of duty and the fall of in loco parentis and other protective tort doctrines in higher education law. *Missouri Law Review, 64*(1), 1-28.

Lake, P. F. (2001). The special relationship(s) between a college and a student: Law and policy ramifications for the post in loco parentis college. *Idaho Law Review, 37*, 531-555.

Lake, P. F., & Epstein, J. C. (2000). Modern liability rules and policies regarding college student alcohol injuries: Reducing high-risk alcohol use through norms of shared responsibility and environmental management. *Oklahoma Law Review, 53*(611), 611-630.

Lange, J. E., Clapp, J., Turrisi, R., Reavy, R., Jaccard, J., Johnson, M., et al. (2002). College binge drinking: What is it? Who does it? *Alcoholism: Clinical and Experimental Research, 26*(5), 723-730.

Lanier, C. A., Nicholson, T., & Duncan, D. (2001). Drug use and mental well being among a sample of undergraduate and graduate college students. *Journal of Drug Education, 31*(3), 239-248.

Larimer, M. E., & Cronce, J. M. (2002). Identification, prevention, and treatment: A review of individual-focused strategies to reduce problematic alcohol consumption by college students. *Journal of Studies on Alcohol, Suppl. 14*, 148-163.

Leibsohn, J. (1994). The relationship between drug and alcohol use and peer group associations of college freshmen as they transition from high school. *Journal of Drug Education, 24*(3), 177-192.

Lenz, B. K. (2004). Tobacco, depression, and lifestyle choices in the pivotal early college years. *Journal of American College Health, 53*(5), 213-219.

Levy, K. B., O'Grady, K. E., Wish, E. D., & Arria, A. M. (2005). An in-depth qualitative examination of the Ecstasy experience: Results of a focus group with Ecstasy-using college students. *Substance Use and Misuse, 40*(9-10), 1427-1441.

Licciardone, J. C. (2003). Outcomes of a federally funded program for alcohol and other drug prevention in higher education. *American Journal of Drug and Alcohol Abuse, 29*(4), 803-827.

Lo, C. C., & Globetti, G. (1995). The facilitating and enhancing roles Greek associations play in college drinking. *International Journal of the Addictions, 30*(10), 1311-1322.

Low, K. G., & Gendaszek, A. E. (2002). Illicit use of psychostimulants among college students: A preliminary study. *Psychology, Health and Medicine, 7*(3), 283-287.

MacLachlan, J. (2000). Dangerous traditions: Hazing rituals on campus and university liability. *Journal of College and University Law, 26*(3), 511-548.

Maes, H. H., Woodard, C. E., Murrelle, L., Meyer, J. M., Silberg, J. L., Hewitt, J. K., et al. (1999). Tobacco, alcohol and drug use in eight-to-sixteen-year-old twins: The Virginia Twin Study of Adolescent Behavioral Development. *Journal of Studies on Alcohol, 60*(3), 293-305.

Mansvelder, H. D., & McGehee, D. S. (2000). Long-term potentiation of excitatory inputs to brain reward areas by nicotine. *Neuron, 27*(2), 349-357.

Marklein, M. B. (2005). *Parents tune in to realities.* [On-line]. Retrieved November 17, 2005 from the World Wide Web: http://www.usatoday.com/news/nation/2005-11-16-campus-drinking-parents_x.htm.

Marlatt, G. A., Baer, J. S., Kivlahan, D. R., Dimeff, L. A., Larimer, Me. E., Quigley, L. A., et al. (1998). Screening and brief intervention for high-risk college student drinkers results from a 2-year follow-up assessment. *Journal of Consulting and Clinical Psychology, 66*(4), 604-615.

Martell, D., & Atkin, C. (2002). *The B.R.A.D. card survey 2001 - 2002: Preliminary analysis of survey results*. East Lansing, MI: Office for Survey Research, Institute for Public Policy and Social Research at Michigan State, U.S. Department of Education.

Martens, M. P., Page J.C., Mowry, E. S., Damann, K. M., Taylor, K. K., & Cimini, M. D. (2006). Differences between actual and perceived student norms: An examination of alcohol use, drug use, and sexual behavior. *Journal of American College Health, 54*(5), 295-300.

Massachusetts Institute of Technology (MIT) News Office. (2005). *MIT and family of Richard Guy announce financial assistance fund.* [On-line]. Retrieved August 2, 2005 from the World Wide Web: http://www-tech.mit.edu/v125/n29/guystatement.html.

Matthews, C. R., Schmid, L. A., Goncalves, A. A., & Bursley, K. H. (1998). Assessing problem drinking in college students: Are counseling centers doing enough? *Journal of College Student Psychotherapy, 12*(24), 3-19.

McCabe, S. E. (2002). Gender differences in collegiate risk factors for heavy episodic drinking. *Journal of Studies on Alcohol, 63*(1), 49-56.

McCabe, S. E., & Boyd, C. J. (2005). Sources of prescription drugs for illicit use. *Addictive Behaviors, 30*(7), 1342-1350.

McCabe, S. E., Boyd, C., Hughes, T. L., & d'Arcy, H. (2004). Sexual identity and substance use among undergraduate students. *Substance Abuse, 24*(2), 77-91.

McCabe, S. E., Cranford, J. A., Boyd, C., & Teter, C. J. (2007). Motives, diversion and routes of administration associated with nonmedical use of prescription opioids. *Addictive Behaviors 32*(3), 562-575.

McCabe, S. E., Knight, J. R., Teter, C. J., & Wechsler, H. (2005). Non-medical use of prescription stimulants among U.S. college students: Prevalence and correlates from a national survey. *Addiction, 100*(1), 96-106.

McCabe, S. E., Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Kloska, D. D. (2005). Selection and socialization effects of fraternities and sororities on US college student substance use: A multi-cohort national longitudinal study. *Addiction, 100*(4), 512-524.

McCabe, S. E., Teter, C. J., & Boyd, C. J. (2005). Illicit use of prescription pain medication among college students. *Drug and Alcohol Dependence, 77*(1), 37-47.

McCabe, S. E., Teter, C. J., &Boyd, C. J. (2006). Medical use, illicit use, and diversion of abusable prescription drugs. *Journal of American College Health, 54*(5), 269-278.

McCabe, S. E., Teter, C. J., Boyd, C. J., Knight, J. R., & Wechsler, H. (2005). Nonmedical use of prescription opioids among U.S. college students: Prevalence and correlates from a national survey. *Addictive Behaviors, 30*(4), 789-805.

McCarthy, D. M., Miller, T. L., Smith, G. T., & Smith, J. A. (2001). Disinhibition and expectancy in risk for alcohol use: Comparing black and white college samples. *Journal of Studies on Alcohol, 62*(3), 313-321.

Meilman, P. W., Presley, C. A., & Cashin, J. R. (1995). The sober social life at the historically black colleges. *Journal of Blacks in Higher Education, 9*, 98-100.

Meilman, P. W., Presley, C. A., & Lyerla, R. (1994). Black college students and binge drinking. *Journal of Blacks in Higher Education, 4*, 70-71.

Merikangas, K. R., Stolar, M., Stevens, D. E., Goulet, J., Preisig, M. A., Fenton, B., et al. (1998). Familial transmission of substance use disorders. *Archives of General Psychiatry, 55*(11), 973-979.

Mohler-Kuo, M., Lee, J. E., & Wechsler, H. (2003). Trends in marijuana and other illicit drug use among college students: Results from 4 Harvard School of Public Health College Alcohol Surveys: 1993 - 2001. *Journal of American College Health, 52*(1), 17-24.

Moran, S., Wechsler, H., & Rigotti, N. A. (2004). Social smoking among US college students. *Pediatrics, 114*(4), 1028-1034.

Mothers Against Drunk Driving (MADD). (2005). *Stats and resources: Dram shop.* [On-line]. Retrieved July 27, 2005 from the World Wide Web: http://www3.madd.org/laws/law.cfm?lawid=dram.

Mumford, K. (2001). Who is responsible for fraternity related injuries on American college campuses? *Journal of Contemporary Health Law and Policy, 17*(2), 737-769.

Murray, S., & Gruley, B. (2000, November 2). Uneasy alliance: On many campuses, big brewers play a role in new alcohol policies: Anheuser and rivals sponsor programs that encourage drinking in moderation: Legacy of a death at University of Virginia. *Wall Street Journal*, p. A1.

Musgrave-Marquart, D., Bromley, S. P., & Dalley, M. B. (1997). Personality, academic attribution, and substance use as predictors of academic achievement in college students. *Journal of Social Behavior and Personality, 12*(2), 501-511.

MyStudentBody.com. (2005). *About MyStudentBody.com.* [On-line]. Retrieved August 15, 2005 from the World Wide Web: http://www.mystudentbody.com/about/findoutmore.asp.

National Collegiate Athletic Association. (2001). *NCAA study of substance use habits of college student-athletes*. Indianapolis, IN: The NCAA Research Staff.

National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10.*

National Institute on Alcohol Abuse and Alcoholism. (2000). *Tenth special report to Congress on alcohol and health: Highlights from current research* (NIH Pub. No. 00-1583). Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism.

National Institute on Alcohol Abuse and Alcoholism. (2002a). *What peer educators and resident advisors (RAs) need to know about college drinking* (NIH Pub. No. 02-5017). Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism.

National Institute on Alcohol Abuse and Alcoholism. (2002b). *Make a difference: Talk to your child about alcohol* (NIH Pub. No. 00-4314). Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism.

National Institute on Drug Abuse. (2004a). *Infofacts: Prescription pain and other medications.* [On-line]. Retrieved February 4, 2005 from the World Wide Web: http://www.drugabuse.gov/infofacts/PainMed.html.

National Institute on Drug Abuse. (2004b). *LSD*. Washington, DC: U.S. Department of Health and Human Services, National Institute on Drug Abuse, National Institutes of Health.

National Institute on Drug Abuse. (2005). *Marijuana: Infofacts.* [On-line]. Retrieved February 4, 2005 from the World Wide Web: http://www.nida.nih.gov.

National Mental Health Association. (2003). *Finding hope and help: College student and depression pilot initiative fact sheets.* [On-line]. Retrieved August 12, 2003 from the World Wide Web: http://www.nmha.org/camh/college/fact_sheets.cfm.

National Pan-Hellenic Council Incorporated. (2005). *About us.* [On-line]. Retrieved August 1, 2005 from the World Wide Web: http://www.nphchq.org/resources.htm.

Neal, D. J., Sugarman, D. E., Hustad, J. T. P., Caska, C. M., & Carey, K. B. (2005). It's all fun and games...or is it? Collegiate sporting events and celebratory drinking. *Journal of Studies on Alcohol, 66*(2), 291-294.

Neighbors, C., Oster-Aaland, L., Bergstrom, R. L., & Lewis, M. A. (2006). Event- and context-specific normative misperceptions and high-risk drinking: 21st birthday celebrations and football tailgating. *Journal of Studies on Alcohol, 67*(2), 282-289.

Neighbors, C., Spieker, C. J., Oster-Aaland, L., Lewis, M. A., & Bergstrom, R. L. (2005). Celebration intoxication: An evaluation of 21st birthday alcohol consumption. *Journal of American College Health, 54*(2), 76-80.

Nelson, T. F., & Wechsler, H. (2001). Alcohol and college athletes. *Medicine and Science in Sports and Exercise, 33*(1), 43-47.

Nelson, T. F., Naimi, T. S., Brewer, R. D., & Wechsler, H. (2005). The state sets the rate: The relationship among state-specific college binge drinking, state binge drinking rates, and selected state alcohol control policies. *American Journal of Public Health, 95*(3), 441-446.

Nelson, T. F., Weitzman, E. R., & Wechsler, H. (2005). The effect of a campus-community environmental alcohol prevention initiative on student drinking and driving: Results from the "A Matter of Degree" program evaluation. *Traffic Injury Prevention, 6*(4), 323-330.

Nero v. Kansas State University, 253 Kan. 567, 861 P.2d 768, (1993).

Nichter, M., Nichter, M., Lloyd-Richardson, E., Flaherty, B., Carkoglu, A., & Taylor, N. (2006). Gendered dimensions of smoking among college students. *Journal of Adolescent Research, 21*(3), 215-243.

Obermayer, J. L., Riley, W. T., Asif, O., & Jean-Mary, J. (2004). College smoking-cessation using cell phone text messaging. *Journal of American College Health, 53*(2), 71-78.

Obernier, J. A., Bouldin, T. W., & Crews, F. T. (2002). Binge ethanol exposure in adult rats causes necrotic cell death. *Alcoholism: Clinical and Experimental Research, 26*(4), 547-557.

O'Brien, M. C., McCoy, T. P., Champion, H., Mitra, A., Robbins, A., Teuschlser, H., et al. (2006). Single question about drunkenness to detect college students at risk for injury. *Society for Academic Emergency Medicine, 2006*(13), 629-636.

O'Connor, E. M. (2001). *Student mental health: Secondary education no more.* [On-line]. Retrieved October 22, 2003 from the World Wide Web: http://www.apa.org/monitor.

Office of Applied Studies, & Substance Abuse and Mental Health Services Administration. (2006). *Results from the 2005 National Survey on Drug Use and Health: National Findings* (DHHS Pub. No. SMA 06-4194). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

Office of Applied Studies, & Substance Abuse and Mental Health Services Administration. (2003). *Drugged driving: 2002 update.* [On-line]. Retrieved October 22, 2003 from the World Wide Web: http://www.samhsa.gov/oas.

Office of National Drug Control Policy. (2003a). *Drug policy information clearinghouse: Fact sheet: Cocaine.* [On-line]. Retrieved November 1, 2006 from the World Wide Web: http://www.whitehousedrugpolicy.gov.

Office of National Drug Control Policy. (2003b). *Drug policy information clearinghouse: Fact sheet: Inhalants.* [On-line]. Retrieved November 1, 2006 from the World Wide Web: http://www.whitehousedrugpolicy.gov.

Office of National Drug Control Policy. (2004). *Drug policy information clearinghouse: Fact sheet: MDMA (Ecstasy).* [On-line]. Retrieved November 1, 2006 from the World Wide Web: http://www.whitehousedrugpolicy.gov.

Office of the Surgeon General. (1994). *Preventing tobacco use among young people: A report of the Surgeon General*. Washington, DC: U.S. Government Printing Office.

Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

Office on Smoking and Health. (1983). *The health consequences of smoking: Cardiovascular disease: A report of the Surgeon General* (DHHS(PHS) 84-50204). Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Office on Smoking and Health.

Office on Smoking and Health. (2006). *The health consequences of involuntary exposure to tobacco smoke: A report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.

O'Hare, T. (2005). Risky sex and drinking contexts in freshman first offenders. *Addictive Behaviors, 30*(3), 585-588.

O'Malley, P. M., & Johnston, L. D. (2002). Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol, Suppl.*(14), 23-39.

O'Neill, S. E., Parra, G. R., & Sher, K. J. (2001). Clinical relevance of heavy drinking during the college years: Cross-sectional and prospective perspectives. *Psychology of Addictive Behaviors, 15*(4), 350-359.

OutsideTheClassroom.com. (2005a). *Outside the classroom releases enhanced AlcoholEdu prevention program: Online program features new case-based learning opportunities, expanded customization, and improved user experience.* [On-line]. Retrieved August 15, 2005 from the World Wide Web: http://www.outsidetheclassroom.com/newsevents/press/pr_alcoholedu60.asp.

OutsideTheClassroom.com. (2005b). *AlcoholEdu for college: View the course.* [On-line]. Retrieved August 15, 2005 from the World Wide Web: http://www.outsidetheclassroom.com/prodandserv/higher/alcoholedu_college/view_course.asp.

OutsideTheClassroom.com. (2005c). *Research results: Population-level prevention™*. [On-line]. Retrieved August 15, 2005 from the World Wide Web: http://www.outsidetheclassroom.com/images/pdf/data_plp_031605b.pdf.

OutsideTheClassroom.com. (2005d). *Academic study finds online alcohol prevention reduces negative consequences of college drinking: University of Illinois researcher concludes students who completed AlcoholEdu reported 50 percent fewer health, social, and academic consequences.* [On-line]. Retrieved August 15, 2005 from the World Wide Web: http://www.outsidetheclassroom.com/newsevents/press/pr_wallstudy.asp.

Ozegovic, J. J., Bikos, L. H., & Szymanski, D. M. (2001). Trends and predictors of alcohol use among undergraduate female students. *Journal of College Student Development, 42*(5), 447-455.

Pacific Institute for Research and Evaluation. (2005). *Environmental strategies to prevent alcohol problems on college campuses*. Newton, MA: The Higher Education Center for Alcohol and Other Drug Prevention.

Palmer, C. J., Lohman, G., Gehring, D. D., Carlson, S., & Garrett, O. (2001). Parental notification: A new strategy to reduce alcohol abuse on campus. *National Association of Student Personnel Administrators Journal, 38*(3), 372-385.

Park, C. L., & Grant, C. (2005). Determinants of positive and negative consequences of alcohol consumption in college students: Alcohol use, gender, and psychological characteristics. *Addictive Behaviors, 30* (4), 755-765.

Park, C. L., & Levenson, M. R. (2002). Drinking to cope among college students: Prevalence, problems and coping processes. *Journal of Studies on Alcohol, 63*(4), 486-497.

Parks, K. A., & Fals-Stewart, W. (2004). The temporal relationship between college women's alcohol consumption and victimization experiences. *Alcoholism: Clinical and Experimental Research, 28*(4), 625-629.

Patrick, M. (1988). Student health: Medical care within institutions of higher education. *JAMA, 260*(22), 3301-3305.

Paulus, D., Saint-Remy, A., & Jeanjean, M. (2000). Oral contraception and cardiovascular risk factors during adolescence. *Contraception, 62*(3), 113-116.

Pennsylvania Liquor Control Board. (2005). *Your degree doesn't matter: Alcohol education.* [On-line]. Retrieved February 8, 2007 from the World Wide Web: http://www.lcb.state.pa.us/plcb/lib/edu/item_images/0307.pdf.

Perkins, H. W. (1999). Stress-motivated drinking in collegiate and postcollegiate young adulthood: Life course and gender patterns. *Journal of Studies on Alcohol, 60*(2), 219-227.

Perkins, H. W. (2002a). Surveying the damage: A review of research on consequences of alcohol misuse in college populations. *Journal of Studies on Alcohol, 14*(Suppl.), 91-100.

Perkins, H. W. (2002b). Social norms and the prevention of alcohol misuse in collegiate contexts. *Journal of Studies on Alcohol, Supp. 14*, 164-172.

Perkins, H. W., & Berkowitz, A. D. (1991). Collegiate COAs and alcohol abuse: Problem drinking in relation to assessments of parent and grandparent alcoholism. *Journal of Counseling and Development, 69*(1), 237-240.

Perkins, H. W., & Wechsler, H. (1996). Variation in perceived college drinking norms and its impact on alcohol abuse: A nationwide study. *Journal of Drug Issues, 26*(4), 961-974.

Perkins, H. W., Haines, M. P., & Rice, R. (2005). Misperceiving the college drinking norm and related problems: A nationwide study of exposure to prevention information, perceived norms and student alcohol misuse. *Journal of Studies on Alcohol, 66*(4), 470-478.

Perkins, H. W., Meilman, P. W., Leichliter, J. S., Cashin, J. R., & Presley, C. A. (1999). Misperceptions of the norms for the frequency of alcohol and other drug use on college campuses. *Journal of American College Health, 47*(6), 253-258.

Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411.

Peterson, P. L., Hawkins, J. D., Abbott, R. D., & Catalano, R. F. (2006). Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by black and white adolescents. *Journal of Research on Adolescence, 4*(2), 203-227.

Peterson, T., & Stewart, K. (2005, July 26). Students use ADD drugs to study; Driven: The pill abusers say they need the edge they receive from the medication; Pills being used as study aids. *Salt Lake Tribune*, p. A1.

Petrakis, I. L., Gonzalez, G., Rosenheck, R., & Krystal, J. H. (2002). *Comorbidity of alcoholism and psychiatric disorders: An overview.* [On-line]. Retrieved October 8, 2003 from the World Wide Web: http://www.niaaa.nih.gov.

Phi Delta Theta. (2005). *Alcohol-free housing initiatives.* [On-line]. Retrieved September 2, 2005 from the World Wide Web: http://www.phideltatheta.org/pdf/afh_fact_sheet.doc.

Phoenix House, American Council for Drug Education, & Children of Alcoholics Foundation. (2006). *Facts on tap: What is alcohol poisoning?* [On-line]. Retrieved September 12, 2006 from the World Wide Web: http://www.factsontap.org/transitions/students.htm#poisoning.

Pope, H. G., Ionescu-Pioggia, M., & Pope, K. W. (2001). Drug use and life style among college undergraduates: A 30-year longitudinal study. *American Journal of Psychiatry, 158*(9), 1519-1521.

Prescott, C. A., Aggen, S. H., & Kendler, K. S. (1999). Sex differences in the sources of genetic liability to alcohol abuse and dependence in a population-based sample of U.S. twins. *Alcoholism: Clinical and Experimental Research, 23*(7), 1136-1144.

Presley, C. A., Leichliter, J. S., & Meilman, P. W. (1998). *Alcohol and drugs on American college campuses: A report to college presidents*. Carbondale, IL: Core Institute.

Princeton Review. (2006). *New 2007 best 316 colleges rankings.* [On-line]. Retrieved September 20, 2006 from the World Wide Web: http://www.princetonreview.com/college/research/rankings/rankings.asp.

Rabel v. Illinois Wesleyan University, 514 N.E.2d 552 Ill. App. Ct., (1987).

Ramsay, J., & Hoffmann, A. (2004). Smoking cessation and relapse prevention among undergraduate students: A pilot demonstration project. *Journal of American College Health, 53*(1), 11-18.

Read, J. P., Wood, M. D., Davidoff, O. J., McLacken, J., & Campbell, J. F. (2002). Making the transition from high school to college: The role of alcohol-related social influence factors in students' drinking. *Journal of Substance Abuse, 23*(1), 53-65.

Read, J. P., Wood, M. D., Kahler, C. W., Maddock, J. E., & Palfai, T. P. (2003). Examining the role of drinking motives in college student alcohol use and problems. *Psychology of Addictive Behaviors, 17*(1), 13-23.

Reed, M. B., Wang, R., Shillington, A. M., Clapp, J. D., & Lange, J. E. (2007). The relationship between alcohol use and cigarette smoking in a sample of undergraduate college students. *Addictive Behaviors, 32*, 449-464.

Redd, K. E. (2002). *HBCU graduates: Employment, earnings and success after college.* [On-line]. Retrieved September 29, 2006 from the World Wide Web: http://www.eric.ed.gov/sitemap/html_0900000b80134804.html.

Reisberg, L. (1998). MIT's inaction blamed for contributing to death of a freshman. *Chronicle of Higher Education,* p. A57-59.

Reisberg, L. (2000, July 28). Colleges use peer pressure to encourage healthy behavior. *Chronicle of Higher Education,* p. A60.

Rhodes, W. A., Singleton, E., McMillan, T. B., & Perrino, C. S. (2005). Does knowledge of college drinking policy influence student binge drinking? *Journal of American College Health, 54*(1), 45-49.

Richter, L., & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203.

Rickman, K. J., & Mackey, T. A. (1995). Substance abuse screening in student health services. *Substance Abuse, 16*(2), 99-105.

Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000). US college students' use of tobacco products: Results of a national survey. *JAMA, 284*(6), 699-705.

Rigotti, N. A., Moran, S. E., & Wechsler, H. (2005). US college students' exposure to tobacco promotions: Prevalence and association with tobacco use. *American Journal of Public Health, 95*(1), 138-144.

Rigotti, N. A., Regan, S., Moran, S. E., & Wechsler, H. (2003). Students' opinion of tobacco control policies recommended for US colleges: A national survey. *Tobacco Control, 12*(3), 251-256.

Ritch, W. A., & Begay, M. E. (2001). *It's academic: The relationship between college and community tobacco control policymaking in Massachusetts*. Amherst, MA: University of Massachusetts Amherst School of Public Health and Health Sciences, Department of Community Health Studies, Arnold House.

Rivinus, T. M. (1988). Difficulties of diagnosis, differential diagnosis and dual diagnosis in the late adolescent and young adult substance abuser. *Journal of College Student Psychotherapy, 2*(3-4), 115-130.

Rivinus, T. M. (1990). The deadly embrace: The suicidal impulse and substance use and abuse in the college student. *Journal of College Student Psychotherapy, 4*(3-4), 45-77.

Rivoire, K. (2005). *Guy family and MIT settle lawsuit: Plan new memorial fund.* [On-line]. Retrieved August 2, 2005 from the World Wide Web: http://www-tech.mit.edu/v125/n29/guy.html.

Rosellini, L. (2001). *Unsporting athletics.* [On-line]. Retrieved July 20, 2005 from the World Wide Web: http://www.usnews.com/usnews/edu/college/articles/brief/sthazing_brief.php.

Ross, H. E., & Ivis, F. (1999). Binge eating and substance use among male and female adolescents. *International Journal of Eating Disorders, 26*(3), 245-260.

Ryan, B. E., & DeJong, W. (1998). *Making the link: Faculty and prevention.* [On-line]. Retrieved November 28, 2006 from the World Wide Web: http://www.edc.org/hec/pubs/faculty-prevention.html.

Safe and Drug-Free Schools Program. (2002). *Alcohol and other drug prevention on college campuses: Model programs*. Washington, DC: U.S. Department of Education, Office of Elementary and Secondary Education, Safe and Drug-Free Schools Program.

SamSpadyFoundation.org. (2006). *The Sam Spady foundation home page.* [On-line]. Retrieved September 12, 2006 from the World Wide Web: http://www.samspadyfoundation.org.

Sax, L. J., Keup, J. R., Gilmartin, S. K., Stolzenberg, E. B., & Harper, C. (2002). *Findings from the 2002 administration of Your First College Year (YFCY): National aggregates.* [On-line]. Retrieved August 26, 2003 from the World Wide Web: http://www.gseis.ucla.edu/heri/yfcy/index.html.

Schemo, D. J. (2003, July 24). Study of colleges critical of antidrinking drives. *New York Times,* p. A16.

Senate and General Assembly of the State of New Jersey. (2006). *State of New Jersey 211th legislature.* [On-line]. Retrieved February 13, 2007 from the World Wide Web: http://www.judiciary.state.nj.us/legis/2005c384.pdf.

Sepe, E., & Glantz, S. A. (2002). Bar and club tobacco promotions in the alternative press: Targeting young adults. *American Journal of Public Health, 92*(1), 75-78.

Sessa, F. M. (2005). The influence of perceived parenting on substance use during the transition to college: A comparison of male residential and commuter students. *Journal of College Student Development, 46* (1), 62-74.

Shea, C. (1995). *Courts disagree over liability for fraternity-house assaults.* [On-line]. Retrieved August 29, 2005 from the World Wide Web: http://chronicle.com/che-data/articles.dir/articles-41.dir/.

Sher, K. J., Bartholow, B. D., & Nanda, S. (2001). Short- and long-term effects of fraternity and sorority membership on heavy drinking: A social norms perspective. *Psychology of Addictive Behaviors, 15*(1), 42-51.

Shinew, K. J., & Parry, D. C. (2005). Examining college students' participation in the leisure pursuits of drinking and illegal drug use. *Journal of Leisure Research, 37*(3), 364-386.

Silverman, M. M., Meyer, P. M., Sloane, F., Raffel, M., & Pratt, D. M. (1997). The Big Ten Student Suicide Study: A 10-year study of suicides on Midwestern university campuses. *Suicide and Life-Threatening Behavior, 27*(3), 285-303.

Simmons, K. (2005, November 19). Drinking on campus: That old team spirit: For many, alcohol is a required course. *Atlanta Journal-Constitution,* p. A1.

Simmons, K. (2006, April 27). UGA tightens rules on student alcohol. *Atlanta Journal-Constitution,* p.A1

Simons, J. S., & Gaher, R. M. (2004). Attitudes toward alcohol and drug-free experience among college students: Relationships with alcohol consumption and problems. *American Journal of Drug and Alcohol Abuse, 30*(2), 461-471.

Simons, J. S., Gaher, R. M., Correia, C. J., & Bush, J. A. (2005). Club drug use among college students. *Addictive Behaviors, 30*(8), 1619-1624.

Smeaton, G. L., Josiam, B. M., & Dietrich, U. C. (1998). College students' binge drinking at a beach-front destination during spring break. *Journal of American College Health, 46*(6), 247-254.

Snyder, L. B., Milici, F. F., Slater, M., Sun, H., & Strizhakova, Y. (2006). Effects of alcohol advertising exposure on drinking among youth. *Archives of Pediatrics and Adolescent Medicine, 160*(1), 18-24.

Sowah, G. (2006). *Student arrested for assault.* [On-line]. Retrieved February 28, 2007 from the World Wide Web: http://chips.luther.edu/modules/news/print.php?storyid=4663.

SportsLawNews.com. (2000). *Vermont cancels remainder of hockey season: University concludes that players had lied during hazing investigation.* [On-line]. Retrieved August 2, 2005 from the World Wide Web: http://www.sportslawnews.com/archive/articles%202000/uvahazing.htm.

Steptoe, A., Wardle, J., Bages, N., Sallis, J. F., Sanabria-Ferrand, P.-A., & Sanchez, M. (2004). Drinking and driving in university students: An international study of 23 countries. *Psychology and Health, 19*(4), 527-540.

Stewart, C. (2001). The influence of spirituality on substance use of college students. *Journal of Drug Education, 31*(4), 343-351.

Stewart, S. H., Karp, J., Pihl, R. O., & Peterson, R. A. (1997). Anxiety sensitivity and self-reported reasons for drug use. *Journal of Substance Abuse, 9*, 223-240.

Stockdale, M. S., Dawson-Owens, H. L., & Sagrestano, L. M. (2005). Social, attitudinal, and demographic correlates of adolescent vs. college-age tobacco use initiation. *American Journal of Health Behavior, 29* (4), 311-323.

Stowe, S. (2005). *Yale alumni strike back at tailgating limits.* [On-line]. Retrieved November 21, 2005 from the World Wide Web: http://www.nytimes.com/2005/11/19/nyregion/19yale.html.

Strickland, C. (2006, March 15). Officials want beer ads shelved for tournament. *Atlanta Journal-Constitution,* p. D1.

Strote, J., Lee, J. E., & Wechsler, H. (2002). Increasing MDMA use among college students: Results of a national study. *Journal of Adolescent Health, 30*(1), 64-72.

Substance Abuse and Mental Health Services Administration. (1997). *Drugs of abuse: Categories, descriptions, effects, symptoms of overdose, withdrawal symptoms, and indications of misuse.* Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

Substance Abuse and Mental Health Services Administration. (2004). *SAMHSA model programs: Effective substance abuse and mental health programs for every community.* [On-line]. Retrieved August 19, 2004 from the World Wide Web: http://www.modelprograms.samhsa.gov/.

Substance Abuse and Mental Health Services Administration. (2005). *Results from the 2004 National Survey on Drug Use and Health: National findings.* (Series H-28, DHHS Pub. No. SMA 05-4062.). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

Substance Abuse Funding Week. (2005, April 29). Advocates urge end to alcohol ads during college sporting events. *Substance Abuse Funding Week,* p. 4.

Substance Abuse Funding Week. (2006, January 20). Alcohol sales at sports events banned at California's 23 state universities. *Substance Abuse Funding Week,* p. 5.

Syracuse University. (2006). *Twelve-point plan for substance abuse prevention and health enhancement.* [On-line]. Retrieved July 21, 2005 from the World Wide Web: http://students/syr.edu/12pointsplan.

Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002a). *A call to action: Changing the culture of drinking at U.S. colleges* (NIH Pub. No. 02-5010). Washington, DC: U.S Department of Health and Human Services, National Institutes of Health, Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism.

Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002b). *How to reduce high-risk college drinking: Use proven strategies, fill research gaps: Final report of the Panel on Prevention and Treatment*. Bethesda, MD: U.S. Department of Health and Human Services, National Institute on Alcohol Abuse and Alcoholism, Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism.

Teter, C. J., McCabe, S. E., Cranford, J. A., Boyd, C. J., & Guthrie, S. K. (2005). Prevalence and motives for illicit use of prescription stimulants in an undergraduate student sample. *Journal of American College Health, 53*(6), 253-262.

Teter, C. J., McCabe, S. E., LaGrange, K., Cranford, J. A., & Boyd, C. J. (2006). Illicit use of specific prescription stimulants among college students: Prevalence, motives, and routes of administration. *Pharmacotherapy, 26*(10), 1501-1510.

Tevyaw, T. O., & Monti, P. M. (2004). Motivational enhancement and other brief interventions for adolescent substance abuse: Foundations, applications and evaluations. *Addiction, 99*(Suppl. 2), 63-75.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1993). *The smoke-free campus: A report by the commission on substance abuse at colleges and universities.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1994). *Rethinking rites of passage: Substance abuse on America's campuses*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1998). *Under the rug: Substance abuse and the mature woman*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Dangerous liaisons: Substance abuse and sex*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *The national survey of American attitudes on substance abuse VI: Teens*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *Teen tipplers: America's underage drinking epidemic*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003a). *The formative years: Pathways to substance abuse among girls and young women ages 8-22*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003b). *Food for thought: Substance abuse and eating disorders*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003c). *Alcohol abuse on college campuses: A reconnaissance mission: Report to funders.* Unpublished manuscript, The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003d). *CASA analysis of the National College Health Assessment: Reference group data base, Spring 2002* [Data file]. Baltimore: American College Health Association.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2005a). *Under the counter: The diversion and abuse of controlled prescription drugs in the U.S.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2005b). *CASA analysis of the National College Health Assessment: Reference group data base, Spring 2004* [Data file]. Baltimore, MD: American College Health Association.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2006a). *Women under the influence*. Baltimore, MD: The Johns Hopkins University Press.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2006b). *"You've got drugs!" Prescription drug pushers on the internet: 2006 update*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007a). *CASA analysis of the National Household Survey on Drug Use and Health (NSDUH), 2005* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007b). *CASA analysis of data obtained from the Campus Security Data Analysis Cutting Tool website provided by the U. S. Department of Education, Office of Postsecondary Education.* [On-line]. Retrieved February 27, 2007 from the World Wide Web: http://ope.ed.gov/security/.

TobaccoFreeKids.org. (2005). *Campaign for tobacco-free kids: Tobacco company marketing to college students since the multistate settlement agreement was signed.* [On-line]. Retrieved March 31, 2006 from the World Wide Web: http://www.tobaccofreekids.org/research/factsheets/pdf/0135.pdf.

Turrisi, R., Jaccard, J., Taki, R., Dunnam, H., & Grimes, J. (2001). Examination of the short-term efficacy of a parent intervention to reduce college student drinking tendencies. *Psychology of Addictive Behaviors, 15*(4), 366-372.

Turrisi, R., Wiersma, K. A., & Hughes, K. K. (2000). Binge-drinking-related consequences in college students: Role of drinking beliefs and mother-teen communications. *Psychology of Addictive Behaviors, 14*(4), 342-355.

Tye, L. (2000, October 12). Stemming the flow local colleges take aggressive steps to limit alcohol use. *Boston Globe*, p. A1.

Tysver, R. (2000, August 9). Ex-student settles with University of Nebraska-Lincoln in fall from fraternity house. *Omaha World Herald*, p. 15.

U.S. Census Bureau. (2004). *Table 1. Enrollment status of the population 3 years old and over, by sex, age, race, Hispanic origin, foreign born, and foreign-born parentage: October 2004.* [On-line]. Retrieved November 15, 2006 from the World Wide Web: http://www.census.gov/population/socdemo/school/cps2004/tab01-01.xls.

U.S. Census Bureau. (2005). *21+ year-olds as percentage of college students: October 2004 data internet release October 3, 2005.* [On-line]. Retrieved October 25, 2006 from the World Wide Web: https://www.alcoholstats.com/mm/docs/2127.xls.

U.S. College Hockey Online. (2000). *Vermont, LaTulippe reach out-of-court settlement.* [On-line]. Retrieved August 2, 2005 from the World Wide Web: http://www.uscho.com/news/2000/09/14_000036.php.

U.S. Department of Education, Office of Elementary and Secondary Education, Safe and Drug-Free Schools Program. (2002). *Alcohol and other drug prevention on college campuses: Model programs*. Washington, DC: U. S. Department of Education.

U.S. Department of Education. (1998). *General Education Provisions Act Amendment, 20 U.S.C. § 1232g.* [On-line]. Retrieved July 20, 2005 from the World Wide Web: http://www.ed.gov/policy/highered/leg/hea98/sec952.html.

U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention. (2003). *BASICS: Brief Alcohol Screening and Intervention of College Students.* [On-line]. Retrieved April 3, 2006 from the World Wide Web: http://modelprograms.samhsa.gov/pdfs/factsheet/BASICS.pdf.

U.S. Government Printing Office. (2001). *Title 34: Education: Part 99: Family educational rights and privacy.* [On-line]. Retrieved September 29, 2006. from the World Wide Web: http://www.access.gpo.gov/nara/cfr/waisidx_01/34cfr99_01.html.

U.S. Government Printing Office. (2003). *Title 34: Education: Part 86: Drug and alcohol abuse prevention.* [On-line]. Retrieved September 19, 2006 from the World Wide Web: http://www.access.gpo.gov/nara/cfr/waisidx_03/34cfr86_03.html.

United Press International. (2004). *Florida spring break arrests show increase.* [On-line]. Retrieved September 17, 2004 from the World Wide Web: http://about.upi.com.

van den Bree, M. B. M., Johnson, E. O., Neale, M. C., & Pickens, R. W. (1998). Genetic and environmental influences on drug use and abuse/dependence in male and female twins. *Drug and Alcohol Dependence, 52*(3), 231-241.

Vickers, K. S., Patten, C. A., Bronars, C., Lane, K., Stevens, S. R., Croghan, I. T., et al. (2004). Binge drinking in female college students: The association of physical activity, weight concern, and depressive symptoms. *Journal of American College Health, 53*(3), 133-140.

Vik, P. W., Tate, S. R., Carrello, P., & Field, C. (2000). Progression of consequences among heavy-drinking college students. *Psychology of Addictive Behaviors, 14*(2), 91-101.

Voelker, R. (2006). Mounting student depression taxing campus mental health services. *JAMA, 289*(16), 2055-2056.

Walitzer, K. S., & Sher, K. J. (1996). A prospective study of self-esteem and alcohol use disorders in early adulthood: Evidence for gender differences. *Alcoholism: Clinical and Experimental Research, 20*(6), 1118-1124.

Wall, T. L., Shea, S. H., Luczak, S. E., & Cook, T. A. R. (2005). Genetic association of alcohol dehydrogenase with alcohol use disorders and endophenotypes in white college students. *Journal of Abnormal Psychology, 114*(3), 456-465.

Wechsler, H. (1996). Alcohol and the American college campus: A report from the Harvard School of Public Health. *Change, 28*(4), 20-26.

Wechsler, H. (2000). *Binge drinking on America's college campuses: Findings from the Harvard School of Public Health College Alcohol Study*. [On-line]. Retrieved April 3, 2003 from the World Wide Web: http://www.hsph.harvard.edu.

Wechsler, H., & Kuo, M. (2000). College students define binge drinking and estimate its prevalence: Results of a national survey. *Journal of American College Health, 49*(2), 57-64.

Wechsler, H., & Nelson, T. (2002, December 9). Colleges' mixed messages legitimize sports-booze ties. *USA Today*, p. A13.

Wechsler, H., Davenport, A. E., Dowdall, G. W., Grossman, S. J., & Zanakos, S. I. (1997). Binge drinking, tobacco, and illicit drug use and involvement in college athletics: A survey of students at 140 American colleges. *Journal of American College Health, 45*(5), 195-200.

Wechsler, H., Davenport, A. E., Dowdall, G. W., Moeykins, B., & Castillo, S. (1994). Health and behavioral consequences of binge drinking in college: A national survey of students in 140 campuses. *JAMA, 272*(21), 1672-1677.

Wechsler, H., Dowdall, G. W., Maenner, G., Gledhill-Hoyt, J., & Lee, H. (1998). Changes in binge drinking and related problems among American college students between 1993 and 1997: Results of the Harvard School of Public Health College Alcohol Study. *Journal of American College Health, 47*(2), 57-68.

Wechsler, H., Kelley, K., Seibring, M., Kuo, M., & Rigotti, N. A. (2001). College smoking policies and smoking cessation programs: Results of a survey of college health center directors. *Journal of American College Health, 49*(5), 205-212.

Wechsler, H., Kelley, K., Weitzman, E. R., San Giovanni, J. P., & Seibring, M. (2000). What colleges are doing about student binge drinking: A survey of college administrators. *Journal of American College Health, 48*(5), 219-226.

Wechsler, H., Kuo, M., Lee, H., & Dowdall, G. W. (2000). Environmental correlates of underage alcohol use and related problems of college students. *American Journal of Preventive Medicine, 19*(1), 24-29.

Wechsler, H., Lee, J. E., & Rigotti, N. A. (2001). Cigarette use by college students in smoke-free housing: Results of a national study. *American Journal of Preventive Medicine, 20*(3), 202-207.

Wechsler, H., Lee, J. E., Gledhill-Hoyt, J., & Nelson, T. F. (2001). Alcohol use and problems at colleges banning alcohol: Results of a national survey. *Journal of Studies on Alcohol, 62*(2), 133-141.

Wechsler, H., Lee, J. E., Hall, J., Wagenaar, A. C., & Lee, H. (2002). Secondhand effects of student alcohol use reported by neighbors of colleges: The role of alcohol outlets. *Social Science and Medicine, 55*(3), 425-435.

Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002). Trends in college binge drinking during a period of increased prevention efforts: Findings from 4 Harvard School of Public Health College Alcohol Study surveys: 1993-2001. *Journal of American College Health, 50*(5), 203-217.

Wechsler, H., Lee, J. E., Nelson, T. F., & Kuo, M. (2002). Underage college students' drinking behavior, access to alcohol, and the influence of deterrence policies: Findings from the Harvard School of Public Health College Alcohol Study. *Journal of American College Health, 50*(5), 223-236.

Wechsler, H., Lee, J. E., Nelson, T. F., & Lee, H. (2001). Drinking levels, alcohol problems and secondhand effects in substance-free college residences: Results of a national study. *Journal of Studies on Alcohol, 62*(1), 23-31.

Wechsler, H., Lee, J. E., Nelson, T. F., & Lee, H. (2003). Drinking and driving among college students: The influence of alcohol-control policies. *American Journal of Preventive Medicine, 25*(3), 212-218.

Wechsler, H., Molnar, B. E., Davenport, A. E., & Baer, J. S. (1999). College alcohol use: A full or empty glass? *Journal of American College Health, 47*(6), 247-252.

Wechsler, H., Nelson, T. F., Lee, J. E., Seibring, M., Lewis, C., & Keeling, R. P. (2003). Perception and reality: A national evaluation of social norms marketing interventions to reduce college students' heavy alcohol use. *Journal of Studies on Alcohol, 64*(4), 484-494.

Wechsler, H., Rigotti, N. A., Gledhill-Hoyt, J., & Lee, H. (1998). Increased levels of cigarette use among college students: A cause for national concern. *JAMA, 280*(19), 1673-1678.

Wechsler, H., Seibring, M., Liu, I.-C., & Ahl, M. (2004). Colleges respond to student binge drinking: Reducing student demand or limiting access. *Journal of American College Health, 52*(4), 159-168.

Weitzman, E. R. (2004). Poor mental health, depression and associations with alcohol consumption, harm and abuse in a national sample of young adults in college. *Journal of Nervous and Mental Disease, 192*(4), 269-277.

Weitzman, E. R., & Chen, Y.-Y. (2005a). The co-occurrence of smoking and drinking among young adults in college: National survey results from the United States. *Drug and Alcohol Dependence, 80*(3), 377-386.

Weitzman, E. R., & Chen, Y.-Y. (2005b). Risk modifying effect of social capital on measures of heavy alcohol consumption, alcohol abuse, harms, and secondhand effects: National survey findings. *Journal of Epidemiology and Community Health, 59*(4), 303-309.

Weitzman, E. R., & Nelson, T. F. (2004). College student binge drinking and the 'prevention paradox': Implications for prevention and harm reduction. *Journal of Drug Education, 34*(3), 247-266.

Weitzman, E. R., & Wechsler, H. (2000). Alcohol use, abuse, and related problems among children of problem drinkers: Findings from a national survey of college alcohol use. *The Journal of Nervous and Mental Disorders, 188*(3), 148-154.

Weitzman, E. R., Folkman, A., Folkman, K. L., & Wechsler, H. (2003). The relationship of alcohol outlet density to heavy and frequent drinking and drinking-related problems among college students at eight universities. *Health Place, 9*(1), 1-6.

Weitzman, E. R., Nelson, T. F., & Wechsler, H. (2003). Taking up binge drinking in college: The influences of person, social group, and environment. *Journal of Adolescent Health, 32*(1), 26-35.

Weitzman, E. R., Nelson, T. F., Lee, H., & Wechsler, H. (2004). Reducing drinking and related harms in college evaluation of the 'A Matter of Degree' program. *American Journal of Preventive Medicine, 27*(3), 187-196.

Wetter, D. W., Kenford, S. L., Welsch, S. K., Smith, S. S., Fouladi, R. T., Fiore, M. C., et al. (2004). Prevalence and predictors of transitions in smoking behavior among college students. *Health Psychology, 23*(2), 168-177.

Whipple, E. G. (2005). *Alcohol-free housing: Does it make a difference?* [On-line]. Retrieved August 31, 2005 from the World Wide Web: http://www.phideltatheta.org/media/docs/WhitePaper.pdf.

White, A. M., Jamieson-Drake, D. W., & Swartzwelder, H. S. (2002). Prevalence and correlates of alcohol-induced blackouts among college students: Results of an e-mail survey. *Journal of American College Health, 51*(3), 117-131.

White, A. M., Kraus, C. L., & Swartzwelder, H. S. (2006). Many college freshmen drink at levels far beyond the binge threshold. *Alcoholism: Clinical and Experimental Research, 30*(6), 1-5.

White, A. M., Kraus, C. L., Kestenbaum, L. A., Mitchell, J. R., Shah, K., & Swartzwelder, H. S. (2005). College students lack knowledge of standard drink volumes: Implications for definitions of risky drinking behavior based on survey data. *Alcoholism: Clinical and Experimental Research, 29*(4), 631-638.

White, B. P., Becker-Blease, K. A., & Grace-Bishop, K. (2006). Stimulant medication use, misuse, and abuse in an undergraduate and graduate student sample. *Journal of American College Health, 54*(5), 261-268.

Wieberg, S. (2005). *Colorado treads carefully in relationship with Coors.* [On-line]. Retrieved November 21, 2005 from the World Wide Web: http://www.usatoday.com/sports/college/2005-11-16.

Wieberg, S. (2005, November 16). Colleges are reaching their limit on alcohol. *USA Today,* p. A1.

Wiederman, M. W., & Pryor, T. (1996). Substance use among women with eating disorders. *International Journal of Eating Disorders, 20*(2), 163-168.

Wilkes, M. S., Bell, R. A., & Kravitz, R. L. (2000). Direct-to-consumer prescription drug advertising: Trends, impact, and implications. *Health Affairs, 19*(2), 110-128.

Williams, J. (2005). Habit formation and college students' demand for alcohol. *Health Economics, 14*(2), 119-134.

Williams, J., Pacula, R. L., Chaloupka, F. J., & Wechsler, H. (2004). Alcohol and marijuana use among college students: Economic complements or substitutes? *Health Economics, 13*(9), 825-843.

Wilson, J. J., & Levin, F. R. (2005). Attention-deficit/hyperactivity disorder and early-onset substance use disorders. *Journal of Child and Adolescent Psychopharmacology, 15*(5), 751-763.