

The CBHSQ Report

Short Report

August 15, 2017

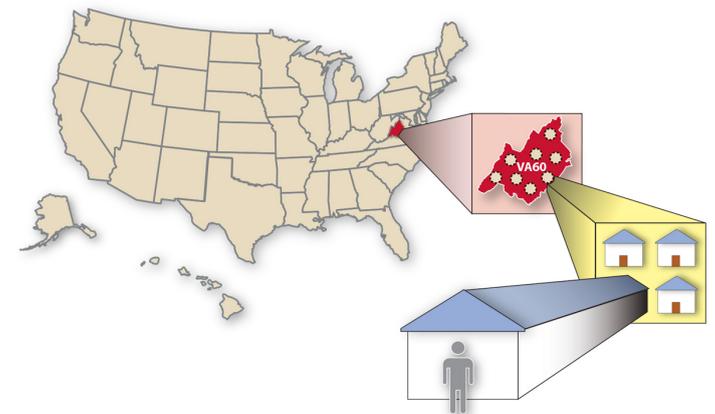
SUBSTANCE USE AMONG 12TH GRADE AGED YOUTHS, BY DROPOUT STATUS

AUTHORS

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INTRODUCTION

High school graduation is a key milestone on the pathway to success for many Americans; however, many youths drop out of high school each year. In the United States, about 82 percent of youths who enter public high school as freshmen eventually graduate from high school in 4 years (calculated from the average freshman graduation rate and the adjusted cohort graduation rate).^{1,2} This indicates that approximately 1 out of 5 students did not graduate with a regular high school diploma within 4 years of the first time they started 9th grade.^{1,3} According to the 2012 Current Population Survey (CPS), approximately 478,000 youths aged 16 to 18 were "status dropouts," meaning that they were not enrolled in high school and had not earned a high school diploma or alternative credential.³ Younger youths were more likely than older youths to be enrolled in school.³ For example, the 2012 CPS data show that high school enrollment rates by age group were 95.4 percent for 16-year-olds and 90.1 percent for 17-year-olds.³ Students who fail to graduate face a wide array of negative consequences including higher rates of unemployment, earning less when employed, being more likely to receive public assistance, being more likely to suffer poor health, and being more likely to have higher rates of criminal behavior and incarceration.^{4,5,6,7,8,9} In addition, the failure to complete high school has intergenerational implications on socioeconomic attainment because children whose parents did not complete high school are more likely to perform poorly in school and eventually drop out themselves.¹⁰



In Brief

- Combined 2002 to 2014 National Survey on Drug Use and Health data show that about 1 in 9 youths aged 16 to 18 (11.3 percent), or 12th grade aged youths, had dropped out of school.
- Substance use was more likely among 12th grade aged dropouts than among those who were still in school; for example, 12th grade aged dropouts were more likely to be current cigarette users (55.9 vs. 20.2 percent), be alcohol users (41.1 vs. 33.7 percent), engage in binge alcohol use (31.8 vs. 22.1 percent), engage in any illicit drug use (31.4 vs. 18.1 percent), engage in marijuana use (27.5 vs. 15.6 percent), and engage in nonmedical use of prescription-type drugs (9.5 vs. 4.6 percent).
- The pattern of higher substance use among dropouts than youths still in school generally held for males and females, and for Whites and Blacks; however, Hispanic 12th grade aged dropouts and Hispanic youths still in school had similar percentages of past month use for all substances, except cigarettes and binge alcohol use.

The National Survey on Drug Use and Health (NSDUH) is an annual survey of the U.S. civilian, noninstitutionalized population aged 12 years or older. One of NSDUH's strengths is the stability of the survey design, which allows for multiple years of data to be combined to examine specific subgroups in the United States, such as high school dropouts. NSDUH is a face-to-face household interview survey that is fielded continuously throughout each year. NSDUH assesses current educational attainment and school enrollment status for all respondents aged 12 or older. Specifically, NSDUH asks respondents about their current age, current school enrollment status, last grade completed, and age when they last attended school. This permits NSDUH to classify each youth respondent as in school or not in school (i.e., a dropout). This measure is slightly different from alternate measures that identify whether individuals were able to attain their high school diploma or General Educational Development (GED) within 4 years of starting high school, a common metric for assessing high school completion.¹

NSDUH, which is a cross-sectional study, is unable to collect this measure. For this report, the NSDUH data were used to identify 12th grade aged youths and whether they had dropped out of school. Youths aged 16 to 18 were categorized into three groups:

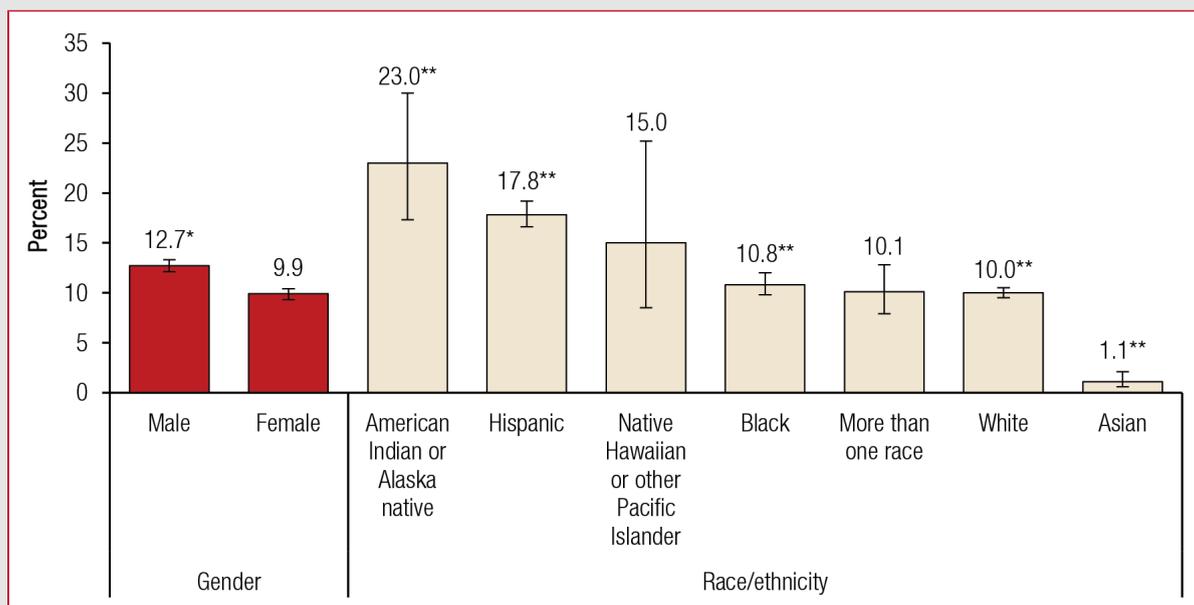
1. 12th grade aged students—youths aged 16 to 18 who were in or entering the 12th grade
2. 12th grade aged dropouts—youths aged 16 to 18 who had not completed high school or a GED, were not currently attending or on vacation from school, and were considered 12th grade aged based on the last grade they had completed and their age when they stopped attending school¹¹
3. Other—youths aged 16 to 18 who completed high school or a GED, youths aged 16 to 18 in 11th grade or lower, and youths aged 16 who were not considered 12th grade aged (based on criteria discussed in group 2)

This issue of *The CBHSQ Report* focuses on the first two of these groups, which are collectively referred to as 12th grade aged youths; comparisons of past month (current) substance use between 12th grade students and 12th grade aged dropouts are provided. The remaining youths (group 3) are not included in estimates in this report. All findings in this report are annual averages from the 2002 to 2014 NSDUH data from about 136,200 respondents aged 16 to 18, including 4,800 youth who met the high school drop out criteria.

HIGH SCHOOL DROPOUT STATUS

About 1 in 9 (11.3 percent) 12th grade aged youths had dropped out of high school, with males having been more likely than females to have dropped out (12.7 vs. 9.9 percent; Figure 1).¹² The percentage of high school dropouts varied widely by race/ethnicity,¹³ ranging from 23.0 percent of American Indian or Alaska Native 12th grade aged youths to 1.1 percent of Asian 12th grade aged youths. When compared with the percentage of 12th grade aged youths in the nation overall who have dropped out of high school (11.3 percent), the percentages of White (10.0 percent) and Asian (1.1 percent) youths who had dropped out of high school were lower, whereas the percentages of American Indian or Alaska Native (23.0 percent) and Hispanic (17.8 percent) youths were higher.

Figure 1. High school dropout status among 12th grade aged youths, by gender and race/ethnicity: 2002 to 2014



* Difference between males and females is statistically significant at the .05 level.

** Difference between this estimate and the national average is statistically significant at the .05 level.

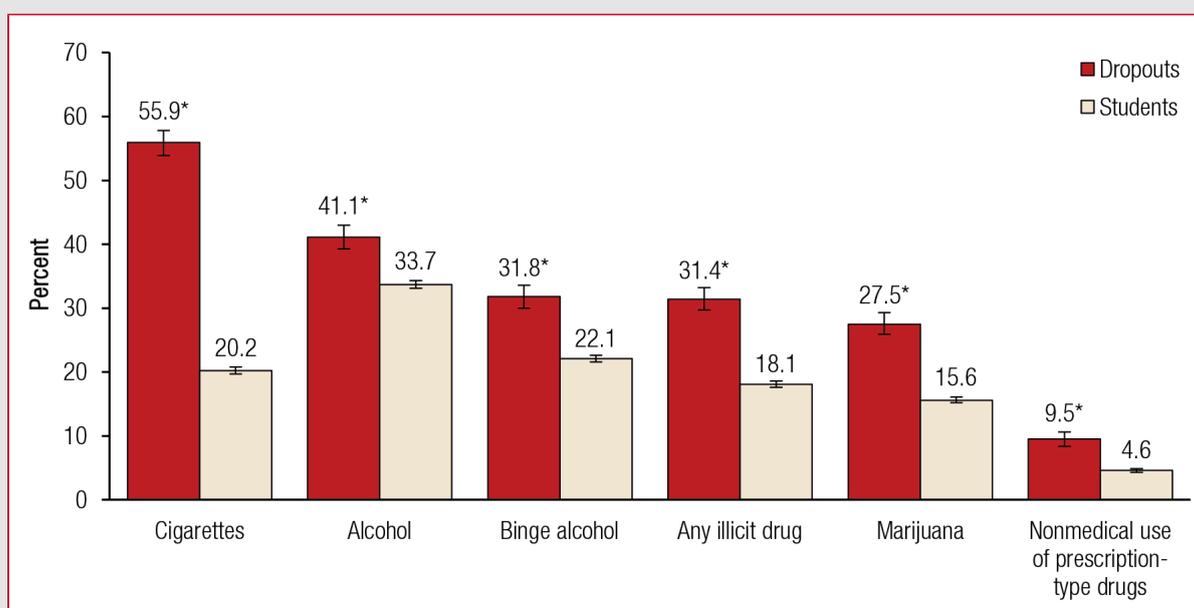
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2014.

SUBSTANCE USE BY HIGH SCHOOL DROPOUT STATUS

Twelfth grade aged dropouts were more likely than 12th grade aged students to engage in current cigarette use, alcohol use, and binge alcohol use (Figure 2). Binge alcohol use is defined as drinking five or more drinks on the same occasion on at least 1 day in the past 30 days, and heavy alcohol use is defined as having this number of drinks on the same occasion on 5 or more days in the past 30 days. Based on combined 2002 to 2014 NSDUH data, 55.9 percent of 12th grade aged dropouts were current cigarette users compared with 20.2 percent of 12th grade aged students. Regarding alcohol use, 41.1 percent of 12th grade aged dropouts were current alcohol drinkers compared with 33.7 percent of 12th grade aged students, and 31.8 percent of 12th grade aged dropouts were current binge drinkers compared with 22.1 percent of 12th grade aged students.

Twelfth grade aged dropouts were more likely than 12th grade aged students to engage in past month illicit drug use, with 31.4 percent of 12th grade aged dropouts using any illicit drugs in the past month compared with 18.1 percent of 12th grade aged students. Illicit drug use is defined as the use of marijuana, cocaine (including crack), inhalants, hallucinogens, heroin, or prescription-type drugs used nonmedically.¹⁴ As the use of marijuana and the misuse of prescription-type psychotherapeutic drugs are the two most common forms of illicit drug use in the United States,¹⁵ this report focuses on these specific substances. These forms of illicit drug use were higher among high school dropouts. For example, 27.5 percent of 12th grade aged dropouts were current marijuana users compared with 15.6 percent of 12th grade aged students. In addition, 9.5 percent of 12th grade aged dropouts were misusing prescription-type drugs compared with 4.6 percent of 12th grade aged students.

Figure 2. Past month substance use among 12th grade aged youths, by dropout status: 2002 to 2014



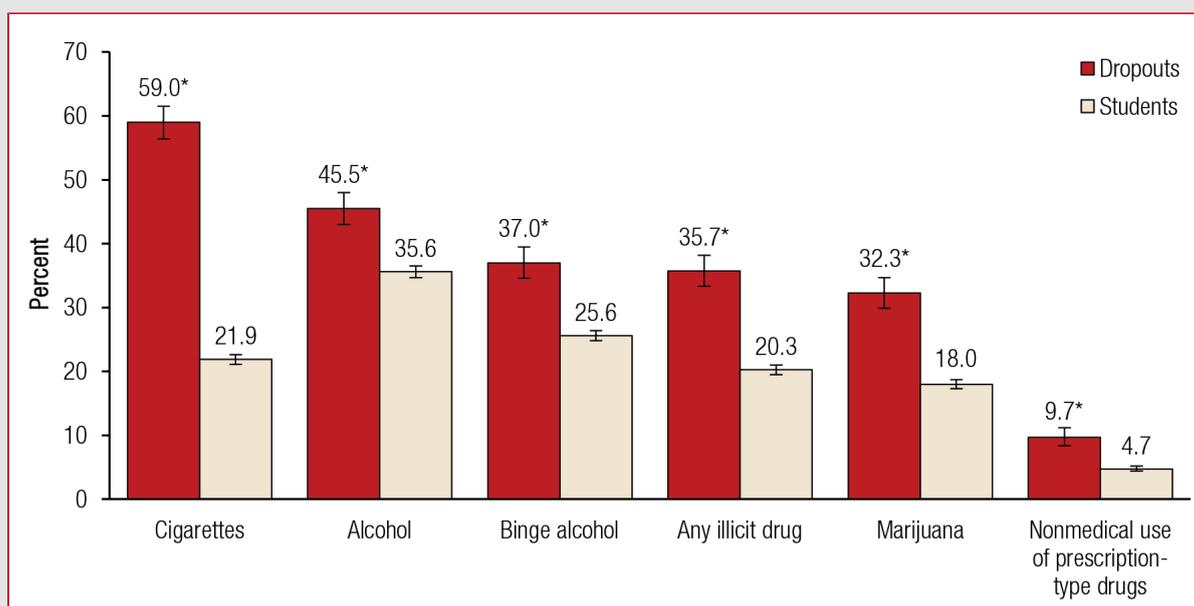
* Difference between 12th grade aged students and 12th grade aged dropouts is statistically significant at the .05 level.

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 2014.

MALE AND FEMALE SUBSTANCE USE BY DROPOUT STATUS

The pattern of higher past month substance use among 12th grade aged dropouts persisted for both male and female youths. Substance use was more likely among 12th grade aged male dropouts than among similarly aged male students (Figure 3). For example, 12th grade aged male dropouts were much more likely than similarly aged male students to be current cigarette users (59.0 vs. 21.9 percent). There were also higher percentages of 12th grade aged male dropouts than similarly aged male students who were past month alcohol users (45.5 vs. 35.6 percent) or who were binge alcohol users (37.0 vs. 25.6 percent). Illicit drug use was also more likely among 12th grade aged male dropouts than among similarly aged male students. Specifically, 12th grade aged male dropouts were much more likely than similarly aged male students to be current any illicit drug users (35.7 vs. 20.3 percent), to engage in marijuana use (32.3 vs. 18.0 percent), and to engage in nonmedical use of prescription-type drugs (9.7 vs. 4.7 percent).

Figure 3. Past month substance use among 12th grade aged male youths, by dropout status: 2002 to 2014

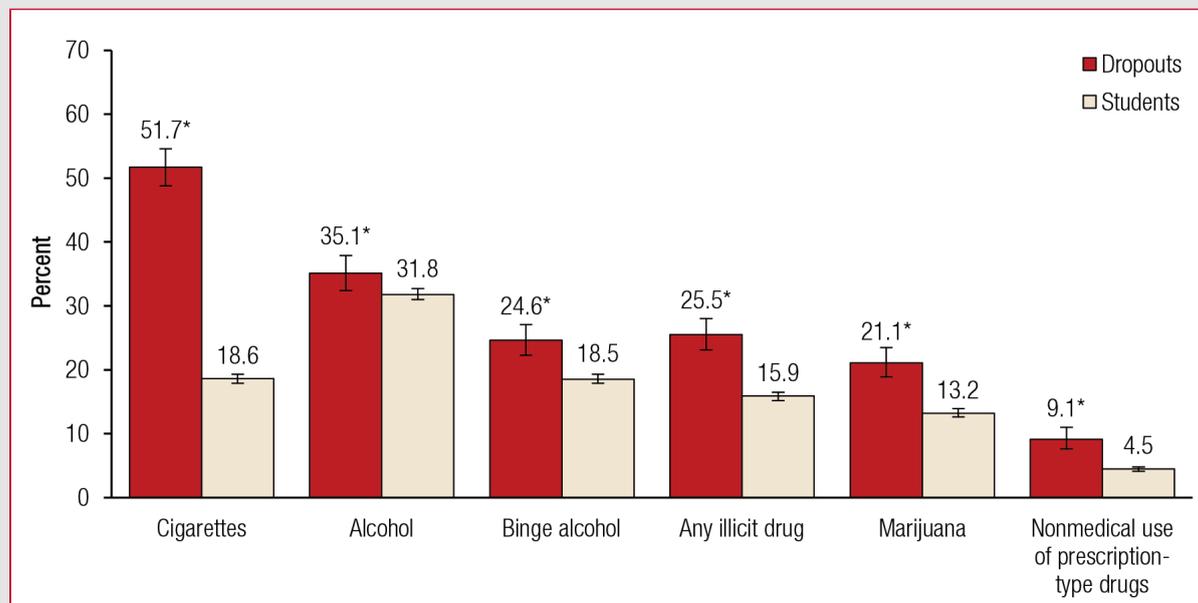


* Difference between 12th grade aged students and 12th grade aged dropouts is statistically significant at the .05 level.

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 2014.

As shown in Figure 4, differences in past month substance use by dropout status among females were similar to those for males. Overall, substance use was also more likely among 12th grade aged female dropouts than similarly aged female students (Figure 4). Specifically, 12th grade aged female dropouts were much more likely than similarly aged female students to be current cigarette users (51.7 vs. 18.6 percent). With regards to past month alcohol use, 12th grade aged female dropouts were much more likely than similarly aged female students to drink alcohol (35.1 vs. 31.8 percent) and to engage in binge alcohol use (24.6 vs. 18.5 percent). In addition, there were also differences in past month illicit drug use with 12th grade aged female dropouts being more likely than similarly aged female students to engage in any illicit drug use (25.5 vs. 15.9 percent), engage in marijuana use (21.1 vs. 13.2 percent), and engage in nonmedical use of prescription-type drugs (9.1 vs. 4.5 percent).

Figure 4. Past month substance use among 12th grade aged female youths, by dropout status: 2002 to 2014



* Difference between 12th grade aged students and 12th grade aged dropouts is statistically significant at the .05 level.

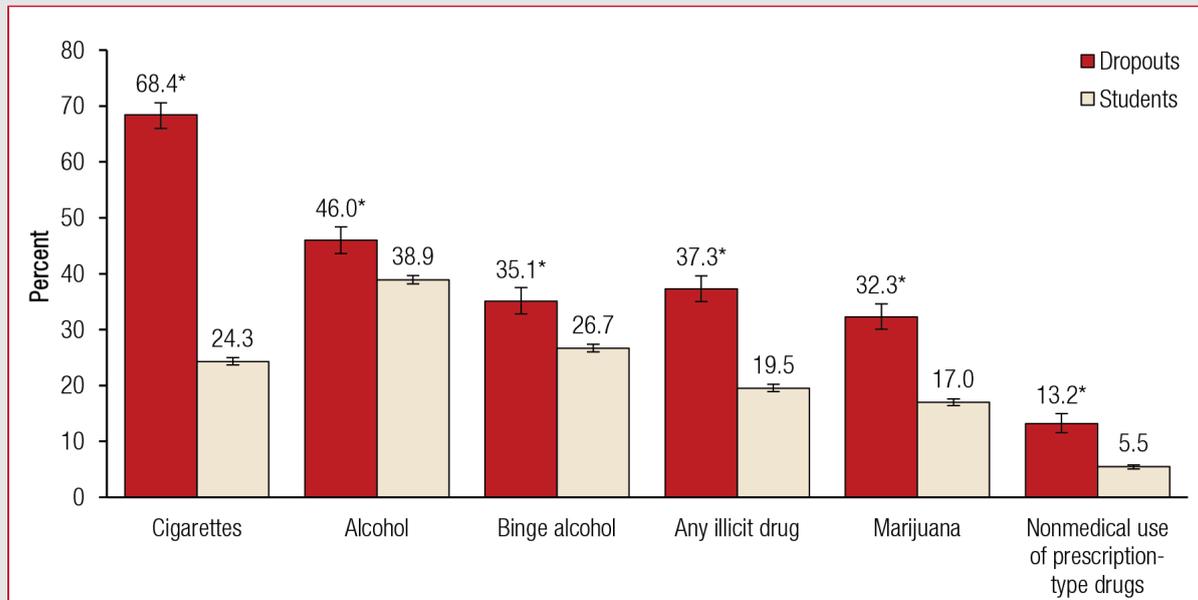
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUHs), 2002 to 2005, 2006 to 2010 (revised March 2012), and 2011 to 2014.

SUBSTANCE USE BY DROPOUT STATUS AND RACE/ETHNICITY

NSDUH asks a series of questions about race/ethnicity. First, respondents are asked about their Hispanic origin, then they are asked to identify which racial group best describes them: white, black or African American, American Indian or Alaska Native, Native Hawaiian, Other Pacific Islander, Asian, or other. Respondents may select more than one race. This analysis focuses on comparisons between 12th grade aged dropouts and similarly aged students for respondents who were non-Hispanic White, non-Hispanic Black, or Hispanic (Figures 5-7). Estimates of substance use by dropout status are not presented for youth in other racial/ethnic groups because of low precision.

Substance use varied by dropout status among racial/ethnic groups; however, the relationship between high school drop out status and substance use was similar for those youth who were non-Hispanic White and non-Hispanic Black. For example, non-Hispanic White and Black youths who were 12th grade aged dropouts were consistently more likely to engage in past month substance use than their peers who were still in school (Figures 5 and 6). For example, current cigarette use was nearly 3 times higher among non-Hispanic White dropouts than among non-Hispanic White students (68.4 vs. 24.3 percent). Similarly, the percentage of non-Hispanic Black dropouts who were current smokers was also higher than the percentage of smokers among non-Hispanic Black students (47.5 vs. 10.7 percent). By contrast, substance use did not differ significantly between 12th grade aged Hispanic dropouts and those who were still in school, with the exception of cigarette use (36.9 percent among dropouts vs. 16.6 percent among students) and binge alcohol use (26.7 percent among dropouts vs. 20.8 percent among students) (Figure 7).¹⁶

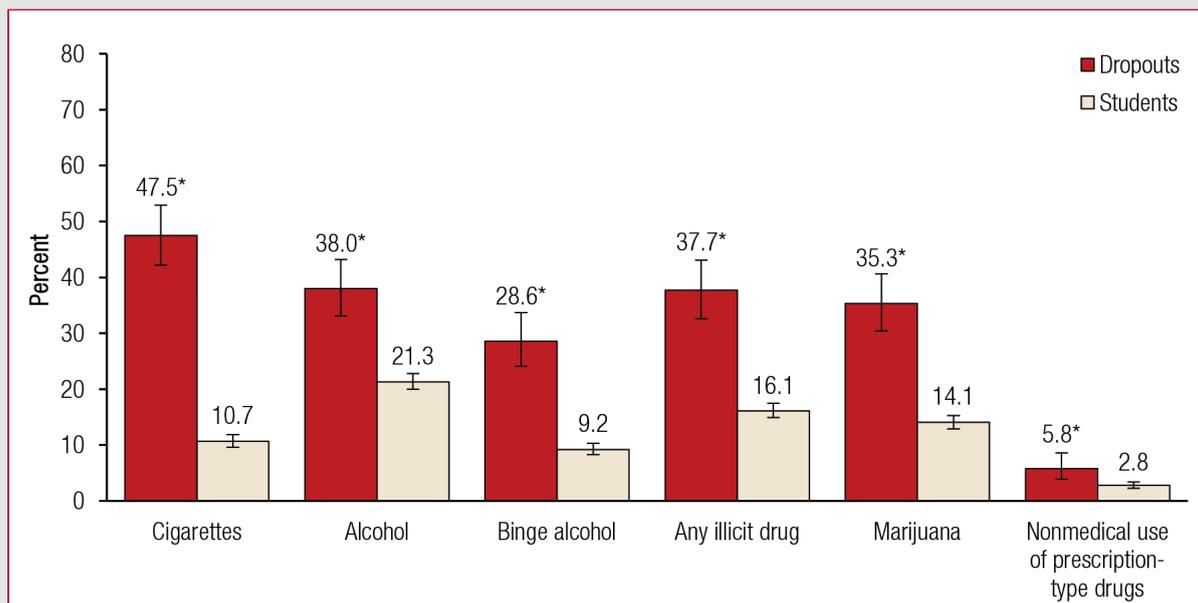
Figure 5. Past month substance use among 12th grade aged White youths, by dropout status: 2002 to 2014



* Difference between 12th grade aged students and 12th grade aged dropouts 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 2014.

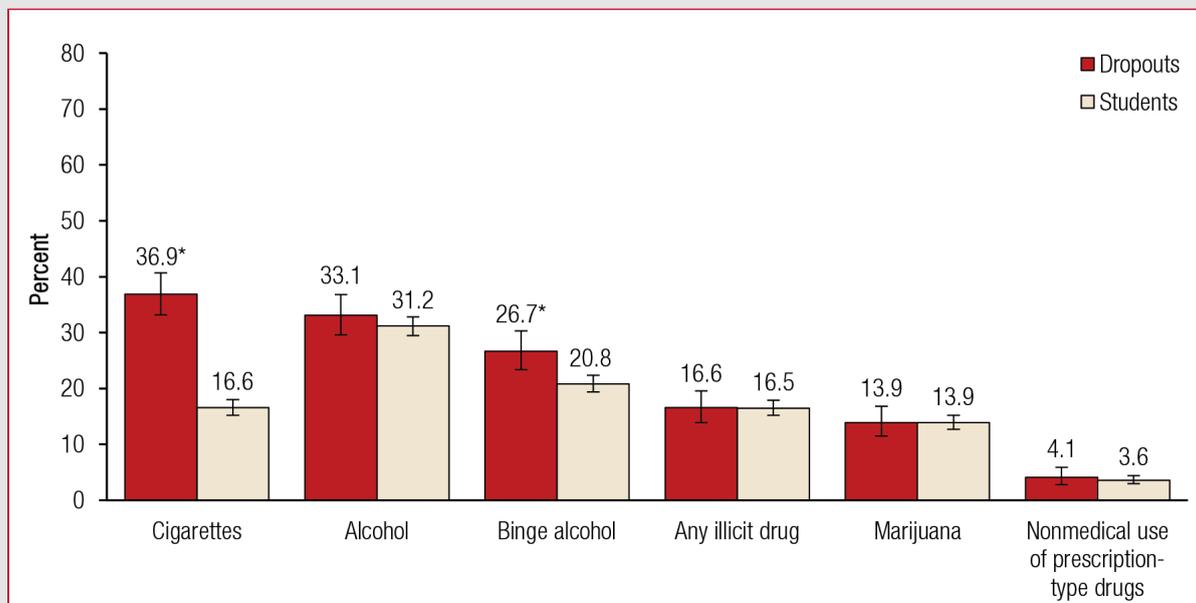
Figure 6. Past month substance use among 12th grade aged Black youths, by dropout status: 2002 to 2014



* Difference between 12th grade aged students and 12th grade aged dropouts 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 2014.

Figure 7. Past month substance use among 12th grade aged Hispanic youths, by dropout status: 2002 to 2014



* Difference between 12th grade aged students and 12th grade aged dropouts 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 2014.

DISCUSSION

Dropping out of high school is related to many negative socioeconomic and health outcomes.^{4,5,6,7,8,9} According to combined 2002 to 2014 NSDUH data, an annual average of about one in nine 12th grade aged youths drop out of high school. This report shows that 12th grade aged dropouts (with a few exceptions) were more likely than similarly aged youths who were still in school to have used various substances in the past month (e.g., cigarettes, alcohol, binge alcohol use, marijuana, nonmedical use of prescription-type drugs, any illicit drugs). The NSDUH data are not suited for determining whether a youth's substance use preceded dropping out of high school or developed after dropping out. Regardless, this report indicates that youth who have dropped out of high school have an elevated risk of substance use.

Substance use is a preventable public health issue. Prevention efforts targeted to youths and to those at risk of dropping out of high school might improve youths' future educational, employment and financial, and health outcomes. Continuing efforts are needed to educate youths, parents, teachers, physicians, service providers, and policymakers about youth substance use. For more information on addressing substance use, the Substance Abuse and Mental Health Services Administration and the National Institute on Drug Abuse have developed several educational resources on substance use for youths, parents, and other adults, including the following:

- Online guides and tip sheets for youths that address the risks of initiating use across a wide variety of substances, including alcohol (<http://www.toosmartostart.samhsa.gov/teens/>), marijuana (<http://store.samhsa.gov/shin/content//PHD641/PHD641.pdf>), prescription drugs (<http://store.samhsa.gov/shin/content//SMA12-4677B2/SMA12-4677B2.pdf>), heroin (<http://store.samhsa.gov/shin/content//PHD860/PHD860.pdf>), and tobacco (<http://store.samhsa.gov/shin/content/PHD633/PHD633.pdf>)
- General guidelines for parents, educators, and community leaders (<http://www.drugabuse.gov/sites/default/files/preventingdruguse.pdf>)
- Resource guides for parents to address underage drinking, targeting 5th- and 6th-grade children in particular (<http://store.samhsa.gov/product/Help-Prevent-Underage-Drinking-Kit-Teaching-Guide-and-Poster-Bonus-Worksheets-and-Family-Guide/SMA09-4406>) and youths in general (<http://store.samhsa.gov/product/Surgeon-General-s-Call-to-Action-to-Prevent-and-Reduce-Underage-Drinking-A-Guide-to-Action-for-Families/SGCTA-FAM-07>)
- A resource guide for parents that focuses on drug use among youths (<http://store.samhsa.gov/shin/content/SMA-3772/SMA-3772.pdf>)
- Resources for teachers (<http://teens.drugabuse.gov/educators>) and parents (<http://teens.drugabuse.gov/parents>) to address drug use among youths.

ENDNOTES

1. Institute of Education Sciences, National Center for Education Statistics. (2016, May). *Public high school graduation rates*. Washington, DC: U.S. Department of Education. Retrieved from http://nces.ed.gov/programs/coe/indicator_coi.asp
2. There are two widely used measures of high school completion: the averaged freshman graduation rate (AFGR) and the adjusted cohort graduation rate (ACGR). Both rates measure the percentage of public school students who attain a regular high school diploma within 4 years of starting 9th grade for the first time. The AFGR is an estimate of the on-time 4-year graduation rate derived from aggregate student enrollment data and graduate counts. The ACGR, on the other hand, uses detailed student-level data to determine the percentage of students who graduate within 4 years of starting 9th grade for the first time.
3. Stark, P., & Noel, A. M. (2015). *Trends in high school dropout and completion rates in the United States: 1972-2012* (NCES 2015-015). Washington, DC: National Center for Education Statistics, U.S. Department of Education. Retrieved from <https://nces.ed.gov/pubs2015/2015015.pdf>
4. Fall, A. M., & Roberts, G. (2012). High school dropouts: Interactions between social context, self-perceptions, school engagement, and student dropout. *Journal of Adolescence, 35*(4), 787-798.
5. Sum, A., Khatiwada, I., McLaughlin, J., & Palma, S. (2009, October). *The consequences of dropping out of high school: Joblessness and jailing for high school dropouts and the high cost for taxpayers* (Center for Labor Market Studies Publications, Paper 23).
6. Levin, H., Belfield, C., Muennig, P., & Rouse, C. (2007). *The costs and benefits of an excellent education for all of America's children* (Vol. 9). New York: Teachers College, Columbia University.
7. Waldfoegel, J., Garfinkel, I., & Kelly, B. (2005, October). Public assistance programs: How much could be saved with improved education? In *The social costs of inadequate education*. Symposium conducted at Columbia University Teachers College, New York, NY.
8. Muennig, P. (2007). How education produces health: A hypothetical framework. *Teachers College Record, 146*(6), 1-17.
9. Belfield, C. R., & Levin, H. M. (Eds.). (2007). *The price we pay: Economic and social consequences of inadequate education*. Brookings Institution Press, Washington, DC.
10. Orfield, G. (2004). Losing our future: Minority youth left out. In G. Orfield (Ed.), *Dropouts in America: Confronting the graduation rate crisis* (pp. 1-11). Cambridge, MA: Harvard Education Press.
11. To determine whether 16-year-olds were 12th grade aged, the respondent's age was added to the number of grades completed, the age at which the respondent last attended school was then subtracted, and "1" was added to the total. The "1" was added to account for late birth dates.
12. NSDUH asks a series of questions about race/ethnicity. First, respondents are asked about their Hispanic origin, then they are asked to identify which racial group best describes them: White, Black or African American, American Indian or Alaska Native, Native Hawaiian, Other Pacific Islander, Asian, or other. Respondents may select more than one race. Because respondents could choose more than one racial group, a "two or more races" category is included for people who reported more than one category (i.e., White and Black or African American). Except for the "Hispanic or Latino" group, the racial/ethnic groups include only non-Hispanics. The category "Hispanic or Latino" includes Hispanics of any race.
13. Estimates of the percentage of 12th grade aged youths who dropped out of school is higher than reported by the National Center for Education Statistics (NCES). This is likely due to differences in the definitions of *dropout*, with the NSDUH definition being broader in scope. Although the NSDUH rates are higher, the results from the two surveys both show similar patterns in dropout rates by gender and race/ethnicity. For information on the definitions NCES uses, see <http://nces.ed.gov/pubs2011/2011312.pdf>.

14. From 2002 to 2014, the NSDUH defined nonmedical use as the use of prescription drugs without a prescription of the individual's own or simply for the experience or feeling the drugs caused.

15. Center for Behavioral Health Statistics and Quality. (2015). *Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health* (HHS Publication No. SMA 15-4927, NSDUH Series H-50). Retrieved from <http://samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.pdf>

16. The sample size from other racial/ethnic subgroups does not allow examination of differences in their prevalence of substance use by dropout status.

SUGGESTED CITATION

Tice, P., Lipari, R.N. and Van Horn, S. L. *Substance use among 12th grade aged youths, by dropout status*. The CBHSQ Report: August 15, 2017. Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Rockville, MD.

SUMMARY

Background: Dropping out of high school can have many negative socioeconomic and health outcomes. Prevention efforts targeted to youths and to those at risk of dropping out of high school might improve youths' the educational, employment and financial, and health outcomes.

Method: Combined 2002 to 2014 National Surveys on Drug Use and Health was used to examine 12th grade aged youths by comparing past month (current) substance use between 12th grade students and 12th grade aged dropouts. Past month substance use examined in this report includes cigarette use, alcohol use, binge alcohol use, any illicit drug use, marijuana use, and nonmedical use of prescription type drugs.

Results: Twelfth grade aged dropouts were more likely than 12th grade aged students to engage in current cigarette use, alcohol use, binge alcohol use, marijuana use, nonmedical use of prescription-type drugs, and use of any illicit drugs. Male 12th grade aged dropouts, female 12th grade aged dropouts, White 12th grade aged dropouts, and Black 12th grade aged dropouts were more likely than their peers who were 12th grade aged students to engage in substance use; however, Hispanic 12th grade aged dropouts and those still in school had similar percentages of past month use for all substances except cigarettes and binge alcohol use. **Conclusion:** Highlighting the prevalence of youth substance use for students who do not graduate high school may help policymakers continue to combat youth substance use, including efforts to raise awareness about the consequences of youth substance use and to improve prevention efforts.

Keywords: education, National Survey on Drug Use and Health, NSDUH, substance use, youth

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KEYWORDS

Education, Gender, Race or Ethnicity, Short Report, Population Data, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, Researchers, Underage Drinking, Drug Use Trends, Alcohol, Illegal Drugs, Marijuana, Prescription Drugs, Tobacco, All US States Only

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). Estimates in this report are annual averages based on combined 2002-2014 NSDUH data from about 136,200 respondents aged 16 to 18, including 4,800 youth who met the high school drop out criteria. 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. (2015). Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health. (HHS Publication No. SMA 13-4795, NSDUH Series H-50). Rockville, MD : Substance Abuse and Mental Health Services Administration.

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



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