Prevalence and correlates of prescription stimulant use, misuse, use disorders, and motivations for misuse among adults in the U.S.

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Abstract

Objective—To simultaneously examine the prevalence and correlates of prescription stimulant use, misuse, use disorders, and motivations for misuse in the U.S. adult population.

Methods—Nationally representative household population study of adults aged 18 or older from the 2015-2016 National Surveys on Drug Use and Health (n=102,000). Measurements included prescription stimulant use, use without misuse, misuse without use disorders, and misuse with use disorders; sociodemographic characteristics; health conditions; and behavioral health factors.

Results—Among U.S. adults in 2015-2016, 6.6% (annual average) used prescription stimulants overall: 4.5% used without misuse, 1.9% misused without use disorders, and 0.2% had use disorders. Adults with past-year prescription stimulant use disorders did not differ from those with misuse without use disorders in any of the examined sociodemographic characteristics and in many of the examined substance use problems. The most commonly reported motivations for

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misuse were to help be alert/concentrate (56.3%). Obtaining them free from relatives or friends was the most likely source of misused prescription stimulants (56.9%). More frequent prescription stimulant misuse and use disorder were associated with increased likelihood of obtaining medications from physicians or drug dealers/strangers and less likelihood of obtaining them from friends/relatives.

Conclusions—Approximately 16.0 million U.S. adults used prescription stimulants in the past year (annual average), 5.0 million misused prescription stimulants without use disorders, and 0.4 million had use disorders. Cognitive enhancement was the most commonly reported reason for misusing prescription stimulants. Patients who are using their medication for cognitive enhancement or diverting their medication to others present high risks.

INTRODUCTION

Management of prescription stimulants can be complicated by risk for misuse: Patients may use without a prescription, for a reason other than as directed by a doctor, or in greater amounts, more often, or longer than prescribed (1). Understanding how use of these medications relates to misuse is important because stimulant misuse is common, with 0.5 million youth and 4.8 million adults (including 2.5 million young adults aged 18-25) reporting misuse in 2015 (1) and because adverse effects from stimulant use are not uncommon and can include loss of appetite, anxiety, paranoia, hallucinations, insomnia, increased heart rate, and death (2–3). While much attention has focused on misuse of stimulants by youth (4–5) and young adults (6–8), less work has focused on the overall adult population (9–11). Yet, total prescription stimulant sales for adults have surpassed those for youth (12–13), suggesting the need to examine misuse among U.S. adult population. Fifty-five percent of total prescriptions in 2015 were to adults age 20 and older (12), and increases for adults have outpaced those for youth over the past decade (14–15).

Examining adults with stimulant use disorder is also important because this subgroup of stimulant misusers is at higher risk for clinically significant complications compared to misusers without use disorders. Furthermore, understanding the source of prescription stimulants that are misused and the motivations for such misuse are essential for prevention and clinical practice. One study examined the source of prescription stimulants among those who misuse them, but did not assess motivations for misuse (16). A few studies have examined motivations for misusing prescription medications based on local data (9–11) or national samples of high school seniors (17–19). No studies have simultaneously examined the prevalence of prescription stimulant use (i.e. overall use including both misuse and medical use), misuse, use disorders, and motivations for misuse in a nationally representative sample of the U.S. adult population.

Based on data from the 2015-2016 National Surveys on Drug Use and Health (NSDUH), this study examined the following questions:

1. What is the 12-month prevalence of any prescription stimulant use, use without misuse, misuse without use disorders, and use disorders?

2. How do sociodemographic characteristics, health conditions, and behavioral health status distinguish prescription stimulant use without misuse, misuse without use disorders, and use disorders?

3. What are the main motivations for misuse? What sociodemographic and behavioral health characteristics are associated with specific motivations for prescription stimulant misuse?

4. What is the source of prescription stimulants obtained for most recent misuse among adults who misuse prescription stimulants?

By describing the patterns and correlates of prescription stimulant misuse and use disorders in comparison to persons reporting medical use of these medications, clinicians may be able to intervene earlier and more successfully with their patients. The ultimate goal is to facilitate identification and interventions for adults with increased risk for prescription stimulant misuse and develop effective clinician training programs, public health policies, programs, and public messages to prevent misuse and reduce the harms associated with misuse.

METHODS

Study Population

We examined data from adults aged 18 or older who participated in the 2015-2016 NSDUH, face-to-face surveys conducted by the Substance Abuse and Mental Health Services Administration. Since 2015, NSDUH has been collecting nationally representative data on prescription stimulant use overall, misuse, and motivations for misuse among the U.S. civilian, noninstitutionalized population aged 12 or older (20–21).

NSDUH data collection was approved by the Institutional Review Board at RTI International. Verbal informed consent was received from each study participant. Data were collected by interviewers in personal visits to households and noninstitutional group quarters. Audio computer-assisted self-administered interviewing was used, providing respondents with a private, confidential way to record answers. The annual average weighted response rate for the 2015-2016 NSDUH was 54.3 percent (21). Details regarding NSDUH methods are provided elsewhere (21).

Measures

NSDUH collected past-year use and misuse of prescription stimulants, including frequency of prescription stimulant misuse in the past month among those reporting any past month misuse. NSDUH defined prescription stimulant misuse as "in any way that a doctor did not direct you to use them, including (1) use without a prescription of your own; (2) use in greater amounts, more often, or longer than you were told to take them; or (3) use in any other way a doctor did not direct you to use them" (1, 21). Among respondents who reported past-year prescription stimulant misuse, NSDUH asked about the main motivation for misusing prescription stimulants the most recent time: to help lose weight; to help concentrate; to help be alert or stay awake; to help study; to experiment/see what it's like; to feel good or get high; to increase/decrease effect(s) of other drug(s); is "hooked" or has to

have it; or other reason (1,21). NSDUH collected the source of prescription stimulants obtained for the most recent misuse: given by a friend/relative for free, prescribed by physician(s), stolen from a friend/relative, bought from a friend/relative, bought from a drug dealer/stranger, or stolen from doctor's office/clinic. If respondents reported their source as "given by friends/relatives for free", NSDUH asked them where friends/relatives obtained prescription stimulants.

NSDUH collected lifetime and past-year use of tobacco, alcohol, cannabis, cocaine, heroin, hallucinogens, and inhalants and lifetime and past-year use and misuse of prescription sedatives/tranquilizers and opioids. NSDUH provided estimates on past 12-month major depressive episode (MDE) and specific substance use disorders (i.e., alcohol, cannabis, cocaine, heroin, hallucinogens, inhalants, and prescription opioids, tranquilizers/sedatives, and stimulants) based on assessments of individual diagnostic criteria from the *Diagnostic and Statistical Manual of Mental Disorder, Fourth Edition* (22). Nicotine dependence among cigarette smokers was assessed using the Nicotine Dependence Syndrome Scale (23). These measures have demonstrated good reliability and validity (24–25).

NSDUH asked all adult respondents about suicidality: "At any time during the past 12 months, did you seriously think about trying to kill yourself?" NSDUH asked respondents about medical diagnoses (e.g., hypertension, heart disease, diabetes mellitus, chronic obstructive pulmonary disease (COPD), asthma, cancer, and kidney disease) that they ever received from a doctor or other health care professional. NSDUH captured respondents' self-rated health and the number of past-year emergency room (ER) visits and collected age, sex, race/ethnicity, educational attainment, employment status, family income, marital status, and health insurance.

Statistical Analyses

Among adults, we estimated the national annual prevalence of any prescription stimulant use, use without misuse, misuse without use disorders, and use disorders as well as the frequency distributions of past-month prescription stimulant misuse by sociodemographic characteristics, health conditions, and behavioral health status. Second, bivariable and multivariable multinomial logistic regression models were applied to examine how the above factors distinguish these outcomes.

Third, we estimated the main motivations for the most recent misuse of prescription stimulants and the source of prescription stimulants obtained for the most recent misuse among adults with past-year misuse by the frequency of past-month misuse of prescription stimulants and the status of prescription stimulant use disorders. Fourth, among adults with past-year prescription stimulant misuse, bivariable and multivariable multinomial logistic regression models were applied to examine whether and how characteristics were associated with specific motivations of prescription stimulant misuse. We examined four major clustered categories of motivations (weight loss, helping study, being alert/helping concentrate, and substance-use related). Multicollinearity (using variance inflation factors) and potential interaction effects between examined factors were assessed and were not identified in final multivariable models. All of our analyses were conducted by SUDAAN software (26) to account for the complex sample design and sample weights of NSDUH.

Reported population and percentage prevalences are weighted estimates, but reported sample sizes are the numbers of sampled participants who completed the 2015-2016 NSDUH.

RESULTS

Past-year prevalence of prescription stimulant use without misuse, misuse without use disorders, and use disorders

Based on the 102,000 sampled persons aged 18 or older from the 2015-2016 NSDUH, we estimated that among U.S. adults in the past year (annual average), approximately 6.6% or 16.0 million used prescription stimulants (including both use without misuse as well as misuse), 4.5% or 11.0 million used prescription stimulants without misuse, 2.1% or 5.0 million misused prescription stimulants at least once, and 0.2% or 0.4 million had prescription stimulant use disorders (Table 1 and Appendix Table 1). Among adults with any prescription stimulant use in the past 12 months, 31.2% misused prescription stimulants at least once, and 2.7% had a prescription stimulant use disorders. Among those adults with prescription stimulant misuse, 8.7% had prescription stimulant use disorders.

Characteristics distinguishing prescription stimulant use without misuse, misuse without use disorders, and use disorders

Among adults, the 12-month prevalence of prescription stimulant use without misuse, prescription stimulant misuse without use disorders, and prescription stimulant use disorders varied by most of the examined sociodemographic characteristics (Table 1). The prevalence of any prescription stimulant use was higher in 2016 than in 2015. Those aged 18-49 had higher prevalence of prescription stimulant use without misuse, misuse without use disorders, and use disorders than those aged 50 or older. Racial/ethnic minorities had lower prevalence of prescription stimulant use without misuse, misuse without use disorders, and stimulant use disorders than non-Hispanic whites. The prevalence of stimulant misuse without use disorders and stimulant use disorders was higher among adults with Medicaid only than among those with private insurance only, among divorced/separated or never married adults than among married adults, among part-time employed or unemployed adults than among full-time employed adults, and among those with annual family income less than $20,000 than among those with income $75000 or more.

Among adults, the 12-month prevalence of prescription stimulant use without misuse, misuse without use disorders, and use disorders varied by some of the examined medical conditions and all of the examined behavioral health characteristics (Table 2). The prevalence of prescription stimulant use without misuse, misuse without use disorders, and use disorders was higher among adults with MDE, with suicidal ideation, and with substance use problems compared to adults without the corresponding problem.

Appendix Table 2 presents the frequency distributions of prescription stimulant misuse in the past month among U.S. adult prescription stimulant misusers by sociodemographic characteristics, health conditions, and behavioral health status. Among those who misused prescription stimulants, 68.3% misused in the past year but not in the past month, 16.4% misused 1-2 days in the past month, 9.1% misused 3-6 days in the past month, and 6.2%

misused 7 or more days in the past month. High frequency misuse (7+ days of past-month misuse) was associated with ages 30-49, non-Hispanic whites, less than high school education, being disabled for work, divorced/separated adults, having 3+ ER visits, COPD, MDE, past-year cocaine or heroin use disorders, past-year inhalant use or use disorders, and prescription tranquilizer, sedative, or opioid misuse or use disorders.

Multivariable results (Table 3) show that prescription stimulant use without misuse (compared to past-year non-use of prescription stimulants) was positively associated with ages 18-49, female sex, non-Hispanic white race, less than high school education, private health insurance only, good/fair/poor self-rated health, having past-year ER visit(s), asthma, MDE, past-year or lifetime tobacco, cannabis, and hallucinogen use, past-year alcohol use disorders, past-year cocaine use, and past-year prescription sedative/tranquilizer and opioid misuse problems. Misuse without use disorders (compared to past-year prescription stimulant use without misuse) was positively associated with ages 18-49, male sex, Hispanics, college graduates, having private health insurance only, annual family income less than $20,000, excellent self-rated health, absence of ER visits or MDE, past-year or lifetime alcohol, cannabis, and cocaine use or use disorders, past-year hallucinogen use and prescription sedative/tranquilizer misuse problems, and past-year or lifetime prescription opioid misuse problems. Adults with past-year prescription stimulant misuse without use disorders did not differ from adults with use disorders in most of the examined sociodemographic characteristics and health conditions and in many of the examined substance use problems. Compared to past-year prescription stimulant misuse without use disorders, past-year prescription stimulant use disorders were positively associated with ages 50 or older and MDE and were negatively associated with non-Hispanic others and past-year alcohol use without use disorders.

Motivations for and source of prescription stimulants misused

Among U.S. adults with prescription stimulant misuse, 56.3% (Table 4) reported that the motivation for their most recent misuse was to help be alert or concentrate, followed by to help study (21.9%) and to get high/hooked, adjust other drug effects, or to experiment (15.5%). Fewer reported misuse for weight loss (4.1%). Compared to past-year stimulant misusers without past-month misuse, high frequency misusers (with 7+ days in the past month) were more likely to misuse stimulants to help be alert or concentrate (69.5% vs. 54.4%) and were less likely to misuse stimulants to help study (11.5% vs. 24.6%). Compared to adults without stimulant use disorders, those with stimulant use disorders were more likely to misuse stimulants for substance use related reason (to get high/hooked, adjust drug effect, or to experiment) (23.6% vs. 14.8%) or for losing weight (7.9% vs. 3.8%) and were less likely to misuse stimulants for helping study (9.2% vs. 23.1%).

Source of misused prescription stimulants

Among adults with past-year prescription stimulant misuse, the most commonly reported sources from whom they obtained prescription stimulants for their most recent misuse included friends/relatives for free (56.9%) and buying/stealing from friends/relatives (21.8%) (Table 4). Among those who obtained prescription stimulants from friends or relatives for free, 83.9% reported that their friends or relatives received the prescription

stimulants from one doctor. Moreover, compared to past-year stimulant misusers without past-month misuse, high frequency misusers (7+ days in the past month) were less likely to obtain stimulants from their friends/relatives for free (44.9% vs. 58.8%) and were more likely to obtain them from one or more doctors (25.2% vs. 10.1%) or from drug dealers/ strangers (9.2% vs. 4.0%). Similarly, compared to adults without stimulant use disorders, those with stimulant use disorders were less likely to obtain stimulants from friends/relatives for free (30.9% vs. 59.2%) and were more likely to obtain them from one or more doctors (37.7% vs. 8.6%) or from drug dealers/strangers (8.7% vs. 3.9%).

Characteristics associated with specific motivations for misuse

We found sociodemographic and behavioral health characteristics were associated with specific motivations for misusing prescription stimulants (Table 5). Compared to the most common motivation (to be alert/concentrate), weight loss as the motivation for misusing prescription stimulants was positively associated with female sex, non-Hispanic blacks, Hispanics, being uninsured, and lifetime, but no past-year misuse of prescription sedatives/ tranquilizers; helping study was positively associated with ages 18-29, male sex, Hispanics, non-Hispanic others, part-time employment, private health insurance only, family income between $20,000 and $49,999, excellent self-rated health, past-year alcohol use or use disorders, and never misuse of prescription opioids; and substance use related motivation (experiment, getting high/hooked, or adjusting for other drug effects) was positively associated with male sex, non-Hispanic blacks, non-Hispanic others, unemployment status, excellent self-rated health, past-year suicidal ideation, and cannabis, cocaine, and heroin use problems.

DISCUSSION

In 2015-2016, a large number of adults in the U.S. (annual average: 6.6% or 16.0 million) used prescription stimulants, of whom many (31.2% or 5.0 million) misused the medications at least once, and a smaller percentage (2.7% or 0.4 million) had prescription stimulant use disorders. Because stimulants are most commonly prescribed to persons with ADHD who are at greater risk for academic problems (27), it may not be surprising that prescription stimulant use without misuse was more common among those aged 18-49 than those aged 50 or older and among those with less than a high school education than among those with a high school diploma. Consistent with the results from a previous study on children (28), our study showed that prescription stimulant use without misuse was more common among non-Hispanic white adults than among non-Hispanic black adults. Similar to prescription opioid use without misuse (29), we found that prescription stimulant use without misuse was more common among those with private health insurance than uninsured adults because the latter often lacked access to health care. Perhaps reflecting a common etiology of ADHD (i.e. the reason for medical use) with comorbid disorders (30–31), prescription stimulant use without misuse was associated with worse self-rated health, MDE, and several use disorders related to illicit substances.

Despite some shared characteristics, adults with stimulant misuse without use disorders differed from users who did not misuse across a range of correlates. Misusers were more

likely to be younger, male, and of lower incomes as well as to report both licit and illicit substance use problems, somewhat consistent with the pattern of correlates seen in overall drug use disorders (32). However, in contrast to the pattern seen in substance use disorders, misusers were more likely to have private health insurance-only and report excellent self-rated health and were less likely to report MDE. Since those with misuse represent a broad range of severity, future research needs to examine specific subtypes of misusers and related prospective outcomes.

While prescription stimulant use disorder is a more severe condition than misuse without disorder, it was relatively uncommon. Compared to adults with prescription stimulant misuse without disorders, adults with use disorders had a higher likelihood of reporting MDE, nicotine dependence, cannabis use disorders, and tranquilizer/sedative use disorders and had a lower likelihood of reporting alcohol use without alcohol use disorders. However, the two groups did not differ in any of the examined demographic or health characteristics. Having multiple characteristics in common for those misusing prescription stimulants without use disorders and for those having use disorders suggests that these groups may be related (33). For some, misuse without disorder may be an early expression of a negative trajectory toward full stimulant use disorder. Thus, clinicians should be vigilant for misuse in all their patients to whom they prescribe stimulants and to screen for stimulant use disorder.

The most common reasons for misuse reported by about 77% were for the direct stimulant effects to improve performance (i.e. for alertness, for concentration, or as a study aid). While less common, 15.5% reported illicit drug use-type motivations (i.e. to experiment, for intoxication, or to address effects of other drugs) as their motivation for misuse of prescription stimulants. About 4% of misusers reported weight loss as their primary motivation for misuse, perhaps not unexpectedly more commonly reported by women than men. By contrast, the performance enhancing and illicit drug-type motivations were associated with use of or use disorder from other substances. Common correlates among those reporting the two separate types of motivation suggest that purported performance enhancement is consistent with a broad addiction pattern of behavior. Similarly, previous studies have found that college students who report use of stimulants as an academic aid have high rates of other substance use and perform less well than their counterparts who do not use prescription stimulants (34). These findings support restricting the use of stimulants to bona fide clinical indications and caution against their use outside these situations.

We found the most common source of prescription stimulants for those who misuse these medications was family or friends, suggesting that diversion from prescriptions that these family or friends receive is a significant issue. Similar findings that family and friends are the predominant source for misuse of prescription opioids and benzodiazepines (29, 35), suggest that physicians prescribing all addictive substances need to be alert for population impacts of their medical practices. Clinicians need to be vigilant for sharing or selling of medications by their patient with others (36–39). Prevention interventions are needed for patients with risky patterns of stimulant misuse and such interventions may need to be considered for the social network of patients and not just for the patient herself/himself.

Misusing prescription stimulants more frequently and presence of a stimulant use disorder were associated with both drug-related motivations for misuse as well as greater use of medical sources of medications. Taken together, these findings suggest that subtypes of misusers exist and indicate the importance of assessing misuse and use disorders among patients being treated with prescription stimulants.

This study has several limitations. NSDUH did not cover homeless persons not living in shelters, active-duty military, or those residing in institutions (e.g., incarcerated adults). Our prevalence estimates of prescription stimulant misuse and use disorders may represent a lower bound because homeless adults not living in shelters and adults in the criminal justice system usually have higher prevalence of substance use and use disorders compared to general civilian, noninstitutionalized adults (40). Furthermore, the 2015 and 2016 NSDUH had lower response rates compared to prior years which increased the potential for nonresponse bias (21). Future research is needed to examine specifically on the validity of self-reported data on prescription stimulants and motivation for misuse. NSDUH data were subject to recall and social-desirability biases.

Among U.S. adults, 16.0 million used prescription stimulants in the past year, 5.0 million misused prescription stimulants, and 0.4 million had prescription stimulant use disorders. Actions should be taken to expand safe, evidence-based treatment for ADHD and decrease prescribing that may leave unused stimulants available for potential misuse. Clinicians need to screen for and identify adults with increased risk for prescription stimulant misuse and pay attention to their motivations for misuse. When misuse is identified, prevention interventions may be indicated. Treatment should be provided for individuals with prescription stimulant use disorders.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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Table 1

12 month prevalence of any use of prescription stimulants, prescription stimulant use without misuse, and misuse without use disorders, and use disorders among U.S. adults by sociodemographic characteristics, N=102000[a]

Characteristics	any use of prescription stimulant N=102000[a]		prescription stimulant misuse N=102000[a]		prescription stimulant use without misuse N=102000[a]		prescription stimulant misuse without use disorders, N=102000[a]		prescription stimulant use disorders N=102000[a]	
	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI
Overall	6.6	6.35-6.79	2.1	1.99-2.22	4.5	4.34-4.70	1.9	1.77-1.97	0.2	0.16-0.20
Year										
2015 +	6.3	6.07-6.61	2.0	1.88-2.14	4.4	4.14-4.63	1.8	1.67-1.94	0.2	0.13-0.20
2016	**6.8**	**6.52-7.09**	**2.1**	**1.96-2.26**	**4.7**	**4.43-4.91**	**1.9**	**1.80-2.08**	0.2	0.16-0.25
Age										
18–29	**13.0**	**12.47-13.47**	**6.5**	**6.08-6.82**	**6.5**	**6.22-6.85**	**6.0**	**5.66-6.37**	**0.4**	**0.36-0.51**
30–49	**6.7**	**6.33-6.98**	**1.6**	**1.43-1.73**	**5.1**	**4.79-5.36**	**1.4**	**1.26-1.56**	**0.2**	**0.13-0.23**
50 +	3.5	3.20-3.80	0.4	0.27-0.46	3.2	2.89-3.47	0.3	0.19-0.35	0.1	0.04-0.12
Sex										
Men	**6.3**	**6.07-6.62**	**2.4**	**2.19-2.51**	**4.0**	**3.77-4.23**	**2.2**	**2.01-2.31**	0.2	0.15-0.24
Women +	6.8	6.52-7.06	1.8	1.63-1.88	5.0	4.78-5.26	1.6	1.49-1.73	0.2	0.13-0.21
Race/ethnicity										
NH white +	7.7	7.45-7.98	2.5	2.30-2.62	5.3	5.04-5.49	2.2	2.09-2.36	0.2	0.19-0.27
NH black	**3.9**	**3.41-4.36**	**0.8**	**0.60-0.99**	**3.1**	**2.72-3.59**	**0.7**	**0.54-0.82**	**0.1**	**0.03-0.14**
Hispanic	**4.9**	**4.50-5.39**	**1.5**	**1.38-1.81**	**3.4**	**3.01-3.77**	**1.5**	**1.26-1.66**	**0.1**	**0.08-0.16**
NH other	**4.5**	**4.00-5.14**	**1.7**	**1.43-2.06**	**2.8**	**2.40-3.34**	**1.6**	**1.35-1.93**	**0.1**	**0.04-0.17**
Education										
<high school +	5.0	4.27-5.83	1.1	0.82-1.44	3.9	3.25-4.71	0.9	0.72-1.19	0.2	0.07-0.34
High school	5.2	4.74-5.66	1.6	1.33-1.82	3.6	3.25-4.08	1.4	1.19-1.61	0.2	0.10-0.25
Some college	**8.2**	**7.71-8.80**	**2.7**	**2.49-3.00**	**5.5**	**5.03-5.96**	**2.5**	**2.29-2.81**	0.2	0.17-0.30
College graduate	**6.0**	**5.50-6.56**	1.9	1.66-2.17	4.1	3.70-4.58	1.8	1.56-2.05	0.1	0.06-0.18
Health insurance										
Private only +	7.7	7.44-8.03	2.6	2.43-2.78	5.1	4.89-5.38	2.4	2.28-2.59	0.2	0.14-0.21
Uninsured	**6.7**	**6.17-7.28**	**2.6**	**2.28-2.90**	**4.1**	**3.65-4.54**	**2.3**	**2.04-2.63**	**0.3**	**0.20-0.49**

Characteristics	any use of prescription stimulant N=102000[a]		prescription stimulant misuse N=102000[a]		prescription stimulant misuse without use disorders, N=102000[a]		prescription stimulant use disorders N=102000[a]	
	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI
Medicaid only	**6.7**	**6.19-7.21**	4.7	4.30-5.22	**1.7**	**1.45-1.89**	**0.3**	**0.21-0.39**
Other	**3.9**	**3.55-4.34**	**3.3**	**2.92-3.65**	**0.6**	**0.48-0.71**	**0.1**	**0.04-0.15**
Marital Status								
Married +	4.2	3.89-4.61	3.6	3.25-3.93	0.6	0.52-0.75	0.04	0.02-0.06
Widowed	3.5	.66-4.702	3.1	.24-4.172	0.4	0.21-0.86	0.1	0.02-0.17
Divorced/separated	**6.5**	**5.71-7.35**	**5.1**	**4.44-5.93**	**1.1**	**0.83-1.44**	**0.3**	**0.14-0.47**
Never married	**11.00**	**10.44-11.59**	**5.9**	**5.45-6.31**	**4.8**	**4.42-5.15**	**0.4**	**0.28-0.47**
Employment Status								
Full time +	6.8	6.54-7.10	4.6	4.33-4.81	2.1	1.97-2.24	0.1	0.12-0.18
Part time	**8.5**	**7.98-9.08**	**5.1**	**4.68-5.56**	**3.2**	**2.83-3.49**	**0.3**	**0.19-0.39**
Disabled for work	**8.2**	**7.26-9.31**	**7.0**	**6.07-8.02**	**1.0**	**0.67-1.40**	0.2	0.15-0.54
Unemployment	**8.1**	**7.29-9.06**	5.2	4.46-5.94	**2.5**	**2.12-3.03**	**0.5**	**0.27-0.74**
Other	4.7	4.32-5.03	3.6	3.30-3.96	0.9	1.97-2.24	0.1	0.09-0.20
Family Income								
<$20,000	**7.8**	**7.25-8.29**	4.7	4.29-5.05	**2.7**	**2.44-3.08**	**0.4**	**0.27-0.48**
$20,000 $49,999	**6.0**	**5.67-6.33**	**4.2**	**3.95-4.54**	**1.6**	**1.47-1.77**	0.1	0.10-0.20
$50,000 $74,999	**6.0**	**5.58-6.50**	4.4	4.00-4.85	**1.5**	**1.30-1.68**	0.1	0.09-0.20
$75,000 +	6.7	6.37-7.09	4.7	4.43-5.07	1.8	1.69-2.01	0.1	0.10-0.18

[a]SAMHSA requires that any description of overall sample sizes based on the restricted use data files be rounded to the nearest 100 to minimize potential disclosure risk. Wtd=weighted; CI=confidence interval; NH=Non Hispanic; Each bolded estimate is significantly different (p<0.05) from the corresponding reference group (with + sign) within each column. N=unweighted sample size, the denominator.

Table 2

12 month prevalence of any use of prescription stimulants, prescription stimulant use without misuse, misuse without use disorders, and use disorders among U.S. adults by health conditions and behavioral health status, N=102000[a]

Characteristics	any use of prescription stimulant N=102000[a]		prescription stimulant use without misuse N=102000[a]		prescription stimulant misuse without use disorders, N=102000[a]		prescription stimulant use disorders N=102000[a]	
	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI
Health Conditions								
Self-rated health								
Excellent +	6.1	5.74-6.54	3.9	3.62-4.27	2.1	1.89-2.29	0.1	0.07-0.17
Very good	6.9	6.53-7.20	4.4	4.10-4.66	2.3	2.15-2.52	0.2	0.13-0.21
Good	6.6	6.23-6.95	4.8	4.53-5.17	1.5	1.40-1.70	0.2	0.15-0.27
Fair/poor	6.5	5.91-7.09	5.1	4.63-4.27	1.1	0.88-1.26	0.3	0.19-0.41
No. PY ER visits								
0 +	6.0	5.76-6.21	4.0	3.85-4.24	1.8	1.69-1.92	0.1	0.11-0.18
1	7.3	6.81-7.91	5.2	4.68-5.65	2.0	1.75-2.23	0.2	0.16-0.31
2	9.2	8.40-10.08	6.3	5.62-7.07	2.6	2.22-2.95	0.3	0.21-0.55
3	9.9	8.75-11.14	7.5	6.41-8.66	2.0	1.62-2.54	0.4	0.24-0.66
Hypertension								
Yes	5.1	4.63-5.58	4.4	3.95-4.84	0.6	0.45-0.72	0.1	0.09-0.23
No+	7.0	6.72-7.19	4.6	4.38-4.75	2.2	2.08-2.33	0.2	0.16-0.22
Heart Disease								
Yes	4.8	4.18-5.41	4.0	3.45-4.60	0.6	0.42-0.74	0.2	0.11-0.39
No +	6.8	6.58-7.01	4.6	4.41-4.77	2.0	1.92-2.15	0.2	0.15-0.21
Diabetes Mellitus								
Yes	4.6	4.01-5.28	4.1	3.53-4.75	0.4	0.28-0.59	0.1	0.04-0.21
No+	6.8	6.59-7.03	4.6	4.39-4.76	2.1	1.94-2.16	0.2	0.16-0.22
Cancer								
Yes	4.9	4.07-5.85	4.1	3.31-4.96	0.7	0.50-1.06	0.1	0.04-0.27
No +	6.7	6.48-6.90	4.6	4.38-4.73	2.0	1.84-2.06	0.2	0.16-0.22

Characteristics	any use of prescription stimulant N=102000[a]		prescription stimulant use without misuse N=102000[a]		prescription stimulant misuse without use disorders, N=102000[a]		prescription stimulant use disorders N=102000[a]	
	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI
Asthma								
Yes	10.3	9.60-11.09	7.2	6.60-7.88	2.8	2.50-3.23	0.3	0.18-0.39
No +	6.2	5.98-6.40	4.2	4.07-4.42	1.8	1.67-1.88	0.2	0.14-0.21
COPD								
Yes	8.0	6.85-9.40	6.6	5.50-7.86	1.1	0.79-1.55	0.4	0.18-0.65
No +	6.5	6.30-6.72	4.4	4.26-4.60	1.9	1.80-2.02	0.2	0.15-0.20
Kidney disease								
Yes	4.7	3.49-6.29	4.2	3.03-5.70	0.5	0.27-0.90	0.04	0.01-0.20
No +	6.6	6.41-6.83	4.5	4.36-4.70	1.9	1.80-2.01	0.2	0.16-0.22
Mental Health Problems								
Major depressive episode								
Yes	16.6	15.47-17.70	10.9	9.95-11.88	4.6	4.13-5.19	1.1	0.79-1.40
No +	5.8	5.63-6.04	4.1	3.89-4.23	1.7	1.56-1.77	0.1	0.10-0.14
Suicide ideation								
Yes	17.3	15.93-18.85	9.9	8.74-11.11	6.2	5.48-7.06	1.3	0.90-1.76
No +	6.1	5.92-6.32	4.3	4.13-4.47	1.7	1.59-1.79	0.1	0.11-0.16
Substance Use Problems								
Tobacco use & disorder								
PM nicotine dependence	10.3	9.66-10.91	6.0	5.46-6.53	3.6	3.29-4.00	0.7	0.53-0.85
PY tobacco use	11.3	10.80-11.89	6.2	5.85-6.65	4.8	4.43-5.15	0.3	0.25-0.40
Lifetime use, but no PY use	5.6	5.31-5.97	4.5	4.21-4.81	1.1	0.94-1.17	0.1	0.05-0.12
Never tobacco use +	3.5	3.22-3.74	3.0	2.75-3.24	0.5	0.38-0.53	0.04	0.02-0.08
Alcohol use & disorder								
PY alcohol use disorder	18.3	17.22-19.41	7.6	6.89-8.46	9.2	8.44-9.98	1.5	1.17-1.84
PY use, no use disorder	6.8	6.58-7.10	4.8	4.60-5.04	1.9	1.80-2.04	0.1	0.08-0.13
Lifetime use, but no PY use	4.6	4.18-5.07	4.0	3.64-4.48	0.5	0.34-0.63	0.1	0.06-0.20
Never alcohol use +	2.6	2.25-2.91	2.4	2.10-2.76	0.1	0.07-0.19	0.04	0.01-0.11

Characteristics	any use of prescription stimulant N=102000 [a]		prescription stimulant use without misuse N=102000 [a]		prescription stimulant misuse without use disorders, N=102000 [a]		prescription stimulant use disorders N=102000 [a]	
	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI
Cannabis use & disorder								
PY cannabis use disorder	29.1	26.54-31.70	9.8	8.31-11.55	16.2	14.30-18.33	3.0	2.26-4.04
PY use, but no use disorder	17.3	16.51-18.07	8.0	7.46-8.58	8.6	8.06-9.19	0.7	0.53-0.84
Lifetime use, but no PY use	6.9	6.56-7.32	5.5	5.19-5.88	1.3	1.14-1.41	0.1	0.10-0.19
Never cannabis use +	3.2	3.05-3.44	2.9	2.75-3.14	0.3	0.24-0.34	0.02	0.01-0.04
Cocaine use & disorder								
PY cocaine use disorder	32.5	27.08-38.53	9.9	6.76-14.40	14.7	11.23-19.10	7.9	5.16-11.79
PY use, no disorder	41.2	38.49-44.01	11.9	10.25-13.76	27.1	24.67-29.73	2.2	1.59-3.04
Lifetime use, no PY use	11.1	10.40-11.76	7.0	6.40-7.56	3.7	3.34-4.07	0.4	0.31-0.56
Never cocaine use +	5.1	4.87-5.24	4.0	3.79-4.13	1.0	0.96-1.10	0.1	0.05-0.09
Heroin use & disorder								
PY heroin use or disorder	34.0	28.94-39.52	13.0	9.46-17.58	15.7	12.31-19.81	5.3	3.44-8.21
Lifetime use, no PY use	14.3	12.25-16.52	6.7	5.24-8.42	6.5	5.24-7.99	1.1	0.61-2.00
Never heroin use +	6.3	6.13-6.54	4.5	4.29-4.62	1.7	1.64-1.84	0.1	0.12-0.17
Hallucinogen use & disorder								
PY use/use disorder	42.9	40.46-45.39	12.0	10.56-13.53	28.0	25.94-30.24	2.9	2.22-3.80
Lifetime use, no PY use	12.8	12.14-13.50	7.9	7.30-8.45	4.4	4.09-4.81	0.5	0.39-0.66
Never hallucinogen use+	4.7	4.51-4.88	3.8	3.60-3.95	0.9	0.79-0.93	0.1	0.05-0.09
Inhalant use & disorder								
PY inhalant use/use disorder	34.2	29.45-39.26	9.5	7.09-12.69	22.0	18.25-26.22	2.7	1.50-4.76
Lifetime use, no PY use	14.6	13.70-15.57	8.2	7.51-8.92	5.6	5.09-6.22	0.8	0.61-1.04
Never inhalant use +	5.6	5.44-5.84	4.1	3.96-4.31	1.4	1.31-1.49	0.1	0.09-0.13
Rx tranquilizer/sedative misuse & use disorder								
PY misuse & use disorder	34.1	31.99-36.32	12.0	10.64-13.58	19.2	17.57-20.84	2.9	2.31-3.74
Lifetime misuse, no PY misuse	15.6	13.95-17.32	8.7	7.40-10.10	6.2	5.31-7.32	0.7	0.40-1.09
Never misuse +	5.5	5.32-5.71	4.2	4.02-4.35	1.3	1.16-1.33	0.1	0.07-0.11

Characteristics	any use of prescription stimulant N=102000[a]		prescription stimulant use without misuse N=102000[a]		prescription stimulant misuse without use disorders, N=102000[a]		prescription stimulant use disorders N=102000[a]	
	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI	wtd %	95% CI
Rx opioid misuse/use disorder								
PY misuse & use disorder	**25.8**	**24.31-27.25**	**10.7**	**9.62-11.85**	**13.1**	**12.06-14.26**	**2.0**	**1.53-2.48**
Lifetime misuse, no PY misuse	**13.7**	**12.64-14.71**	**7.6**	**6.79-8.47**	**5.6**	**4.97-6.24**	**0.5**	**0.34-0.70**
Never misuse +	5.1	4.92-5.31	4.0	3.83-4.17	1.0	0.97-1.12	0.1	0.05-0.09

[a] SAMHSA requires that any description of overall sample sizes based on the restricted use data files be rounded to the nearest 100 to minimize potential disclosure risk. Wtd=weighted; CI = confidence interval; COPD= chronic obstructive pulmonary disease; PY=past year; PM: past month; Rx=prescription. Each bolded estimate is significantly different (p<0.05) from the corresponding reference group (with + sign) within each column. N=unweighted sample size, the denominator.

Table 3

Multivariable multinomial logistic regression model showing correlates of prescription stimulant use without misuse, misuse without use disorders, and use disorders among U.S. adults, N=102000[a]

Characteristics	Rx. stimulant use without misuse vs. Rx. stimulant non use n=98500[a]		Rx. stimulant misuse without use disorders vs. Rx. stimulant use without misuse, n=8700[a]		Rx. stimulant use disorders vs. Rx. stimulant misuse without use disorders, n=3500[a]	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Ages						
18-29	2.1	1.83-2.39	5.0	3.46-7.08	0.3	0.11-0.54
30-49	1.5	1.33-1.73	2.1	1.42-3.00	0.5	0.21-0.96
50 +	1.0		1.0		1.0	
Sex						
Men	0.7	0.66-0.78	1.2	1.04-1.36	0.8	0.56-1.24
Women +	1.0		1.0		1.0	
Race/ethnicity						
NH white +	1.0		1.0		1.0	
NH black	0.6	0.51-0.70	0.6	0.45-0.78	0.9	0.39-1.85
Hispanic	0.7	0.57-0.75	1.0	0.84-1.29	0.8	0.49-1.27
NH other	0.6	0.47-0.68	1.5	1.13-1.92	0.4	0.21-0.80
Education						
<High school +	1.0		1.0		1.0	
High school	0.8	0.61-0.98	1.4	0.95-2.09	1.0	0.36-2.57
Some college	1.0	0.81-1.26	1.4	0.98-2.06	0.9	0.35-2.25
College graduate	0.9	0.67-1.09	1.9	1.25-2.73	0.8	0.28-2.26
Health insurance						
Private only +	1.0		1.0		1.0	
Uninsured	0.7	0.61-0.81	0.9	0.74-1.12	1.4	0.80-2.45
Medicaid only	0.8	0.65-0.86	0.8	0.62-0.97	1.2	0.71-2.17
Family Income						
<$20,000	1.0	0.84-1.11	1.4	1.16-1.74	1.1	0.65-1.93

Characteristics	Rx. stimulant use without misuse vs. Rx. stimulant non use n=98500[a]		Rx. stimulant misuse without use disorders vs. Rx. stimulant use without misuse, n=8700[a]		Rx. stimulant use disorders vs. Rx. stimulant misuse without use disorders, n=3500[a]	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
$20,000-$49,999	0.9	0.80-1.00	0.9	0.75-1.08	0.8	0.49-1.38
$50,000-$74,999	0.9	0.80-1.02	0.8	0.65-0.99	1.0	0.55-1.88
$75,000 +	1.0		1.0		1.0	
Self-rated health						
Excellent +	1.0		1.0		1.0	
Very good	1.0	0.92-1.14	0.9	0.80-1.10	1.1	0.62-1.87
Good	1.3	1.11-1.41	0.6	0.50-0.74	1.5	0.91-2.57
Fair/poor	1.4	1.17-1.63	0.6	0.43-0.73	1.9	0.99-3.66
No. PY ER visits						
0 +	1.0		1.0		1.0	
1	1.2	1.05-1.33	0.8	0.66-0.97	1.1	0.71-1.71
2	1.4	1.21-1.60	0.7	0.58-0.88	1.2	0.68-2.18
3	1.4	1.19-1.74	0.6	0.42-0.81	1.1	0.55-2.16
Asthma						
Yes	1.4	1.24-1.55	0.9	0.75-1.08	0.9	0.57-1.48
No +	1.0		1.0		1.0	
Major depressive episode						
Yes	1.8	1.63-2.08	0.7	0.59-0.86	2.2	1.44-3.41
No +	1.0		1.0		1.0	
Tobacco use/disorder						
PM nicotine dependence	1.1	0.93-1.29	1.3	1.00-1.81	1.1	0.38-3.14
PY tobacco use	1.3	1.13-1.47	1.2	0.94-1.59	0.7	0.28-1.91
Lifetime use, but no PY use	1.2	1.03-1.34	1.0	0.75-1.30	0.8	0.28-2.10
Never use +	1.0		1.0		1.0	
Alcohol use/disorder						
PY alcohol use disorder	1.3	1.05-1.60	4.0	2.36-6.71	0.3	0.09-1.18
PY alcohol use, no use disorder	1.2	1.00-1.40	2.8	1.68-4.65	0.1	0.04-0.49

Characteristics	Rx. stimulant use without misuse vs. Rx. stimulant non use n=98500 [a]		Rx. stimulant misuse without use disorders vs. Rx. stimulant use without misuse, n=8700 [a]		Rx. stimulant use disorders vs. Rx. stimulant misuse without use disorders, n=3500 [a]	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Lifetime use, but no PY use	1.2	1.00-1.47	1.9	1.06-3.43	0.3	0.08-1.21
Never use +	1.0		1.0		1.0	
Cannabis use/disorder						
PY cannabis use disorder	1.5	1.18-1.92	3.2	2.21-4.58	2.4	0.78-7.22
PY use, but no use disorder	1.5	1.30-1.72	3.2	2.45-4.26	1.2	0.44-3.40
Lifetime use, no PY use	1.3	1.19-1.50	1.6	1.25-2.14	1.7	0.63-4.72
Never use +	1.0		1.0		1.0	
Cocaine use/disorder						
PY use or cocaine use disorder	1.7	1.35-2.06	1.7	1.32-2.14	1.2	0.71-2.01
Lifetime use, no PY use	1.1	0.97-1.28	1.3	1.05-1.57	1.0	0.59-1.59
Never use +	1.0		1.0		1.0	
Heroin use/disorder						
PY heroin use or disorder	1.0	0.63-1.53	0.8	0.47-1.23	2.0	1.00-3.94
Lifetime use, no PY use	0.7	0.55-0.97	1.2	0.86-1.80	0.9	0.45-1.95
Never use +	1.0		1.0		1.0	
Hallucinogen use/disorder						
PY hallucinogen use/use disorder	1.9	1.58-2.37	1.5	1.16-1.84	1.1	0.63-1.82
Lifetime use, no PY use	1.3	1.15-1.49	1.0	0.81-1.19	1.0	0.61-1.68
Never use +	1.0		1.0		1.0	
Rx tranquilizer/sedative misuse & use disorder						
PY misuse & use disorder	1.6	1.34-1.95	1.8	1.44-2.25	1.3	0.86-2.09
Lifetime misuse, no PY misuse	1.2	0.95-1.42	1.2	0.88-1.56	1.0	0.54-1.99
Never misuse +	1.0		1.0		1.0	
Rx opioid misuse/disorder						
PY misuse or use disorder	1.7	1.42-1.93	1.8	1.44-2.20	1.3	0.73-2.17
Lifetime misuse, no PY misuse	1.1	0.98-1.33	1.5	1.17-1.84	1.0	0.56-1.71
Never misuse +	1.0		1.0		1.0	

[a]SAMHSA requires that any description of overall sample sizes based on the restricted use data files be rounded to the nearest 100 to minimize potential disclosure risk. All results are based on weighted data. PY=past year; PM: past month; Rx=prescription; Each bolded estimate is significantly different (p<0.05) from the corresponding reference group (with + sign). Variables that are presented in Tables 1–2 but not in Table 3 are not significantly associated with the outcomes and have been removed from the final multivariable logistic regression model. N=overall unweighted sample size. n=unweighted sample size for each column.

Table 4

Among adults with past year prescription stimulant misuse in the U.S., main motivation for and source of prescription stimulants misused most recently by frequency of past month misuse and by past year prescription stimulant use disorders, weighted percentages

	Any past-year misusers N=3500[a]	The number of days of misuse in the past month				Misuse by past-year prescription stimulant use disorder (SUD)	
		0 day n=2400[a]	1-2 days n=600[a]	3-6 days n=300[a]	7+ days n=200[a]	without SUD n=3200[a]	with SUD n=300[a]
Main motivation							
Lose weight	4.07	4.22	3.20	4.71	3.85	3.75[c]	7.93
Help be alert/concentrate	56.34	54.42	57.09	60.28	69.52[b]	56.33	56.21
Help study	21.88	24.60	17.93[b]	15.86[b]	11.47[b]	23.07[c]	9.21
Get high/hooked/Adj. drug effects/experiment	15.53	14.91	18.80	14.84	14.78	14.76[c]	23.63
Other	2.17	1.85	2.97	4.31	*	2.09	3.02
Source							
Free from friend/relative	56.87	58.77	56.76	50.94	44.90[b]	59.23[c]	30.87
Bought/stole from friend/relative	21.77	20.92	26.39[b]	24.39	15.06	22.28	16.12
One or more doctor	11.09	10.09	6.50	17.18[b]	25.23[c]	8.55[c]	37.70
Drug dealer/stranger	4.33	4.00	3.97	4.13	9.17[b]	3.90[c]	8.73
Other	5.94	6.21	6.38	3.35	5.64	6.04	6.58

N=overall unweighted sample size. n=unweighted sample size for each column.

[a] SAMHSA requires that any description of overall sample sizes based on the restricted use data files be rounded to the nearest 100 to minimize potential disclosure risk.

[b] Estimate is statistically significantly different from that for lowest frequency misusers (0 day in the past month) ($p < .05$).

[c] Estimate is statistically significantly different from that for misusers with prescription stimulant use disorders ($p < .05$).

* Estimate suppressed due to low statistical precision.

Table 5

Multinomial multivariable logistic regression model showing associations between motivations of prescription stimulant misuse and sociodemographic factors, self rated health, suicidality, and specific substance use, misuse, and use disorders among adults with past year misuse, N=3,400[a]

Characteristics	Lose weight vs. Be alert/concentrate n=2000[a]		Help study vs. Be alert/concentrate n=2700[a]		Get high/hooked/Adj. drug effects/experiment vs. Be alert/concentrate, n=2500[a]	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Age						
18-29	0.6	0.31-1.00	**5.0**	**2.98-8.54**	0.8	0.60-1.15
30 +	1.0		1.0		1.0	
Sex						
Men	**0.2**	**0.08-0.37**	**1.5**	**1.16-1.92**	**1.3**	**1.02-1.75**
Women +	1.0		1.0		1.0	
Race/ethnicity						
NH white +	1.0		1.0		1.0	
NH black	**2.5**	**1.03-6.19**	1.3	0.75-2.14	**1.7**	**1.03-2.94**
Hispanic	**2.2**	**1.09-4.27**	**1.8**	**1.23-2.63**	1.2	0.76-1.96
NH other	0.9	0.29-2.73	**1.6**	**1.01-2.58**	**1.7**	**1.08-2.65**
Employment						
Full time +	1.0		1.0		1.0	
Part time	0.5	0.23-1.17	**1.7**	**1.28-2.20**	0.8	0.57-1.16
Unemployment	1.0	0.34-2.83	1.2	0.63-2.23	**1.9**	**1.17-2.95**
Family income						
<$20,000 +	1.0		1.0		1.0	
$20,000 $49,999	0.8	0.33-2.04	**1.6**	**1.18-2.04**	1.1	0.76-1.57
$50,000 $74,999	0.8	0.35-1.60	**0.7**	**0.50-0.91**	1.2	0.82-1.62
$75,000	0.8	0.37-1.72	1.0	0.65-1.44	1.4	0.89-2.06
Health insurance						
Private only +	1.0		1.0		1.0	
Uninsured	**2.2**	**1.07-4.45**	0.6	**0.37-0.87**	1.0	0.67-1.43
Medicaid only	1.6	0.79-3.23	**0.6**	**0.38-0.84**	1.0	0.64-1.51

Characteristics	Lose weight vs. Be alert/concentrate n=2000[a]		Help study vs. Be alert/concentrate n=2700[a]		Get high/hooked/Adj. drug effects/experiment vs. Be alert/concentrate, n=2500[a]	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Self-rated health						
Excellent +	1.0		1.0		1.0	
Very good	1.2	0.61-2.24	0.8	0.63-1.09	**0.6**	**0.42-0.86**
Good	1.3	0.66-2.72	**0.6**	**0.44-0.91**	**0.7**	**0.45-0.96**
Fair or poor	1.3	0.40-3.95	0.6	0.34-1.19	0.9	0.52-1.52
Suicide ideation						
Yes	1.5	0.75-3.80	0.8	0.55-1.09	**1.5**	**1.04-2.07**
No +	1.0		1.0		1.0	
Tobacco use/disorder						
PM nicotine dependence	0.8	0.33-2.17	**0.4**	**0.23-0.62**	0.8	0.44-1.59
PY use, no dependence	0.8	0.35-1.98	1.0	0.63-1.44	1.0	0.54-1.77
Lifetime use, no PY use	0.8	0.34-2.11	0.8	0.53-1.29	0.9	0.44-1.68
Never use +	1.0		1.0		1.0	
Alcohol use/disorder						
PY alcohol use disorder	0.6	0.21-1.43	**2.0**	**1.01-4.05**	1.1	0.56-2.33
PY use, no disorder	0.6	0.25-1.56	**2.2**	**1.12-4.40**	0.9	0.43-1.71
Never use +	1.0		1.0		1.0	
Cannabis use/disorder						
PY cannabis use disorder	0.5	0.19-1.36	1.4	0.91-2.04	**1.6**	**1.02-2.55**
PY use, no disorder	**0.4**	**0.22-0.84**	1.1	0.84-1.50	1.2	0.86-1.78
Never use +	1.0		1.0		1.0	
Cocaine use/disorder						
PY use or use disorder	0.5	0.25-1.20	0.9	0.68-1.21	**1.8**	**1.19-2.57**
Lifetime use, no PY use	**0.5**	**0.25-0.81**	0.7	0.52-1.05	1.2	0.81-1.83
Never use +	1.0		1.0		1.0	
Heroin use/disorder						
PY heroin use & disorder	2.7	0.81-8.63	1.2	0.53-2.81	**2.9**	**1.61-5.27**

Characteristics	Lose weight vs. Be alert/concentrate n=2000[a]		Help study vs. Be alert/concentrate n=2700[a]		Get high/hooked/Adj. drug effects/experiment vs. Be alert/concentrate, n=2500[a]	
	AOR	**95% CI**	**AOR**	**95% CI**	**AOR**	**95% CI**
Lifetime use, no PY use	1.9	0.66-5.60	0.5	0.23-1.28	1.4	0.84-2.25
Never use +	1.0		1.0		1.0	
Rx sedative/tranquilizer misuse/disorder						
PY misuse & use disorder	1.4	0.68-3.02	0.9	0.66-1.22	1.0	0.71-1.39
Lifetime, but no PY misuse	**3.0**	**1.21-7.37**	0.8	0.47-1.26	0.8	0.50-1.38
Never misuse +	1.0		1.0		1.0	
Rx opioid misuse/disorder						
PY misuse or use disorder	0.5	0.24-1.11	**0.6**	**0.46-0.84**	1.0	0.69-1.35
Lifetime, but no PY misuse	0.9	0.43-1.82	**0.7**	**0.50-0.99**	1.0	0.67-1.55
Never misuse +	1.0		1.0		1.0	

AOR=adjusted odds ratio; CI = confidence interval; NH=Non Hispanic; PY=past year; PM: past month; Rx=prescription; Variables that are presented in Tables 1–2 but not in Table 5 are not significantly associated with the outcomes and have been removed from the final multinomial multivariable logistic regression model. Each bolded adjusted odds ratio is significantly different (p<0.05) from the corresponding reference group (with + sign) within the column. N=overall unweighted sample size. n=unweighted sample size for each column.

[a]SAMHSA requires that any description of overall sample sizes based on the restricted use data files be rounded to the nearest 100 to minimize potential disclosure risk. This analysis excluded those who reported other nonspecific motivation for misusing prescription stimulants (n=100). All results are based on weighted data.