

The NSDUH Report

March 27, 2008

Substance Use and Dependence Following Initiation of Alcohol or Illicit Drug Use

A series of recent research reports has examined the characteristics associated with the development of dependence soon after the initiation of alcohol, marijuana, cocaine, and hallucinogen use.¹⁻⁴ These studies suggest that each drug class has a different

trajectory from first use to cessation of use, continuation of use without dependence, or dependence upon the drug.

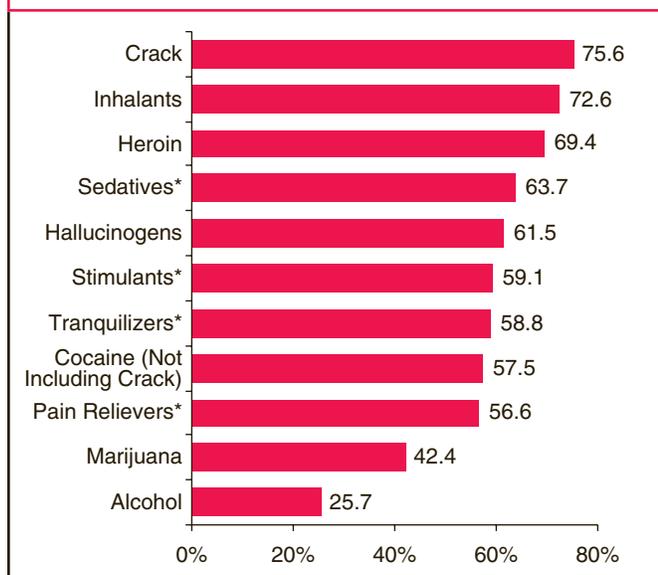
The National Survey on Drug Use and Health (NSDUH) asks persons aged 12 or older to report on their use of alcohol and illicit drugs during their lifetime and in the past year. Illicit drugs refer to marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, or prescription-type drugs used non-medically.⁵ Respondents who reported use of a given substance were asked when they first used it;⁶ responses to these questions were used to determine the number of months since they initiated use of the substance.

NSDUH also asks questions to assess symptoms of substance dependence during the past year. NSDUH defines substance dependence using criteria specified by the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).⁷ It includes such symptoms as withdrawal, tolerance, unsuccessful attempts to cut down on use, and continued use despite health and emotional problems caused by the substance.

In Brief

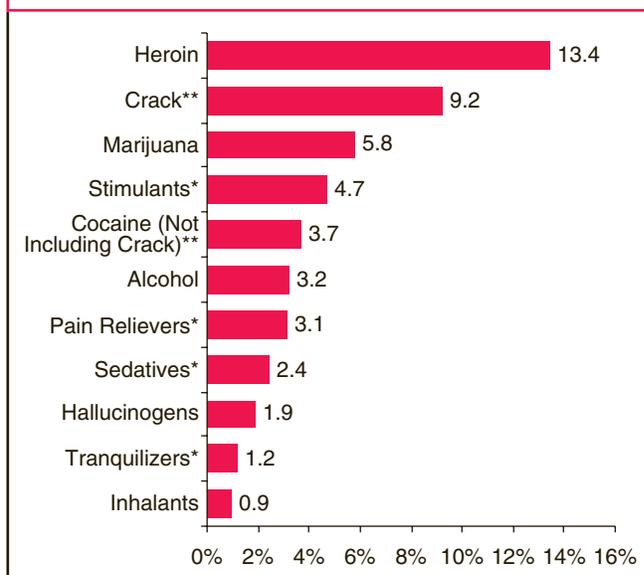
- Among persons who initiated alcohol use 13 to 24 months prior to the survey interview (“year-before-last initiates”), 3.2 percent were dependent on alcohol in the past 12 months (“past year”)
- Among year-before-last marijuana initiates, 5.8 percent were dependent on marijuana in the past year
- More than one tenth (13.4 percent) of year-before-last heroin initiates were dependent on heroin in the past year, and 9.2 percent of year-before-last crack initiates were dependent on any type of cocaine in the past year

Figure 1. Percentages of Year-Before-Last Initiates Not Using the Initiated Substance in the Past Year, by Substance: 2004-2006



Source: SAMHSA, 2004-2006 NSDUHs.

Figure 2. Percentages of Year-Before-Last Initiates Who Were Dependent on the Initiated Substance in the Past Year, by Substance: 2004-2006



Source: SAMHSA, 2004-2006 NSDUHs.

This report examines the development of dependence upon a substance in the 2 years following substance use initiation (i.e., 1 to 24 months after initiation). For the purposes of this report, persons who initiated use of a substance 13 to 24 months prior to the interview are referred to as “year-before-last initiates.” Year-before-last initiates were assigned to three mutually exclusive categories reflecting their substance use trajectories following initiation: those who had not used the substance in the past 12 months (“past year”), those who had used the substance during the past year but were not dependent on the substance during the past year, and those who had used the substance and were dependent on the substance during the past year.

Comparisons are made across substance classes in terms of the percent-ages of these year-before-last initiates classified in each of these three past year categories. All findings presented in this report are annual averages based on combined 2004, 2005, and 2006 NSDUH data.

Noncontinuation of Substance Use Following Initiation

Among year-before-last initiates of specific substances, over two thirds of crack cocaine, inhalant, and heroin initiates did not use the drug in the past year (Figure 1). Alcohol and marijuana were the only substances for which the majority of year-before-last initiates used the substance in the past year.

Risk for Developing Alcohol Dependence Following Initiation

Among year-before-last initiates of alcohol, one fourth (25.7 percent) had not used alcohol during the past year, 71.1 percent had used alcohol in the past year but were not dependent on alcohol, and 3.2 percent were both using and dependent on alcohol during the past year (Table 1).

Risk for Developing Marijuana Dependence Following Initiation

Among year-before-last initiates of marijuana, 42.4 percent had not used marijuana during the past year, 51.8 percent had used marijuana in the past year but were not dependent on marijuana, and 5.8 percent were both using and dependent on marijuana in the past year.

Risk for Developing Cocaine Dependence Following Initiation

Year-before-last initiates of cocaine were examined in two subgroups: initiates of crack and initiates of cocaine other than crack. Approximately 9.2 percent of year-before-last crack initiates were dependent on any type of cocaine in the past year, whereas 3.7 percent of initiates of cocaine other than crack were dependent on any type of cocaine in the past year (Figure 2).

Table 1. Percentages and Standard Errors (SE) of Past Year Use and/or Dependence among Year-Before-Last Initiates Aged 12 or Older, by Substance: 2004-2006**

Substance	No Use in Past 12 Months		Use in Past 12 Months but Not Dependent		Use in Past 12 Months and Dependent in Past 12 Months	
	%	SE	%	SE	%	SE
Alcohol	25.7	0.54	71.1	0.56	3.2	0.23
Marijuana	42.4	0.87	51.8	0.86	5.8	0.36
Cocaine Use						
Cocaine (Not Including Crack)**	57.5	1.63	38.8	1.61	3.7	0.54
Crack**	75.6	3.06	15.2	2.83	9.2	1.69
Heroin	69.4	3.87	17.2	3.21	13.4	2.59
Hallucinogens	61.5	1.25	36.6	1.24	1.9	0.32
Inhalants	72.6	1.22	26.5	1.21	0.9	0.25
Nonmedical Use of Psychotherapeutics*						
Pain Relievers	56.6	1.16	40.2	1.14	3.1	0.33
Tranquilizers	58.8	1.69	40.0	1.69	1.2	0.37
Stimulants	59.1	1.76	36.2	1.70	4.7	0.87
Sedatives	63.7	4.27	33.9	4.26	2.4	1.05

Source: SAMHSA, 2004-2006 NSDUHs.

Risk for Developing Other Drug Dependence Following Initiation

More than one tenth (13.4 percent) of year-before-last initiates of heroin were dependent on heroin in the past year, while less than 1 percent (0.9 percent) of year-before-last inhalant initiates were dependent on inhalants in the past year and less than 2 percent (1.9 percent) of year-before-last hallucinogen initiates were dependent on hallucinogens in the past year. About 5 percent (4.7 percent) of year-before-last initiates of nonmedical use of stimulants were dependent on stimulants in the past year, whereas in the past year, 3.1 percent of year-before-last initiates of nonmedical pain reliever use were dependent on pain relievers, 2.4 percent of initiates of nonmedical sedative use were dependent on

sedatives, and 1.2 percent of initiates of nonmedical tranquilizer use were dependent on tranquilizers.

End Notes

- Stone, A. L., O'Brien, M. S., De La Torre, A., & Anthony, J. C. (2007). Who is becoming hallucinogen dependent soon after hallucinogen use starts? *Drug and Alcohol Dependence, 87*, 153-163.
- Wagner, F. A., & Anthony, J. C. (2007). Male-female differences in the risk of progression from first use to dependence upon cannabis, cocaine, and alcohol. *Drug and Alcohol Dependence, 86*, 191-198.
- O'Brien, M. S., & Anthony, J. C. (2005). Risk of becoming cocaine dependent: Epidemiological estimates for the United States, 2000-2001. *Neuropsychopharmacology, 30*, 1006-1018.
- Chen, C. Y., O'Brien, M. S., & Anthony, J. C. (2005). Who becomes cannabis dependent soon after onset of use? Epidemiological evidence from the United States: 2000-2001. *Drug and Alcohol Dependence, 79*, 11-22.
- NSDUH measures the nonmedical use of prescription-type pain relievers, sedatives, stimulants, or tranquilizers. Nonmedical use is defined as the use of prescription-type drugs not prescribed for the respondent by a physician

or used only for the experience or feeling they caused. Nonmedical use of any prescription-type pain reliever, sedative, stimulant, or tranquilizer does not include over-the-counter drugs. Nonmedical use of stimulants includes methamphetamine use.

⁶ Respondents whose age at first use was equal to or 1 year less than their current age were asked to indicate the month in which they initiated their use of that drug.

⁷ American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Table and Figure Notes

* See end note 5.

** Dependence for cocaine not specific to form.

*** Standard error (SE) is a measure of the sampling variability or precision of an estimate, where smaller values represent greater precision and larger values represent less precision.

Suggested Citation

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Research findings from the SAMHSA 2004-2006 National Surveys on Drug Use and Health (NSDUHs)

Substance Use and Dependence Following Initiation of Alcohol or Illicit Drug Use

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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 2004 to 2006 data used in this report are based on information obtained from 203,870 persons aged 12 or older. 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 Office of Applied Studies (OAS), SAMHSA, and by RTI International in Research Triangle Park, North Carolina. (RTI International is a trade name of Research Triangle Institute.)

Information on NSDUH used in compiling data for this report is available in the following publication:

Office of Applied Studies. (2007). *Results from the 2006 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 07-4293, NSDUH Series H-32). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Information for earlier NSDUHs is available in the following publications:

2005 NSDUH: (DHHS Publication No. SMA 06-4194, NSDUH Series H-30)

2004 NSDUH: (DHHS Publication No. SMA 05-4062, NSDUH Series H-28)

Also available online: <http://oas.samhsa.gov>.

Because of improvements and modifications to the 2002 NSDUH, estimates from the 2002 through 2006 surveys should not be compared with estimates from the 2001 or earlier versions of the survey to examine changes over time.



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