

The CBHSQ Report

Short Report

August 27, 2015

MONTHLY VARIATION IN SUBSTANCE USE INITIATION AMONG FULL-TIME COLLEGE STUDENTS

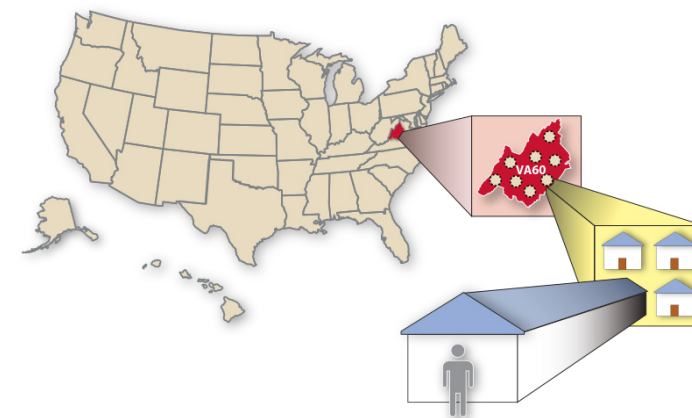
AUTHORS

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INTRODUCTION

Illicit drug and alcohol use are common practices for many college students with about 1 out of every 5 full-time college students aged 18 to 22 having used illicit drugs in the past month and over half having drunk alcohol¹; however, less is known about initiation of substance use by college students, particularly about monthly variations in initiation. Estimates of substance use initiation, also known as "first-time use," are important measures that can be used to assess the volume of new users by drug or drug category, track emerging patterns of use, and help to target prevention efforts. Examining monthly variations in substance use initiation helps identify periods of the year during which populations are particularly vulnerable to initiation. Studies that examined monthly variation in initiation of substance use have often focused on adolescents, because adolescence is often associated with the experimentation with alcohol and illicit drugs.² This report focuses on initiation among full-time college students aged 18 to 22—another group historically at risk for substance use initiation. College is a time when young people transition into adulthood, with many living independently and making behavioral health decisions without direct parental oversight. Identifying periods of heightened risk for substance use initiation among college students could inform the development and deployment of prevention strategies both on and off campus. Additionally, this information could help parents, prevention providers, and college/university communities—including fraternities, sororities, and other extracurricular clubs—take positive steps toward preventing substance use among college students.

The National Survey on Drug Use and Health (NSDUH) asks respondents aged 12 or older who reported using various substances to indicate the year and month of first use of each substance. This report examines the average number of full-time college students using substances for the first time per day for the year as a whole and for each month of the year. Specifically, this report focuses on full-time college students who recently initiated the use of substances (i.e., in the 12 months prior to the interview) and who were aged 18 to 22 at the time of initiation.^{3,4,5} All findings are based on annual averages from 2002 to 2013



In Brief

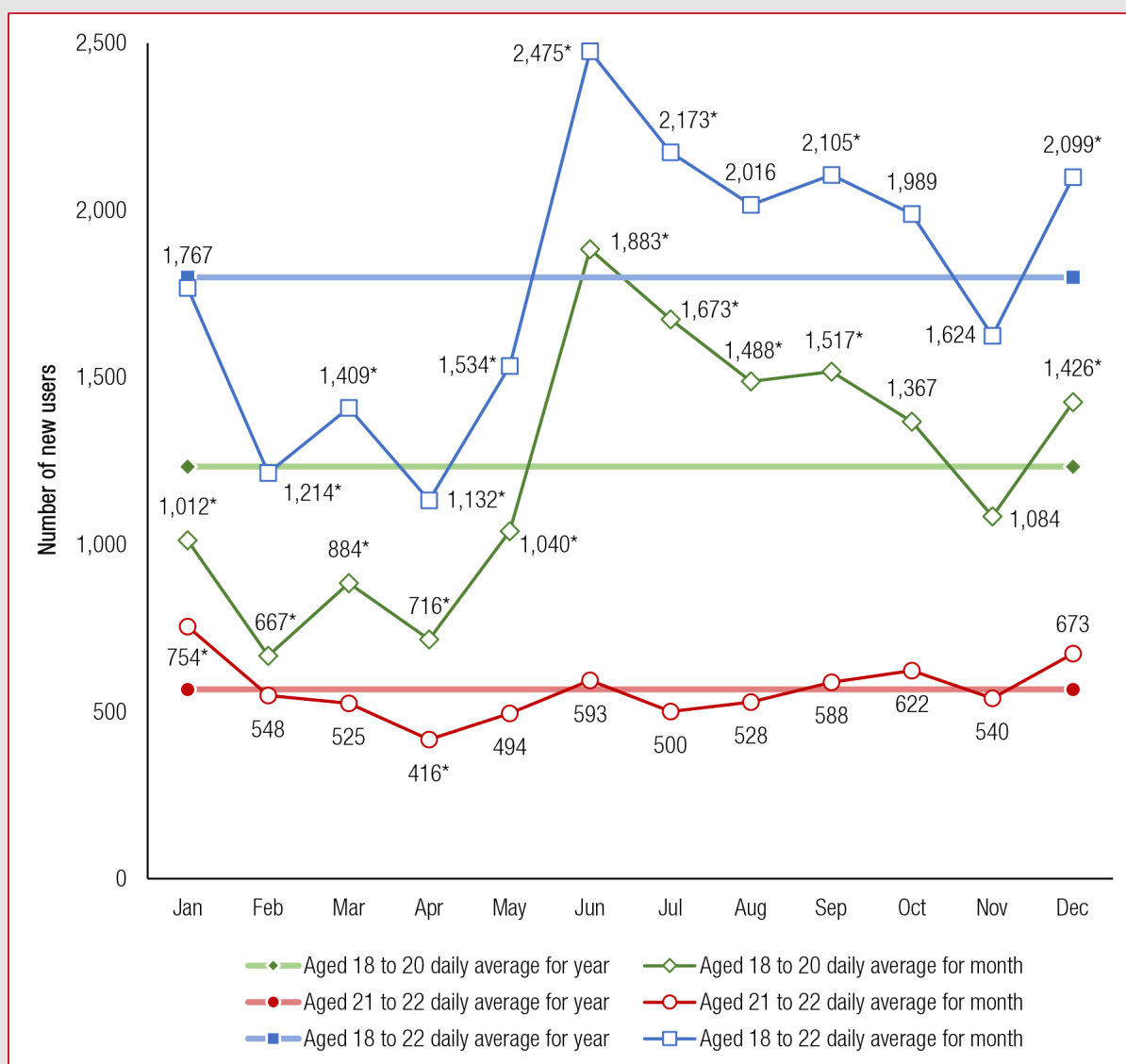
- On an average day in June, July, September, and December between 2002 and 2013, 2,100 to 2,500 full-time college students aged 18 to 22 used alcohol for the first time; in other months, the daily average ranged from about 1,100 to 2,000 new users per day.
- The daily average of new cigarette users peaked in June, September, and October, when on an average day between 1,300 and 1,400 college students aged 18 to 22 smoked cigarettes for the first time; the daily average ranged from about 800 to 1,200 new users per day in other months.
- First use of cigars, marijuana, and inhalants among college students aged 18 to 22 peaked during the summer months of June and/or July.
- First nonmedical use of prescription-type stimulants among college students aged 18 to 22 peaked during months of April, November, and December with more than 500 new users per day during those months.
- First time use of cocaine and first time nonmedical use of prescription-type pain relievers among college students aged 18 to 22 peaked in December.

NSDUH data. Combined data are used to improve precision and enable production of estimates of initiation by month for lower prevalence drugs (such as cocaine and inhalants). Based on combined 2002 to 2013 NSDUH data, there was an annual average of 8.6 million full-time college students aged 18 to 22 in the United States.

FIRST ALCOHOL USE

Respondents were asked about the first time they drank alcohol, regardless of whether they were aged 21 or older and legally allowed to drink. Alcohol use is defined as having more than a sip or two from a can or bottle of beer, a glass of wine or a wine cooler, a shot of liquor, or a mixed drink with liquor in it. Combined 2002 to 2013 data indicate that an annual average of 657,000 full-time college students aged 18 to 22 used alcohol for the first time within the past 12 months. This averages to about 1,800 new users per day (Figure 1). Of the 657,000 college students who used alcohol for the first time in the past year, about 450,000 were under the legal drinking age when they initiated (e.g., aged 18 to 20); this averages to about 1,200 new users per day aged 18 to 20 and about 570 new users per day who are aged 21 to 22.

Figure 1. Number of full-time college students aged 18 to 22 using alcohol for the first time on an average day, by month and age group: 2002 to 2013



* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

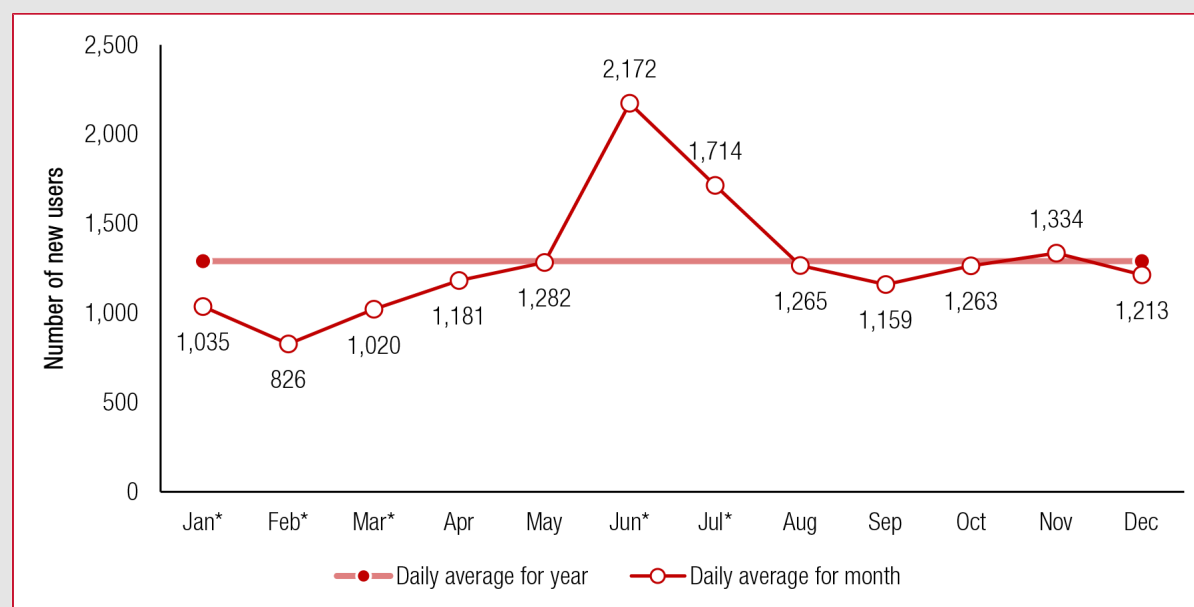
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

The daily average for first use of alcohol among full-time college students aged 18 to 22 peaked in June with 2,475 new users per day (Figure 1). The daily average for first use of alcohol was higher in June, July, September, and December than the daily average in the past year when on an average day between 2,100 to 2,175 full-time college students aged 18 to 22 used alcohol for the first time; in other months of the year, the daily average ranged from about 1,100 to 2,000 new users per day. The peak months for alcohol initiation among underage college students were generally the same as the peak months for all college students aged 18 to 22 (Figure 1); however, initiation among those aged 21 to 22 peaked in January and was relatively stable across other months.

FIRST TOBACCO USE

Among college students aged 18 to 22, tobacco use is a legal behavior; however, preventing tobacco initiation remains a goal for the Substance Abuse and Mental Health Services Administration (SAMHSA), given the long-term negative health consequences associated with tobacco use. Cigar and cigarette use are defined as smoking "part or all" of a cigar or cigarette in the past year, respectively. In this report, use of chewing tobacco or snuff is referred to as "smokeless tobacco use." Approximately 471,000 full-time college students used cigars for the first time within the past 12 months, 392,000 used cigarettes for the first time within the past 12 months, and 192,000 used smokeless tobacco for the first time. These average to about 1,300, 1,000, and 500 new users per day, respectively.

Figure 2. Number of full-time college students aged 18 to 22 using cigars for the first time on an average day, by month: 2002 to 2013

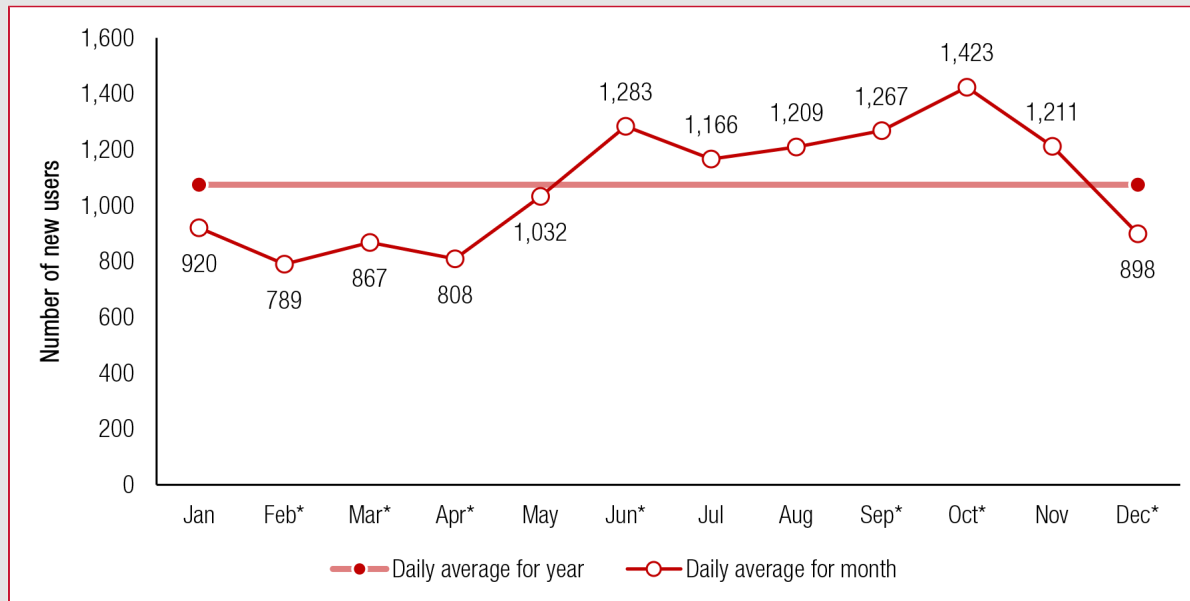


* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

The daily average of new cigar users peaked in June and July, when on an average day about 1,700 to 2,200 college students smoked cigars for the first time (Figure 2). In other months, the daily average ranged from about 800 to 1,300 new cigar users per day. The daily average of new cigarette users was at its highest in June, September, and October, when on an average day, between about 1,300 and 1,400 college students smoked cigarettes for the first time (Figure 3). The daily average ranged from about 800 to 1,200 new cigarette users per day in other months. Daily average of new smokeless tobacco users had a small peak in October with an average of 672 new smokeless tobacco users per day (Figure 4).

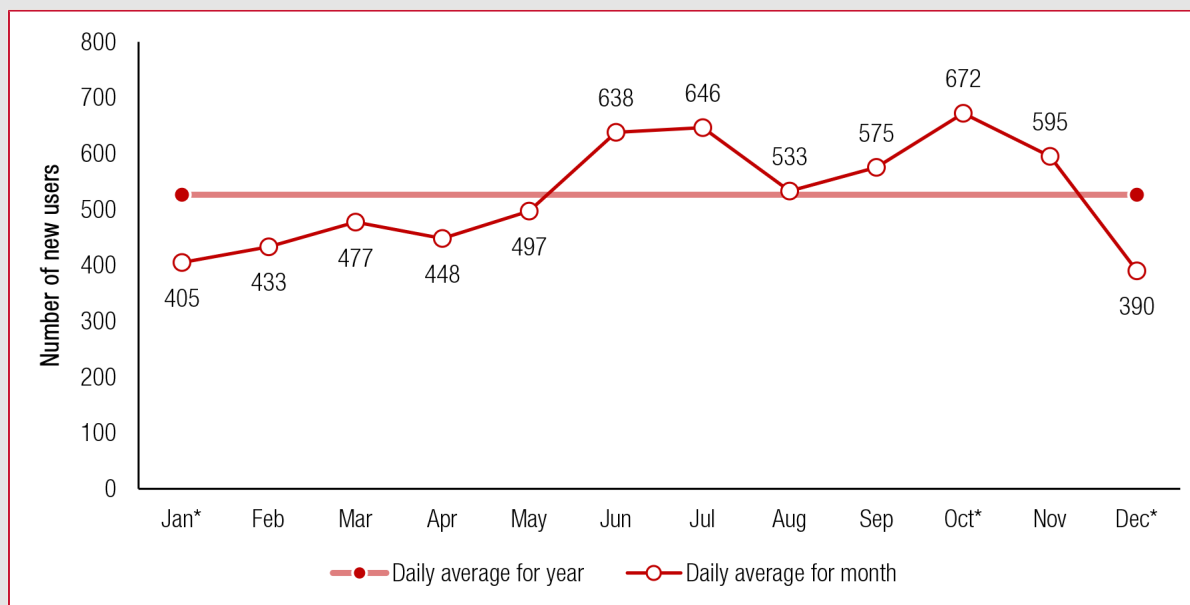
Figure 3. Number of full-time college students aged 18 to 22 using cigarettes for the first time on an average day, by month: 2002 to 2013



* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

Figure 4. Number of full-time college students aged 18 to 22 using smokeless tobacco for the first time on an average day, by month: 2002 to 2013



* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

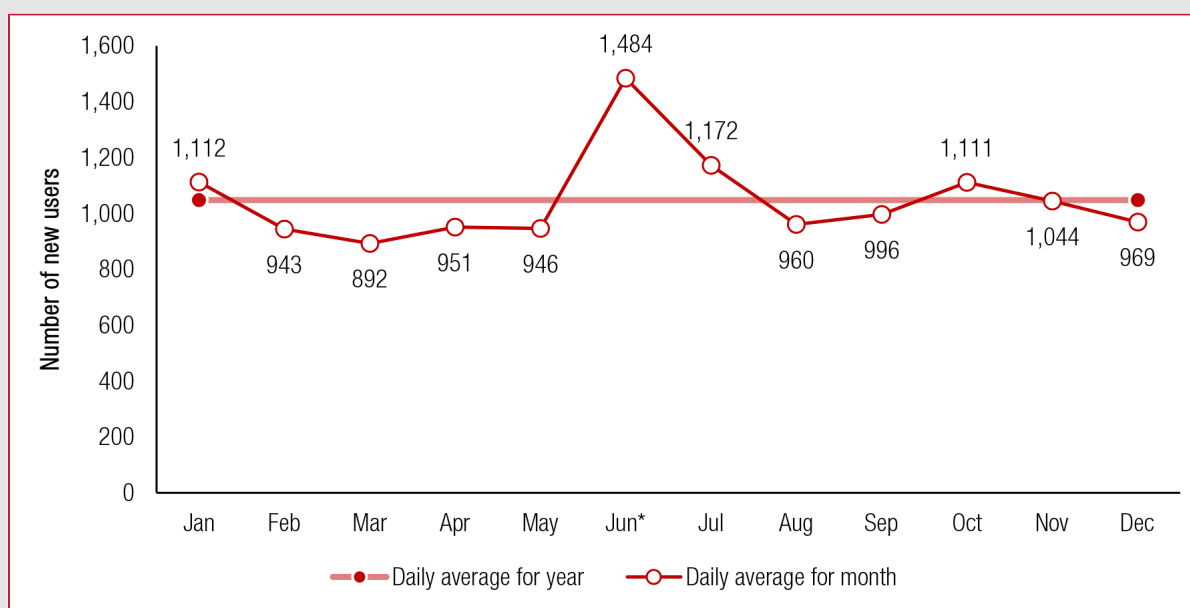
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

FIRST MARIJUANA USE

Marijuana use is the most common type of illicit drug use in the United States.¹ Marijuana is usually smoked, either in cigarettes called joints, or in a pipe, but it also sometimes cooked in food. According to 2013 NSDUH data, about 1 out of every 5 full-time college students aged 18 to 22 were current marijuana users, which translates to about 1.7 million students using marijuana in the past month.¹

When asked about their first use of marijuana, an annual average of 383,000 full-time college students used marijuana for the first time within the past 12 months. This averages to about 1,000 new marijuana users per day. The daily average for first use of marijuana peaked in June (Figure 5). On an average day in June, about 1,500 college students used marijuana for the first time. In other months, the daily average of new marijuana users who were full-time college students ranged from nearly 900 to about 1,200 new users per day.

Figure 5. Number of full-time college students aged 18 to 22 using marijuana for the first time on an average day, by month: 2002 to 2013



* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

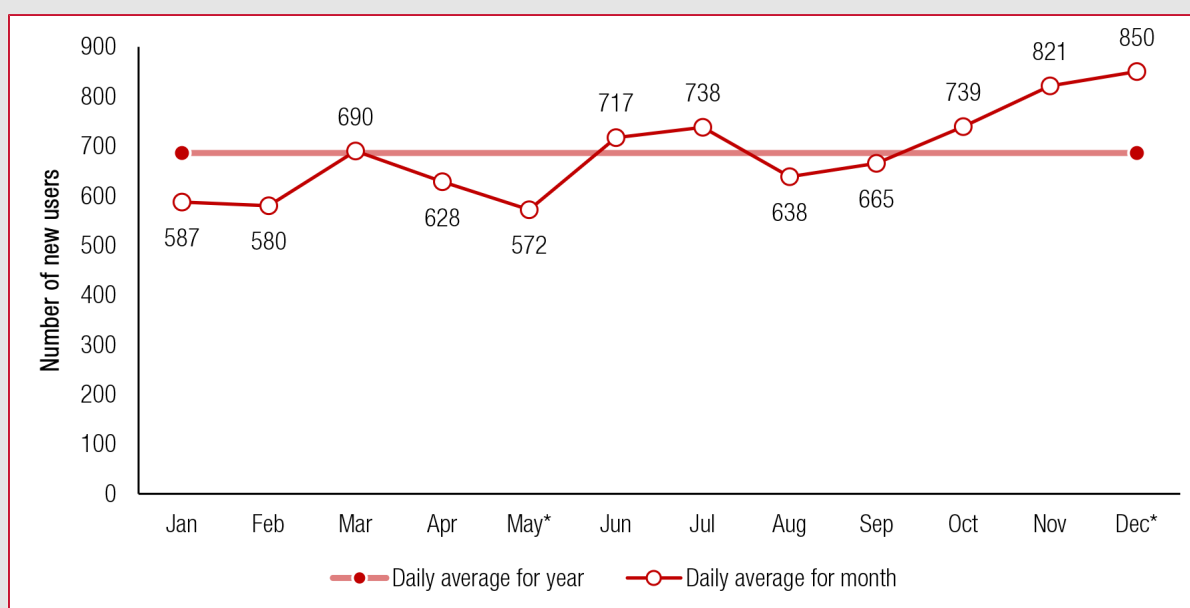
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

FIRST NONMEDICAL USE OF PRESCRIPTION-TYPE PAIN RELIEVERS

Nonmedical prescription-type pain reliever use was the second most common type of illicit drug use in the United States.¹ Nonmedical use of prescription-type pain relievers is defined as use of these drugs without a prescription or use that occurred simply for the experience or feeling the drug caused; over-the-counter (OTC) use and legitimate use of prescription pain relievers are not included.⁶ In 2013, about 2.2 percent of full-time college students aged 18 to 22 were current nonmedical users of pain relievers.¹

Respondents were asked about their first nonmedical use of prescription-type pain reliever. Approximately 251,000 full-time college students used prescription-type pain relievers nonmedically for the first time within the past 12 months. This translates to an average of about 700 new nonmedical pain reliever users per day. For nonmedical use of prescription-type pain relievers, the daily average for first use peaked in December with about 850 new users per day (Figure 6).

Figure 6. Number of full-time college students aged 18 to 22 using prescription-type pain relievers for the first time on an average day, by month: 2002 to 2013



* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

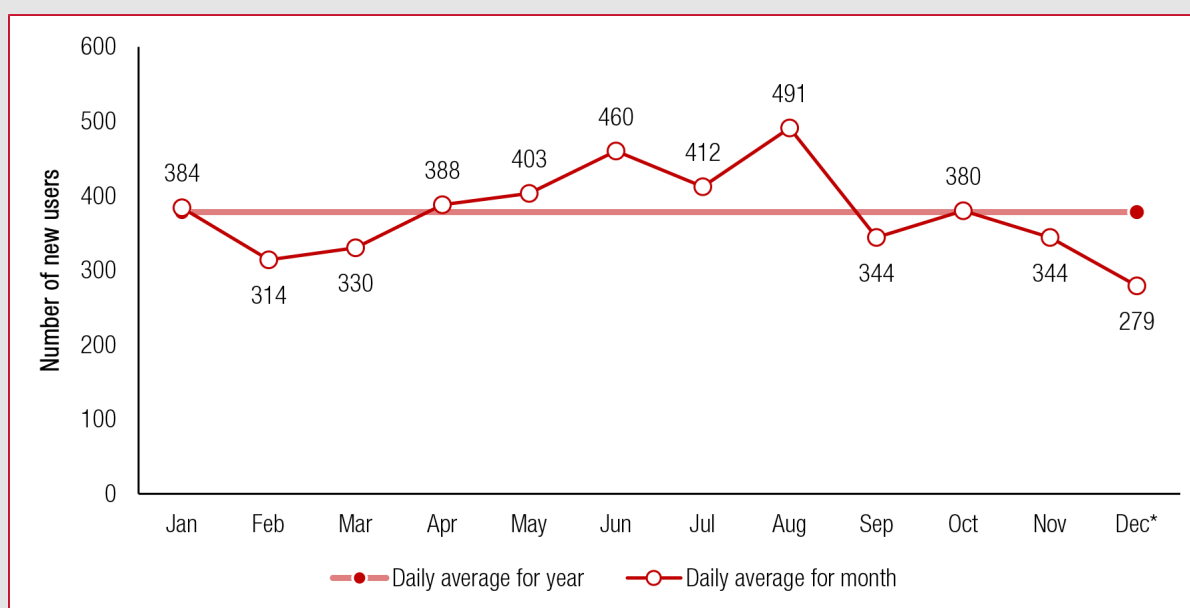
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

FIRST NONMEDICAL USE OF PRESCRIPTION-TYPE TRANQUILIZERS

In the NSDUH, respondents are asked about their use of tranquilizers, which were defined as substances usually prescribed to relax people, to calm people down, to relieve anxiety, or to relax muscle spasms. Nonmedical use of prescription-type tranquilizers is defined as use of these drugs without a prescription or use that occurred simply for the experience or feeling the drug caused; over-the-counter (OTC) use and legitimate use of prescription tranquilizers are not included.⁶ In 2013, about 1.0 percent of full-time college students aged 18 to 22 engaged in the nonmedical use of prescription-type tranquilizers.¹

When asked about their first nonmedical use of tranquilizers, approximately 138,000 full-time college students used prescription-type tranquilizers nonmedically for the first time in the past 12 months.⁶ This translates to an average of about 400 new nonmedical tranquilizer users per day. The daily average for first nonmedical use of prescription-type tranquilizers was relatively stable by month (Figure 7).

Figure 7. Number of full-time college students aged 18 to 22 using prescription-type tranquilizers for the first time on an average day, by month: 2002 to 2013



* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

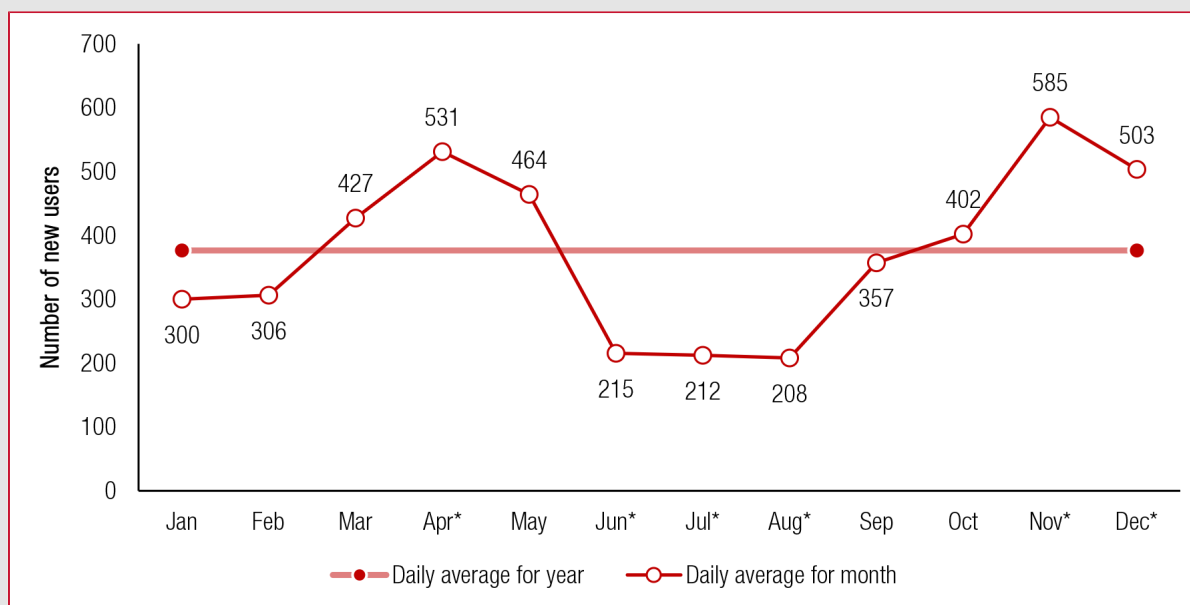
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

FIRST NONMEDICAL USE OF PRESCRIPTION-TYPE STIMULANTS

Respondents were asked about nonmedical use of prescription stimulants, including methamphetamine which is chemically similar to amphetamine stimulants.⁶ Respondents are reminded that people sometimes take stimulants to lose weight, to stay awake, or for attention deficit disorders. Nonmedical use of prescription-type stimulants is defined as use of these drugs without a prescription or use that occurred simply for the experience or feeling the drug caused. Nonmedical use of prescription stimulants does not include legitimate use of prescription stimulants or the use of over-the-counter stimulants that can be bought in drug stores or grocery stores without a doctor's prescription. Most methamphetamine that is used in the United States is currently being manufactured illegally rather than representing nonmedical use of the drug in prescription form; however, as this report combines data from 2002 to 2013, methamphetamine is included in the estimates of nonmedical use of prescription stimulants to maintain historical trends.

In 2013, 1.7 percent of full-time college students aged 18 to 22 had engaged in the nonmedical use of prescription stimulants in the past month and 0.1 percent had used methamphetamine.¹ When asked about their first use of stimulants, approximately 137,000 full-time college students used prescription-type stimulants nonmedically for the first time in the past 12 months. This translates to an average of about 400 new nonmedical stimulant users per day. The daily average for first nonmedical use of prescription-type stimulants peaked in April, November, and December with more than 500 new users per day (Figure 8).

Figure 8. Number of full-time college students aged 18 to 22 using prescription-type stimulants for the first time on an average day, by month: 2002 to 2013



* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

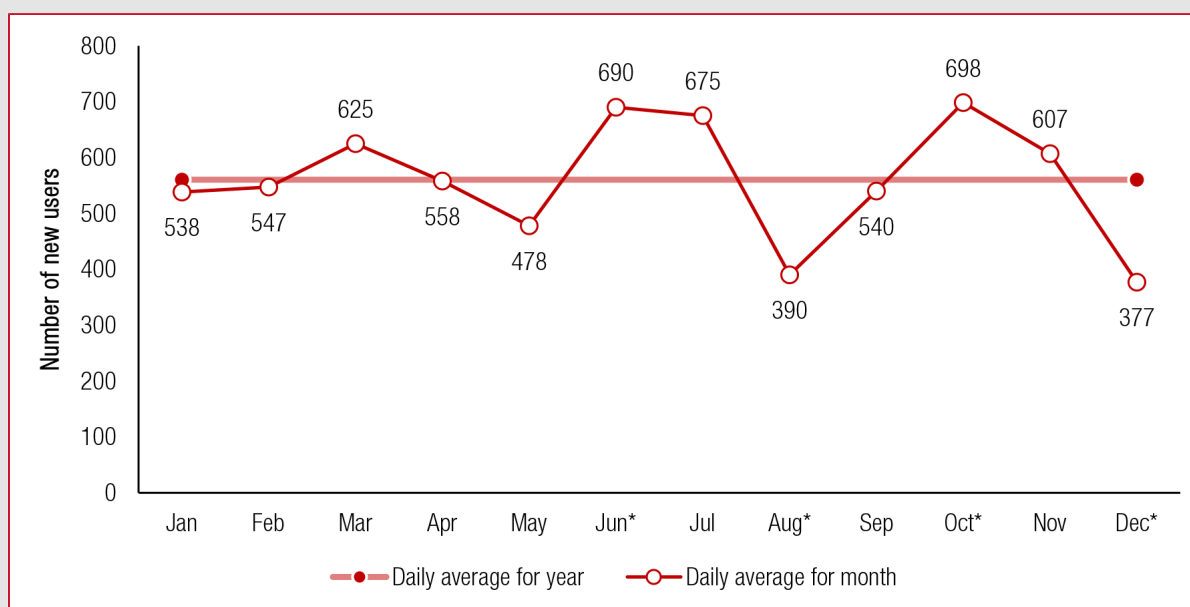
FIRST NONMEDICAL USE OF PRESCRIPTION-TYPE SEDATIVES

In 2013, about 0.1 percent of full-time college students aged 18 to 22 engaged in the nonmedical use of prescription-type sedatives.¹ In the NSDUH, sedatives or barbiturates are defined as drugs that people sometimes take to help them relax or to help them sleep. Nonmedical use of prescription-type sedatives is defined as use of these drugs without a prescription or use that occurred simply for the experience or feeling the drug caused; over-the-counter (OTC) use and legitimate use of prescription sedatives are not included.⁶ Approximately 14,000 full-time college students used prescription-type sedatives nonmedically for the first time in the past 12 months.⁶ This translates to an average of about 40 new nonmedical sedative users per day. Data for first nonmedical use of prescription-type sedatives by month are not shown because of low precision.

FIRST HALLUCINOGEN USE

Respondents were asked about past year use of hallucinogens. Several drugs are grouped under the category of hallucinogens, including lysergic acid diethylamide (LSD), phencyclidine (PCP), peyote, mescaline, psilocybin mushrooms, and "Ecstasy" (3,4-methylenedioxy-methamphetamine; MDMA). In 2013, 2.1 percent of full-time college students aged 18 to 22 used hallucinogens in the past month. When asked about their first use of hallucinogens, an annual average of 205,000 full-time college students used hallucinogens for the first time within the past 12 months. This averages to nearly 600 new users per day. There was a small peak in the daily average for first use of hallucinogens in June and October, when on an average day in these months, about 690 college students used hallucinogens for the first time (Figure 9).

Figure 9. Number of full-time college students aged 18 to 22 using hallucinogens for the first time on an average day, by month: 2002 to 2013



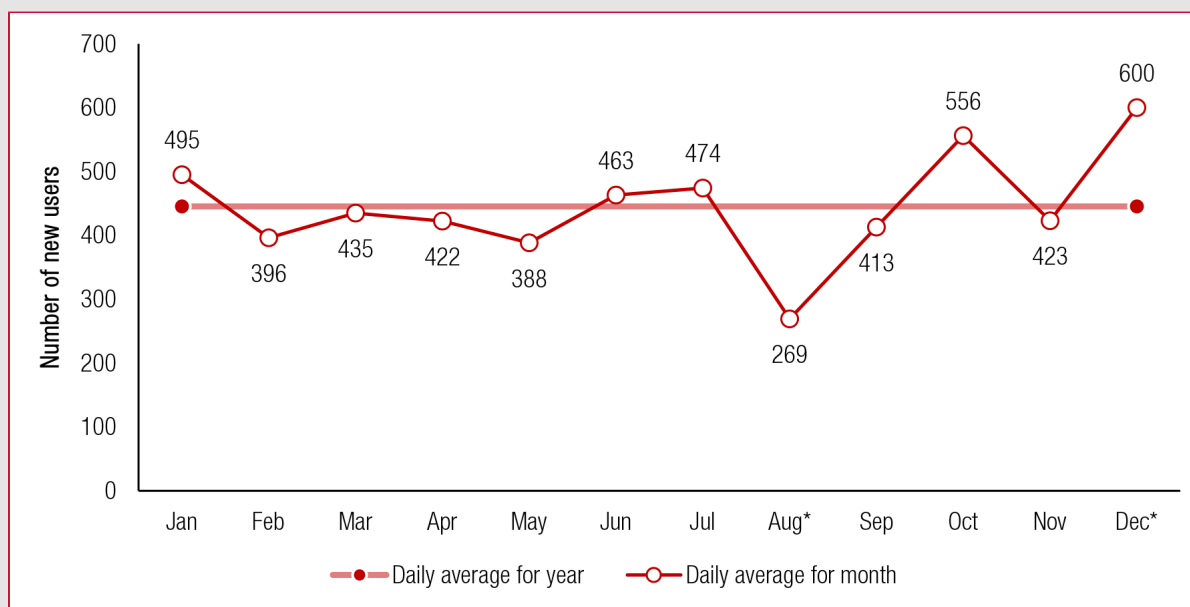
* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

FIRST COCAINE USE

Respondents were asked about their past year use of cocaine, including the use of crack cocaine. In 2013, about 1.0 percent of full-time college students aged 18 to 22 used cocaine in the past month and less than 0.1 percent used crack.¹ When asked about their first use of cocaine, approximately 163,000 full-time college students used cocaine for the first time within the past 12 months. This averages to about 400 new users per day. The daily average for first use of cocaine peaked in December, when on an average day about 600 college students used cocaine for the first time (Figure 10). The daily average ranged from about 300 to 550 new users per day in other months.

Figure 10. Number of full-time college students aged 18 to 22 using cocaine for the first time on an average day, by month: 2002 to 2013



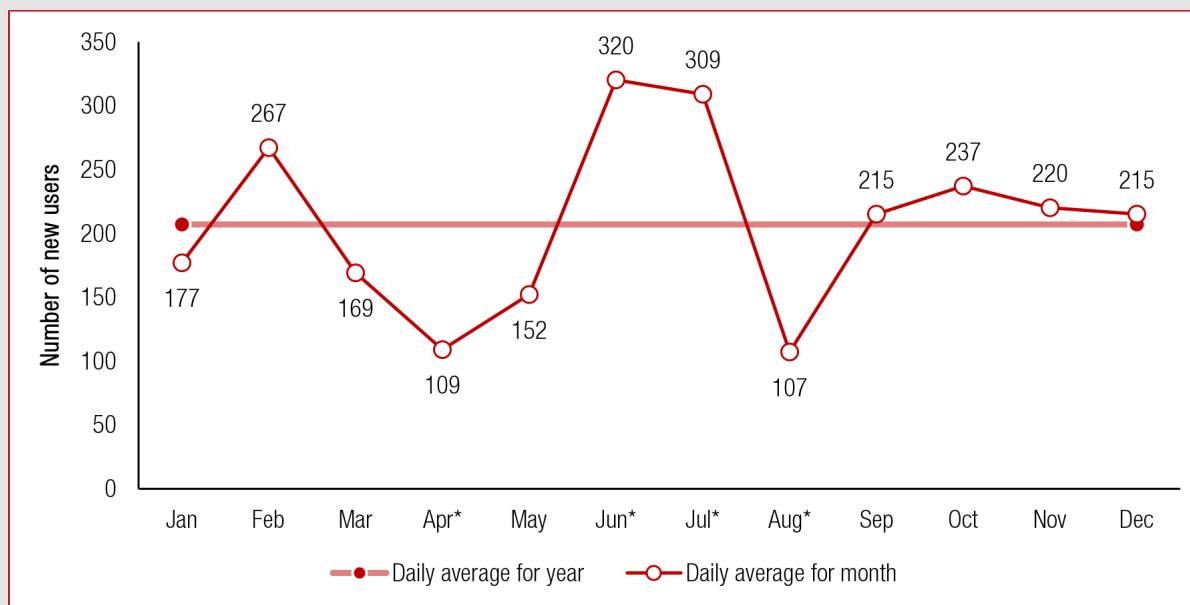
* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

FIRST INHALANT USE

In 2013, about 0.4 percent of full-time college students aged 18 to 22 used inhalants in the past month.¹ Inhalants include a variety of substances, such as nitrous oxide, amyl nitrite, cleaning fluids, gasoline, spray paint, other aerosol sprays, and glue. Respondents were asked to report use of inhalants to get high but not to report times when they accidentally inhaled a substance. An annual average of 76,000 full-time college students used inhalants for the first time within the past 12 months. This averages to nearly 200 new users per day. The daily average for first use of inhalants peaked in June and July, with about 300 college students using inhalants for the first time on an average day in these months (Figure 11). In other months, the daily average ranged from about 100 to 270 new users per day.

Figure 11. Number of full-time college students aged 18 to 22 using inhalants for the first time on an average day, by month: 2002 to 2013



* Difference between the daily average for the month and the daily average for the year is statistically significant at the .05 level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2013.

DISCUSSION

Many young people experiment with substance use during college. Consistent with what has been found for adolescents, findings in this report indicate that first use of many substances (e.g., alcohol, cigars, cigarettes, marijuana, and inhalants) for full-time college students peaked during the summer months of June and July. These months include periods when students are on break from classes and may have more idle time and fewer responsibilities.

Many parents worry about the substance use of their children when they go to college, and although the results of this report suggest that most types of substances are initiated during the summer months, the beginning of the school year is another period when substance use initiation peaks. For example, October is a peak month for cigarette, smokeless tobacco, and hallucinogen initiation.

Those first months of school are not the only time parents should be concerned about substance use initiation. College students may be particularly vulnerable to the initiation of stimulants during the school year. There is a common myth that stimulants, particularly prescription stimulants, can be used to enhance academic performance; thus, students may mistakenly believe that using a stimulant will be beneficial to them academically if they are struggling preparing for and taking final exams or midterms. Monthly initiation patterns indicate students are initiating nonmedical use of prescription stimulants during the academic year with the daily averages for first nonmedical use of prescription-type stimulants peaking in April, November, and December. In addition, initiation of cocaine was also highest in December, although that stimulant is not as clearly associated with myths about academic performance enhancers.

College students are engaging in the transition to adulthood but they can still benefit from prevention interventions from the adults in their lives. Although initiation of substance use can occur at any time, the summer months remain a period of unique vulnerability for young people. Intensifying parental monitoring or substance use prevention messaging during these peak months of initiation may amplify their impact. In addition, the findings may point toward critical prevention opportunities during the academic year. For example, college and university staff may want to address myths regarding the misuse of prescription stimulants for academic gain during the peak months of initiation that coincide with fall midterms and finals.

Although college is a period of life when young people try many new experiences, substance use initiation during college is not a “rite of passage” during the transition to adulthood. Providing college students with credible and accurate information about the harm associated with substance use is crucial to prevention programming. To learn about SAMHSA’s efforts to promote behavioral health among students and prevent substance use go to <http://www.samhsa.gov/school-campus-health/>.

END NOTES

1. Center for Behavioral Health Statistics and Quality. (2014). *Results from the 2013 National Survey on Drug Use and Health: Summary of national findings* (HHS Publication No. SMA 14-4863, NSDUH Series H-48). Rockville, MD: Substance Abuse and Mental Health Services Administration. Additional information on full-time college students aged 18 to 22 is available in the 2013 NSDUH detailed tables that support this publication.
2. Center for Behavioral Health Statistics and Quality. (2012, July 2). *The NSDUH Report: Monthly variation in substance use initiation among adolescents*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
3. Due to the structure of the NSDUH questionnaire, only respondents who indicated an age of first use that was equal to or 1 year less than their current age were asked to indicate the month in which they initiated use. This analysis focuses on respondents who reported an age at first use that were aged 18 to 22 and who were asked the question on the month of first use. Consequently, the estimates approximately represent initiation of use among persons aged 18 to 22 that occurred between 2002 and 2013.
4. Respondents were classified as full-time college students if they reported that they were in their first through fourth years (or higher) at a college or university, and that they were enrolled full time. Respondents who were on break were considered enrolled if they intended to return to college or university when the break ended.
5. Daily averages are calculated by dividing the estimated total number of first-time users in a time period by the total number of days in that respective time period (365.25 for an entire year or the total days in a month for each individual month).
6. Respondents were shown a "pill card" displaying the names and color photographs of specific prescription-type drugs and asked to indicate which, if any, they had ever used without a doctor's prescription or simply for the feeling of experience the drug caused. The "pill card" used is at <http://www.samhsa.gov/data/2k12/NSDUH2009MRB/Volume%20I/2k9Pillcards.pdf>. Respondents also were asked about their nonmedical use of any other prescription-type drugs not included in this list and were asked to specify the names of the drugs that they used nonmedically.

SUGGESTED CITATION

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SUMMARY

Background: College is a period of life associated with experimentation, including trying substance use. Estimates of substance use initiation, also known as "first-time use," can vary based on the substance and the time of year. This report looks substance use initiation among college students to assess whether peaks in initiation are associated with the rhythm of the school year. **Method:** Combined 2002 and 2013 National Surveys on Drug Use and Health (NSDUHs) estimates of past year substance use initiation among full-time college students and who were aged 18 to 22 at the time of initiation were analyzed. Substances included alcohol, tobacco, marijuana, hallucinogens, cocaine, and inhalants, as well as the nonmedical use of pain relievers, tranquilizers, sedatives, and stimulants. The average number of full-time college students using substances for the first time per day for the year as a whole and for each month of the year was examined. **Results:** Findings in this report indicate that first use of many substances (e.g., alcohol, cigars, cigarettes, marijuana, and inhalants) for full-time college students peaked during the summer months of June and July. However, there was also indication that college students have periods of the academic year when they are more likely to initiation substance use. For example, initiation of nonmedical use of prescription stimulants peak in April, November, and December. **Conclusion:** Although initiation of substance use can occur at any time, the summer months remain a period of unique vulnerability for young people. Intensifying parental monitoring or substance use prevention messaging during these peak months of initiation may amplify their impact. In addition, the findings suggest there are prevention opportunities during the academic year where targeted prevention messaging may be useful.

Keywords: initiation, illicit drugs, alcohol, college student, National Survey on Drug Use and Health, NSDUH

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KEYWORDS

2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, Alcohol, All US States Only, Cocaine, College Students as Population Group, Drug Use Trends, Hallucinogens, Illegal Drugs, Inhalants, Initiation, Marijuana, Pain Relievers, Policymakers, Population Data, Prescription Drugs, Prevention Professionals, Professional Care Providers, Researchers, Sedatives, Short Report, Substance Abuse, Tobacco, Underage Drinking

The Substance Abuse and Mental Health Services Administration (SAMHSA) is the agency within the U.S. Department of Health and Human Services that leads public health efforts to advance the behavioral health of the nation. SAMHSA's mission is to reduce the impact of substance abuse and mental illness on America's communities.

The National Survey on Drug Use and Health (NSDUH) is an annual survey sponsored by The Substance Abuse and Mental Health Services Administration (SAMHSA). The data used in this report are based on information obtained in 2002 through 2013 from 68,600 full-time college students aged 18 to 22. The Survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their place of residence.

The NSDUH Report is prepared by The Center for Behavioral Health Statistics and Quality (CBHSQ), SAMHSA, and by RTI International in Research Triangle Park, North Carolina. (RTI International is a trade name of Research Triangle Institute.)

Information on the most recent NSDUH is available in the following publication:

Center for Behavior Health Statistics and Quality. (2013). Results from the 2012 National Survey on Drug Use and Health: Summary of national findings (HHS Publication No. SMA 13-4795, NSDUH Series H-46). Rockville, MD : Substance Abuse and Mental Health Services Administration.

Also available online: <http://www.samhsa.gov/data/population-data-nsduh>.



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