

Nonmedical Use of Prescription Stimulants

What college administrators, parents, and students need to know

What is nonmedical use of prescription stimulants?

- › Prescription stimulants, such as Ritalin[®] or Adderall[®], are sometimes used by students who do not have a prescription or used in ways that are inconsistent with the prescribing physician's instructions (e.g., extremely high doses, snorting, injecting). This is called nonmedical use.¹ Typically the reason students have for using prescription stimulants nonmedically is that they think it will help them do better on a test or study more effectively.
- › Prescription stimulants are most commonly prescribed to students for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) and have been shown to be effective for the management of this condition. *This fact sheet on nonmedical use does not address issues related to ADHD treatment and the proper medical use of these medications.*

How many students are using prescription stimulants nonmedically?

› Adolescents

In 2011, less than one in ten adolescents reported using Ritalin[®] or Adderall[®] nonmedically during the past year (see Table 1). The percentage of adolescents who use these medications nonmedically has stayed relatively stable during the past few years.

	8 th graders	10 th graders	12 th graders
Ritalin [®]	1.3%	2.6%	2.6%
Adderall [®]	1.7%	4.6%	6.5%

› College Students

The nonmedical use of prescription stimulants is more common among college students than high school students. Studies have found that 4.1% to 10.8% of college students reported using prescription stimulants nonmedically during the past year.³⁻⁷ Table 2 shows findings from the College Life Study.^{8,9}

	Freshmen	Sophomores	Juniors	Seniors	Cumulative ^a
Offered	36.0%	38.5%	41.1%	32.0%	61.8%
Used	13.3%	17.9%	20.1%	16.1%	31.0%

^aCumulative refers to being offered or used at any time during college.

Where do students obtain the prescription stimulants they use nonmedically?

Many studies have shown that most students who nonmedically use prescription stimulants obtain the drugs from a friend who has a prescription.¹⁰⁻¹² These friends often give away their pills for free.^{10,13}

› Prescriptions

One study found that 5.3% of college students were currently prescribed ADHD medications.¹⁴

› Diversion

Diversion includes the illicit sharing, selling, and trading of prescription medications. In one study, 61.7% of college students diagnosed with ADHD reported diverting their prescription stimulants.¹⁴ Risk factors for diversion are childhood conduct problems¹⁴ and cannabis use disorder.¹⁰

Perceived availability

Table 3. Adolescents' reported ease of obtaining Adderall® or Ritalin® for nonmedical use (percent reporting "fairly easy" or "very easy"). ²		
8 th graders	10 th graders	12 th graders
15.0%	28.5%	47.0%

What characteristics or behaviors are associated with nonmedical use of prescription stimulants?

› Excessive drinking and other drug use^{3,10,15,16}

› Lower GPA^{3,4,10}

› Low perceived harmfulness of using prescription stimulants nonmedically¹⁷

› Attention difficulties¹⁸

› Psychiatric distress or depressed mood¹⁹

› Skipping classes

In one study, nonmedical users of prescription stimulants skipped 16.1% of their classes while non-users skipped 9.4% of their classes.⁴

› Affiliation with a Greek (fraternity/sorority) organization.^{3,11}

One study showed that the association between nonmedical use and Greek involvement became non-significant once statistical adjustment was made for drinking and other drug use.¹⁰

MYTHS AND REALITIES

MYTH	Everyone is doing it.
REALITY	Use is not the norm. In 2011, less than one in ten adolescents used prescription stimulants nonmedically. ²
MYTH	These drugs are safe.
REALITY	Taking prescription stimulants without a physician's supervision carries health risks to the nonmedical user because of the possibility of unknown interactions with other drugs, risk for dependence, and adverse health consequences. Specifically, taking high doses of prescription stimulants may result in dangerously high body temperatures, irregular heartbeat, seizures, or heart attack. Nonmedical use also carries risk for the person diverting the medication; trading, sharing, or selling medication might mean the diverter is skipping doses and not treating their disorder appropriately. The diversion of prescription stimulants also carries legal risks for the diverter.
MYTH	These drugs are perceived to be safer than illicit drugs by individuals who nonmedically use them.
REALITY	In one study, more college students perceived a "great risk" from occasional nonmedical prescription stimulant use than from occasional marijuana use. ¹⁷
MYTH	Most students who use prescription stimulants nonmedically do well academically.
REALITY	Nonmedical use is concentrated among students who have lower GPAs. ^{3,7,20,21} Moreover, nonmedical users often have a history of heavy drinking and other drug involvement, especially with marijuana. ^{3,10,15,16} If other drug use is an underlying factor in poor academic performance, then nonmedical use of prescription stimulants might be seen as a compensatory behavior for not having studied or gone to class. There is evidence to suggest that prescription stimulants are used as an attempt to meet academic demands in the context of an active social lifestyle, which often includes drinking, illicit drug use, and little time for studying. Yet there is no evidence that this compensatory strategy is effective.
MYTH	By using prescription stimulants nonmedically, students can improve their cognitive performance and gain a competitive edge.
REALITY	Experimental research has shown mixed findings on the performance effect of prescription stimulants among study volunteers with no attention difficulties. There is much uncertainty about their effectiveness due to dosage issues, individual differences, expectancy of the effect, and type of task. Thus, it is unlikely that these drugs can improve academic performance in the long run.

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IMPLICATIONS AND PRACTICE SUGGESTIONS

College administrators, health care providers, parents, and students all have the responsibility to actively discourage nonmedical use of prescription stimulants, as well as all other forms of drug use, because of the possible adverse impact that drug use has on health, safety, and well-being.

College Administrators

- › Colleges should consider providing a comprehensive support structure that integrates academic advising with assessment of substance use and mental health problems. One recommendation might be to flag students who exhibit a precipitous drop in their academic performance (e.g., from a 3.8 GPA to a 3.2 in one semester) and investigate what factors might be responsible.
- › Early intervention strategies should be put into place to assist students who are struggling academically. These strategies should include screening for substance use and an individualized plan to address it.
- › Most campus health centers are underfunded and need more resources and tools to address substance use, mental health problems, and adjustment issues among college students.

Health Care Providers

- › Physicians who prescribe stimulants should: a) be mindful of the prevalence of diversion, b) give their patients explicit instructions regarding the ways in which these medications should—and should not—be used, c) provide clear instructions to their patients regarding sharing and selling of medications, and d) include specific instructions on how to dispose of any unneeded medication.
- › Health care providers are encouraged to drug test and monitor students with a history of substance abuse to insure that they remain drug-free.

Parents

- › Parents should not condone or facilitate the nonmedical use of these drugs but rather view this practice as a red flag for substance use. Some parents might be tempted to turn a blind eye toward sharing of prescriptions among friends simply because they believe it might help their college-aged child get better grades. However, the link between the use of multiple drugs and nonmedical use of prescription drugs is strong. When parents suspect their child might be nonmedically using prescription stimulants, they should seek out a comprehensive evaluation for that child in order to determine the presence and severity of substance use and/or other mental health problems, including ADHD, anxiety, and/or depression.
- › The pressures of college, both academically and socially, are real. Parents can be part of a supportive network that contributes to the success of a student in appropriate, safe, and healthy ways. This might involve encouraging healthy habits like getting enough sleep, eating well, exercising, and practicing effective time management.

Students

- › Students must understand that there are few shortcuts to success. The way to good grades and a successful career is through hard work and constructive activities such as working part-time, taking an extra class, or participating in extracurricular activities. Not getting enough sleep, skipping class, and partying through college while taking prescription stimulants nonmedically to study and cram will be counterproductive in the long run.

REFERENCES

1. Arria AM, Wish ED. Nonmedical use of prescription stimulants among students. *Pediatric Annals*. 2006;35(8):565-571.
2. Johnston LD, O'Malley PM, Bachman JG, Schulenberg JE. *Monitoring the Future: National results on adolescent drug use: Overview of key findings, 2011*. Ann Arbor: Institute on Social Research, The University of Michigan;2012.
3. McCabe SE, Knight JR, Teter CJ, Wechsler H. Non-medical use of prescription stimulants among US college students: Prevalence and correlates from a national survey. *Addiction*. 2005;99(1):96-106.
4. Arria AM, O'Grady KE, Caldeira KM, Vincent KB, Wish ED. Nonmedical use of prescription stimulants and analgesics: Associations with social and academic behaviors among college students. *J Drug Issues*. 2008;38(4):1045-1060.
5. Teter CJ, McCabe SE, LaGrange K, Cranford JA, Boyd CJ. Illicit use of specific prescription stimulants among college students: Prevalence, motives, and routes of administration. *Pharmacotherapy*. 2006;26(10):1501-1510.
6. McCabe SE. Screening for drug abuse among medical and nonmedical users of prescription drugs in a probability sample of college students. *Arch Pediatr Adolesc Med*. 2008;162(3):225-231.
7. McCabe SE, Teter CJ, Boyd CJ. Medical use, illicit use and diversion of prescription stimulant medication. *J Psychoactive Drugs*. 2006;38(1):43-56.
8. Arria AM, Caldeira KM, O'Grady KE, et al. Drug exposure opportunities and use patterns among college students: Results of a longitudinal prospective cohort study. *Subst Abuse*. 2008;29(4):19-38.
9. Vincent KB, Kasperski SJ, Caldeira KM, et al. Maintaining superior follow-up rates in a longitudinal study: Experiences from the College Life Study. *Int J Mult Res Approach*. 2012;6(1):56-72.
10. Garnier-Dykstra LM, Caldeira KM, Vincent KB, O'Grady KE, Arria AM. Nonmedical use of prescription stimulants during college: Four-year trends in exposure opportunity, use, motives, and sources. *J Am Coll Health*. 2012;60(3):226-234.
11. DeSantis A, Noar SM, Webb E. Nonmedical ADHD stimulant use in fraternities. *J Stud Alcohol Drugs*. 2009;70(6):952-954.
12. DeSantis A, Noar SM, Webb EM. Speeding through the frat house: A qualitative exploration of nonmedical ADHD stimulant use in fraternities. *J Drug Educ*. 06 2010;40(2):157-171.
13. DuPont RL, Coleman JJ, Bucher RH, Wilford BB. Characteristics and motives of college students who engage in nonmedical use of methylphenidate. *Am J Addict*. 2008;17(3):167-171.
14. Garnier LM, Arria AM, Caldeira KM, Vincent KB, O'Grady KE, Wish ED. Sharing and selling of prescription medications in a college student sample. *J Clin Psychiatry*. 2010;71(3):262-269.
15. Herman-Stahl MA, Krebs CP, Kroutil LA, Heller DC. Risk and protective factors for methamphetamine use and nonmedical use of prescription stimulants among young adults aged 18 to 25. *Addict Behav*. 2007;32(5):1003-1015.
16. Arria AM, Caldeira KM, O'Grady KE, Vincent KB, Johnson EP, Wish ED. Nonmedical use of prescription stimulants among college students: Associations with attention-deficit-hyperactivity disorder and polydrug use. *Pharmacotherapy*. 2008;28(2):156-169.
17. Arria AM, Caldeira KM, Vincent KB, O'Grady KE, Wish ED. Perceived harmfulness predicts nonmedical use of prescription drugs among college students: Interactions with sensation-seeking. *Prev Sci*. 2008;9(3):191-201.
18. Arria AM, Garnier-Dykstra LM, Caldeira KM, Vincent KB, O'Grady KE, Wish ED. Persistent nonmedical use of prescription stimulants among college students: Possible association with Attention Deficit Hyperactivity Disorder symptoms. *J Atten Disord*. 2011;15(5):347-356.
19. Teter CJ, Falone AE, Cranford JA, Boyd CJ, McCabe SE. Nonmedical use of prescription stimulants and depressed mood among college students: Frequency and routes of administration. *J Subst Abuse Treat*. 04 2010;38(3):292-298.
20. Clegg-Kraynok MM, McBean AL, Montgomery-Downs HE. Sleep quality and characteristics of college students who use prescription psychostimulants nonmedically. *Sleep Med*. 2011;12(6):598-602.
21. Arria AM, Wilcox HC, Caldeira KM, Vincent KB, Garnier-Dykstra LM, O'Grady KE. Dispelling the myth of "smart drugs": Cannabis and alcohol use problems predict nonmedical use of prescription stimulants for studying. *Addict Behav*. 2013;38(3):1643-1650.