



U.S. Department of Education
Institute of Education Sciences
National Center for Special
Education Research

NCSEER 2008-3009

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Substance Use Among Young Adults With Disabilities

Substance use in the United States has been linked to a number of health and social consequences. For example, approximately 40 million occurrences of debilitating illnesses or injuries are associated with the use of alcohol, tobacco, and illegal drugs each year (National Institute on Drug Abuse 2007). Behavioral and social problems associated with problematic substance use include crime, violence, sexual risk-taking, and suicidality (National Institute on Drug Abuse 2007; Substance Abuse and Mental Health Services Administration 2007).

Empirical evidence regarding the prevalence of substance use among people with disabilities has been mixed, with some findings suggesting that substance use is similar or lower among individuals with disabilities than among the general population (Katims, Zapata, and Yin 1996; McCrystal, Percy, and Higgins 2007; McGillicuddy 2006; Moore and Siegal 1989; Rurangirwa et al. 2006), while other studies indicate a higher prevalence of alcohol, tobacco, or illegal drug use among individuals with disabilities (Blum, Kelly, and Ireland 2001; Gilson, Chilcoat, and Stapleton 1996; Hogan, McLellan, and Bauman 2000; Milberger et al. 1997). Such mixed findings may be due to the limited number of disabilities considered in these studies, the fact that most studies considered only one or a few substances, and the use of small cohort studies, all of which limited the generalizability of the findings (Barrett and Paschos 2006).

This fact sheet, based on data from the National Longitudinal Transition Study-2 (NLTS2),¹ addresses the limitations of some

¹ The National Longitudinal Transition Study-2 (NLTS2) has a nationally representative sample of more than 11,000 students who were in at least seventh grade and receiving special education services in the 2000-01 school year. This sample represents a national total of 1,838,848 youth with disabilities, according to federal child count figures (U.S. Department of Education 2002). Substance use data were collected from 2,640 young adults with disabilities who were at least 18 years old during Wave 3 of NLTS2. Telephone interviews and mail surveys (for those who could not be reached by phone) were conducted with young adults from spring through fall 2005, with a response rate of 67 percent. Weighting on disability category, age, race/ethnicity of young adults with disabilities reduced differences between Wave 3 eligible population and Wave 3 respondents to below 2 percent. NLTS2 was designed to provide a national picture of the characteristics, experiences, and achievements of youth with disabilities in the NLTS2 age range as they transition to young adulthood. Therefore, all the statistics presented in this fact sheet are weighted estimates of the national population of youth in the age group included here who had received special education in 2000-01 and of those in each disability category individually who satisfied the study's eligibility requirement. See <http://www.nlts2.org> for more information about the study.

of these previous studies by providing a national picture of the prevalence rates of smoking, alcohol, and illegal drug use in young adults, ages 18 through 21,² with disabilities. This fact sheet also considers demographic characteristics of young adults with disabilities and the associations between such characteristics and tobacco, alcohol, and illegal drug use. Further, analyses of other nationally representative datasets provide comparisons of substance use between young adults with disabilities and those in the general U.S. population.³

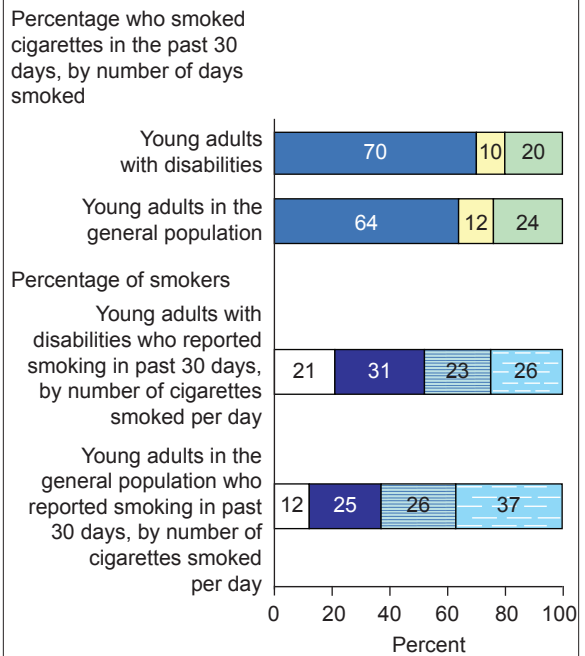
Substance Use

NLTS2 asked young adults with disabilities to report the frequency with which they smoked cigarettes and drank alcohol in the past 30 days. In addition, they were asked to report use of illegal drugs, such as marijuana, cocaine, and any other illegal drugs.

Smoking

Seven in 10 young adults with disabilities (70 percent) reported not having smoked⁴ in the past 30 days (figure 1). One in five (20 percent) reported daily smoking during the past 30 days. Cigarette smoking rates reported by young adults with disabilities did not differ significantly⁵ when compared with rates reported by

Figure 1. Smoking in the past 30 days



Number of days:
 ■ Never or zero ■ 1 to 29 ■ All 30 days

Number of cigarettes:
 □ 2 or fewer ■ 3 to 6 ■ 7 to 14 ■ 15 or more

NOTE: For cigarette smoking, response categories “1 or 2 days,” “3 to 5 days,” “6 to 9 days,” “10 to 19 days,” and “20 to 29 days” have been collapsed for reporting purposes. NLTS2 percentages are weighted population estimates based on samples of young adults with disabilities that range from approximately 580 for number of cigarettes smoked to 2,640 for number of days smoked.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 3 youth survey, 2005; National Institutes of Health, National Institute of Child Health and Human Development (NICHD), The National Longitudinal Study of Adolescent Health (Add Health), Wave III, 2001-02, responses calculated for 18- to 21-year-olds.

young adults in the general population.⁶ It should be noted that most comparisons with the general population were derived

² Substance use typically peaks during young adulthood, often identified as any age from 18 to 25 (Park et al. 2006).

³ Young adults with disabilities are included in the general population comparison sample because excluding them would require using self-reported disability data, which frequently are not an accurate indicator of disability, resulting in both over- and under-estimations of disability.

⁴ Young adults were asked, “During the last 30 days, on how many days did you smoke cigarettes?”

⁵ Only statistically significant differences are mentioned in the text of this fact sheet.

⁶ All general population comparisons related to smoking in this fact sheet are based on data from the public-use version of the National Institutes of Health, National Institute of Child Health and Human Development (NICHD), The National Longitudinal Study of Adolescent Health (Add Health), Wave III, 2001-02 (Udry 2003). Comparison analyses of these weighted data include a subset of approximately 2,000 respondents, ages 18 through 21.

from a study conducted several years earlier than when NLTS2 data were collected and with different data collection methods and participation rates; general population comparisons should be interpreted with these limitations in mind.

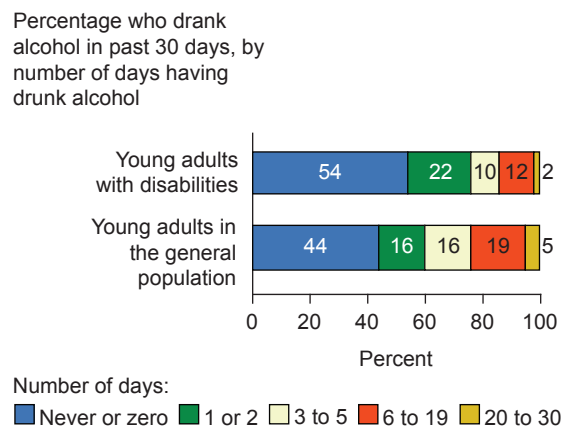
Among young adults with disabilities who reported smoking, the average number of cigarettes smoked per day was 9 cigarettes,⁷ with numbers ranging from 2 cigarettes or fewer (21 percent) to 15 cigarettes or more (26 percent). In comparison, young adults in the general population who reported smoking smoked, on average, 12 cigarettes per day ($p < .05$)^{8,9} and were more likely to smoke 15 or more cigarettes per day than those with disabilities (37 percent vs. 26 percent, $p < .05$).

Alcohol Consumption

More than half (54 percent) of young adults with disabilities reported not having consumed alcohol in the past 30 days.¹⁰ However, alcohol consumption was the most frequent type of substance use reported by young adults with disabilities (compared with cigarette, marijuana, cocaine, and other illegal drug use; $p < .001$ for all

comparisons). Approximately 2 in 10 (22 percent) reported drinking alcohol on 1 or 2 of the past 30 days (figure 2). Ten percent reported having at least one alcoholic drink on 3 to 5 of the past 30 days, and 12 percent reported drinking on 6 to 19 of the past 30 days. Two percent of young adults with disabilities reported drinking on 20 or more of the past 30 days.

Figure 2. Alcohol consumption in the past 30 days



NOTE: For alcohol use, response categories “6 to 9 days” and “10 to 19 days” have been collapsed for reporting purposes. NLTS2 percentages are weighted population estimates based on a sample of approximately 2,640 young adults with disabilities.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 3 youth survey, 2005; U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA), National Survey on Drug Use and Health (NSDUH), 2005, responses calculated for 18- to 21-year-olds.

⁷ Young adults were asked, “On the days you smoke, about how many cigarettes do you smoke in a day?”

⁸ Several types of analyses were conducted for this fact sheet, including between-group means, between-group percentages, and within-subject percentages. Because of the weighted nature of NLTS2 data, equality between the mean values of the responses to a single survey item in two disjoint subpopulations was based on a test statistic essentially equivalent to a two-sample t test for independent samples using weighted data. Sample sizes for each group being compared were never less than 30. For a two-tailed test, the test statistic was the square of the t statistic, which then followed an approximate chi-square distribution with one degree of freedom [i.e., an $F(1, \text{infinity})$ distribution].

⁹ No special adjustments were made to account for multiple comparisons. Given the number of comparisons made in this fact sheet, readers are cautioned to consider the possibility of false positives in interpreting the data.

¹⁰ Young adults were asked, “During the last 30 days, on how many days did you have at least one drink of alcohol?”

Young adults with disabilities were less likely than their peers in the general population^{11, 12} to report having had an alcoholic drink in the past 30 days (46 percent vs. 56 percent, $p < .01$). They also were less likely to report consuming alcohol on most of the past 30 days (at least one drink each day in 20 to 30 days; 2 percent vs. 5 percent, $p < .01$).

Illegal Drug Use

Marijuana Use. More than 8 in 10 young adults with disabilities (84 percent) reported not using marijuana in the past 30 days¹³ (figure 3). They were less likely to report marijuana use than were young adults in the general population¹⁴ (16 percent vs. 27 percent, $p < .001$).

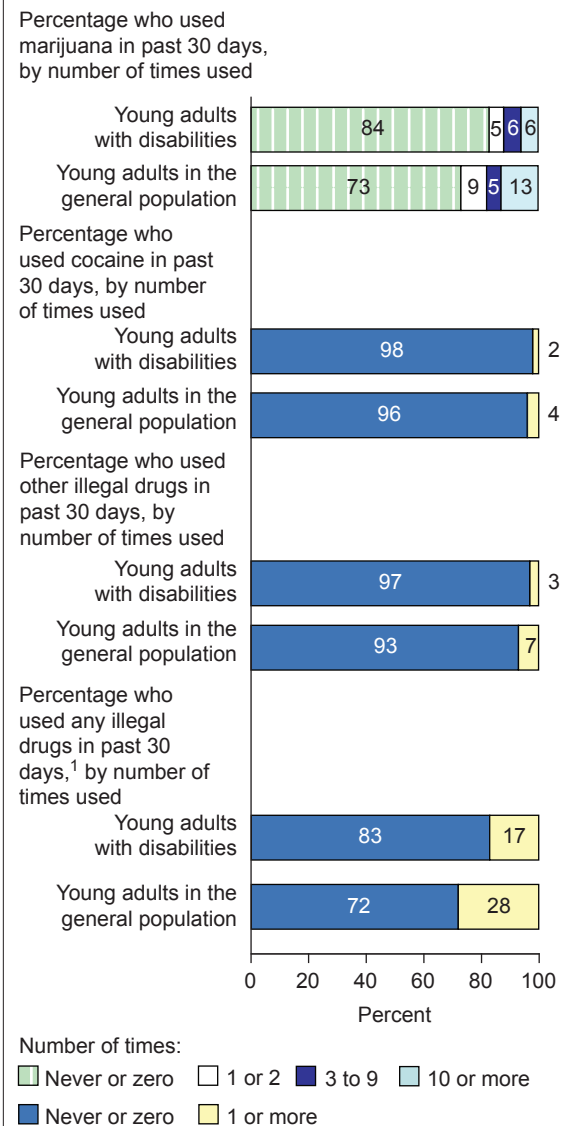
¹¹ All general population comparisons related to alcohol use in this fact sheet are based on weighted data from the public-use version of the U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA), National Survey on Drug Use and Health (NSDUH), 2005 survey (U.S. Department of Health and Human Services 2006). Comparison analyses of these weighted data included a subset of approximately 55,905 respondents ages 18 through 21 years old.

¹² The specific wording of the substance use questions in NLTS2 was derived predominantly from The National Longitudinal Study of Adolescent Health (Add Health), Wave I survey; consequently, general population comparisons in this fact sheet are based primarily on the young adult follow-up to Add Health (Wave III). The exception is alcohol use, for which the general population comparison is derived from the National Survey on Drug Use and Health (NSDUH), 2005 survey, because different time references (alcohol use in the “past 30 days” in NLTS2 compared with the “past 12 months” in Add Health) precluded the use of the Add Health Wave III dataset for this substance.

¹³ Young adults were asked, “During the last 30 days, how many times did you use marijuana?”

¹⁴ All general population comparisons related to illegal drug use in this fact sheet are based on data from the public-use version of the National Institutes of Health, National Institute of Child Health and Human Development (NICHD), The National Longitudinal Study of Adolescent Health (Add Health), Wave III, 2001-02 (Udry 2003), responses calculated for 18- to 21-year-olds.

Figure 3. Use of illegal drugs in past 30 days



¹ Any type of illegal drug use includes marijuana, cocaine, or any other illegal drugs.

NOTE: For marijuana use, response categories “10 to 19 times” and “20 to 39 times” have been collapsed for reporting purposes. NLTS2 percentages are weighted population estimates based on samples of young adults with disabilities that range from approximately 2,100 to 2,640 across variables.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 3 youth survey, 2005; National Institutes of Health, National Institute of Child Health and Human Development (NICHD), The National Longitudinal Study of Adolescent Health (Add Health), Wave III, 2001-02, responses calculated for 18- to 21-year-olds.

Five percent of young adults with disabilities reported using marijuana 1 or 2 times in the past 30 days, an additional 6 percent reported using marijuana 3 to 9 times, and 6 percent reported using marijuana 10 or more times. In comparison, more than twice as many young adults in the general population reported using marijuana 10 or more times in the past 30 days (13 percent vs. 6 percent, $p < .001$).

Cocaine Use. Almost all young adults with disabilities (98 percent) reported not using any form of cocaine, including powder, crack, or freebase, in the past 30 days.¹⁵ No significant differences were reported in the rates of cocaine use between young adults with disabilities and young adults in the general population.

Other Illegal Drug Use. Three percent of young adults with disabilities reported using illegal drugs other than marijuana or cocaine, such as LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, or pills taken without a doctor's prescription.¹⁶ Compared with the reported 7 percent rate of substance use in the general population of young adults, those with disabilities were less likely to report use of illegal drugs other than marijuana or cocaine in the past 30 days (3 percent, $p < .01$).

Any Illegal Drug Use. Overall, the majority of young adults with disabilities (83 percent) reported not using any illegal drugs in the past 30 days. Young adults in the general population were more likely than those with disabilities to report the use of any illegal drugs (28 percent vs. 16 percent, $p < .001$).

¹⁵ Young adults were asked, "During the last 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase?"

¹⁶ Young adults were asked, "During the last 30 days, how many times did you use any other kind of illegal drugs, such as LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, or pills that you took without a doctor's prescription?"

Receipt of Substance Abuse Prevention Education and Services

When the young adults included in the NLTS2 sample attended high school, their schools were asked to report whether they offered substance abuse education. Almost three-quarters of the students attended high schools that reported offering this type of education. In a given school year,¹⁷ more than half of the students were reported to receive substance abuse prevention education or services from their high schools (59 percent).

Differences in Substance Use and Receipt of Substance Abuse Prevention Education and Services, by Disability Category

Reported substance use, including smoking, alcohol consumption, and marijuana and other illegal drug use, varied by disability category.¹⁸

Smoking

The reported rate of smoking on one or more days in the past 30 days ranged from 10 percent to 53 percent across disability

¹⁷ Data from the NLTS2 student's school program survey, Wave 1 (2001) and Wave 2 (2002); responses calculated for young adults included in this fact sheet. Completed school program surveys were returned for 60 percent of eligible sample members. School staff who were most familiar with the student's program were asked to "indicate whether this student will have received substance abuse prevention education or services this school year."

¹⁸ The terminology for classifying students who receive special education services that is used here is specified in federal regulations for the implementation of the Individuals With Disabilities Education Act Amendments of 1997 (P.L. 105-17), 111 Stat. 37-157. Information about the nature of students' disabilities came from rosters of all students in the NLTS2 age range receiving special education services in the 2000-01 school year under the auspices of participating local education agencies and state-supported special schools. In analyses in this fact sheet, each student was assigned to a disability category on the basis of the primary disability designated by the student's school or district.

categories (table 1). Young adults with emotional disturbances had the highest reported percentage of cigarette smoking among all disability groups; more than half (53 percent) reported smoking on one or more of the past 30 days. This rate was higher than those reported by individuals with learning disabilities (30 percent, $p < .01$), traumatic brain injuries (30 percent, $p < .05$), other health impairments (28 percent, $p < .001$), speech/language (22 percent, $p < .001$) or hearing impairments (22 percent, $p < .001$), mental retardation (21 percent, $p < .001$), deaf-blindness (19 percent, $p < .001$), multiple disabilities (14 percent, $p < .001$), visual impairments (14 percent, $p < .001$), autism (11 percent, $p < .001$), or orthopedic impairments (10 percent, $p < .001$).

A larger percentage of young adults with learning disabilities (30 percent) reported smoking in the past 30 days, compared with those in several other disability categories, including visual impairment (14 percent, $p < .05$), autism (11 percent, $p < .01$), and orthopedic impairment (10 percent, $p < .001$). The reported rate of cigarette smokers among young adults with other health impairments (28 percent) also was higher than those for young adults with visual impairments (14 percent, $p < .05$), autism (11 percent, $p < .05$), or orthopedic impairments (10 percent, $p < .01$). Young adults with traumatic brain injuries (30 percent) or speech/language impairments (22 percent) reported a higher rate of smoking compared with individuals with orthopedic impairments (10 percent, $p < .05$ for both comparisons).

From 5 percent to 39 percent of young adults with disabilities reported smoking daily during the past 30 days. Young adults with emotional disturbances reported a higher rate of daily smoking (39 percent) than those in all other disability

categories, including young adults with other health impairments (22 percent, $p < .05$), learning disabilities (20 percent, $p < .01$), speech/language impairments (13 percent, $p < .001$), traumatic brain injuries (12 percent, $p < .01$), deaf-blindness (12 percent, $p < .001$), hearing impairments (10 percent, $p < .001$), multiple disabilities (9 percent, $p < .001$), mental retardation (8 percent, $p < .001$), visual impairments (8 percent, $p < .001$), orthopedic impairments (8 percent, $p < .001$), or autism (5 percent, $p < .001$).

Young adults with other health impairments (22 percent) were more likely to report smoking every day than individuals in 9 of the 11 other disability categories, including young adults with hearing impairments (10 percent, $p < .05$), mental retardation (8 percent, $p < .05$), visual impairments (8 percent, $p < .05$), orthopedic impairments (8 percent, $p < .01$), or autism (5 percent, $p < .01$).

A larger percentage of young adults with learning disabilities (20 percent) reported daily smoking than did young adults with mental retardation (8 percent, $p < .05$), visual impairments (8 percent, $p < .05$), orthopedic impairments (8 percent, $p < .05$), or autism (5 percent, $p < .01$).

Young adults with disabilities who reported smoking in the past 30 days reported smoking from 7 to 11 cigarettes per day, a number that varied according to disability category. Among young adults who reported smoking, those with emotional disturbances reported smoking an average of 11 cigarettes per day, whereas young adults with speech/language impairments reported smoking an average of 7 cigarettes per day, a difference that was significant ($p < .05$).

Table 1. Reported substance abuse in past 30 days, by disability category

	Learning disability	Speech/language impairment	Mental retardation	Emotional disturbance	Hearing impairment	Visual impairment	Orthopedic impairment	Other health impairment	Autism	Traumatic brain injury	Multiple disabilities	Deaf-blindness
Cigarette use												
Percentage who smoked one or more days in the past 30 days	30	22	21	53	22	14	10	28	11	30	14	19
Percentage who smoked every day in the past 30 days	20	13	8	39	10	8	8	22	5	12	9	12
Mean number of cigarettes smoked per day in the past 30 days by those who smoked	8	7	7	11	7	9	7	11	‡	‡	‡	‡
Alcohol use:												
Percentage who had one or more drinks in past 30 days	51	41	20	54	36	42	20	42	12	36	18	30
Marijuana use												
Percentage who used one or more times in the past 30 days	16	14	6	33	12	10	5	14	2	14	5	5
Percentage who used 10 or more times in the past 30 days	6	4	0.3	16	2	3	2	5	0.6	11	3	0
Cocaine use:												
Percentage who used one or more times in the past 30 days	3	1	1	3	0	0	0	2	0	3	0	0
Other illegal drug use: Percentage who used one or more times in the past 30 days												
Percentage who used one or more times in the past 30 days	2	3	1	10	2	5	4	4	5	1	0.1	5
Any illegal drug use: Percentage who used one or more times in the last 30 days												
Percentage who used one or more times in the last 30 days	16	15	7	36	12	14	7	16	6	15	6	7

‡ Responses for items with fewer than 30 respondents are not reported.

NOTE: Any illegal drug use includes marijuana, cocaine, and other illegal drug use. Percentages are weighted population estimates based on samples of young adults with disabilities that range from approximately 2,100 to 2,640 across variables.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 3 youth survey, 2005.

