



**HEADS UP
REAL NEWS
ABOUT DRUGS
AND YOUR BODY**

Drug Abuse in Social Settings: A Serious Risk for Teens



—A message from
Dr. Nora D. Volkow,
Director of NIDA

In This Installment

- The science of why it's hard to say no
- Drug-refusal strategies
- Looking inside the teen brain
- What to do if you see someone overdosing

Assessment Opportunities

Look inside for creative, science-based lessons and to see how you can test what your students have learned about drug-abuse trends, drug abuse in social settings, and effective ways to say “No, thanks.”

Dear Teacher:

Teens are social beings. As a teacher who works with adolescents, you definitely won't find that shocking! Probably more than anyone, you understand how important it is for teens to feel like they fit in—that they're part of the crowd.

Unfortunately, this strong social instinct among teens—which certainly has some positive aspects—can put them at high risk for drug abuse, especially in social settings such as parties and after-school



hangout sessions. This year's fourth and final installment of *Heads Up: Real News About Drugs and Your Body* deals with the issues of adolescent drug abuse in social situations.

The issues are real and important. Researchers have found that most teens who abuse drugs first do so in social settings. If we can cut off this route to drug abuse and addiction, we may save many young people from lifetimes of drug-related problems.

This article in the *Heads Up* series presents the issue to readers in a straightforward way, and reveals the science behind *why* it can be so tough for teens to make smart decisions in social settings. It also offers research-tested drug-refusal strategies that students can draw on as they navigate the teen social maze this summer.

Along with this sober subject matter, the article also shares good news. The results for 2005 are in from NIDA's annual Monitoring the Future survey, and teen drug use is stable, with indications of a continuing general decline for a record fifth year in a row, except for certain prescription drugs.

Thank you for working with me and the team of NIDA researchers to bring science-based facts about drug abuse to your students. By taking classroom time to share the lessons of *Heads Up* with your students this year, you have helped to set the stage for a healthier, smarter, drug-free generation of young adults. You are truly making a difference.

Sincerely,

Nora D. Volkow, MD
Director of NIDA

For printable past and current articles in the **HEADS UP** series, as well as activities and teaching support, go to www.drugabuse.gov/parent-teacher.html or www.scholastic.com/HEADSUP.

Lesson Plans for Student Activities

PREPARATION: Before beginning the lessons, make these photocopies: Two copies for each student of Reproducible 1 for a pre-text and post-text quiz, and one copy for each student of Reproducible 2.

Lesson 1 Heads Up: What Do You Know About Drug Abuse in Social Settings?

OBJECTIVE

To give students science-based facts about why the risk for drug abuse is higher in social settings such as parties; to show students that abusing drugs is not the norm among teens; to provide students with research-tested drug-refusal strategies; and to assess students' knowledge of the topics before and after reading the article.

NATIONAL SCIENCE EDUCATION STANDARDS

Life Science; Science in Personal and Social Perspective

LESSON STRATEGY

Introducing the Topic

- Before the lesson begins, hold a class discussion based on these questions: *Where do you think most kids who abuse drugs have their first drug experience? Why is it sometimes difficult to say no in a social setting; for example, if someone offers you a slice of cake or a piece of candy after you have made up your mind to get healthier by avoiding refined*

carbs? Could those same reasons apply to turning down drugs? Why do some teens have a hard time saying no to drugs at parties—even when they don't really want them?

- Tell students that they are going to see how much they know about the latest research into teen drug abuse in social settings and drug-refusal strategies. Distribute copies of Reproducible 1. Tell students to write their names on the paper and label it No. 1. Then have them answer the questions. Collect and grade the papers.

READING, DISCUSSION, AND ASSESSMENT

- Have students read the article "A Day in the Life of a Teen." Next, hold a discussion based on these questions: *Are you surprised to learn that most teens overestimate the amount of drug abuse among their peers? How might the media play a role (TV, movies, news programs, etc.)? Why is the urge to imitate so powerful*

among adolescents? How can you resist it? Should teens avoid social situations as a way of avoiding the temptation to use drugs? Why or why not?

- Next, tell students it's time to see how much they've increased their knowledge. Give them a second copy of Reproducible 1. Tell them to write their names on the paper and label it No. 2. When students have finished, collect the papers, score them, and compare the results before and after the lesson.

WRAP-UP

- Conclude the lesson by asking students what they think would be the best way to teach teens drug-refusal skills: giving them materials to read, or offering opportunities to role-play tough social situations? Discuss whether your school ought to offer classes, and whether they should be optional or mandatory.

ANSWERS TO QUIZ QUESTIONS:

1. b; 2. a; 3. d; 4. b; 5. c; 6. b; 7. a; 8. c; 9. b; 10. d.

Lesson 2 Heads Up: Understanding Drug-Abuse Statistics

OBJECTIVE

To help students develop an understanding of statistics, find out how scientists collect and use statistics, and use their knowledge to interpret data from the 2005 Monitoring the Future survey (www.monitoringthefuture.org), an annual study of the behaviors, attitudes, and values of teens in America.

NATIONAL SCIENCE EDUCATION STANDARDS

Science as Inquiry; Science in Personal and Social Perspective

LESSON STRATEGY

Introducing the Topic

- Explain to students that statistics is a branch of math dedicated to answering questions by using numbers. Scientists use statistical methods to collect, analyze, and draw conclusions from data. Have students think of ways in which statistics are used to help people understand the world. (Examples may include baseball statistics and student-performance analyses, such as class rank.)
- Tell students that many types of scientists use statistics. One of the

most common statistical tools is the survey or poll. In a survey to track drug use among teens, for example, a scientist might ask survey participants whether they have used a particular drug in the past 12 months. Scientists analyze the results to determine facts about drug use among teens. Have students recall surveys they have heard about lately. What do they think was the purpose of those surveys?

- Explain to students that, in general, the larger the number of people surveyed, the more accurate the survey results will be. Statisticians (mathematicians who study statistics) call the number of people surveyed the sample size. If you ask 10 teens the question, "Do you consider drug abuse to be dangerous?" you will not get a reliable snapshot of how teens nationwide feel about the dangers of drugs. But if you have a sample size of 50,000 teens from all 50 states, you are more likely to get an accurate picture.
- Hand out Reproducible 2. Tell students that they are about to examine and analyze parts of a real

statistical study that provides facts about teen drug use.

- Wrap up the lesson by discussing the following questions: *Why do scientists collect statistics? How do statistics help in the battle against drug abuse? Were you surprised by any of the data you examined in the reproducible? Why? What type of questions would you include in a Monitoring the Future-style survey in your school?*

For more information about the Monitoring the Future study, refer students to www.monitoringthefuture.org.

ANSWERS TO "YOU'RE THE SCIENTIST" QUESTIONS:

1. Rose sharply from 1999 to 2001; began to decline after 2001. 2. Fell from 1999 to 2003. (Small rise in 2004 was not statistically significant.) Fell further between 2004 and 2005. Word: Decline. 3. Methamphetamine abuse showed steady decline; ecstasy abuse rose, then fell. 4. Ecstasy did after an initial increase and methamphetamine followed the trend.



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Heads Up: Drugs in Social Settings: A Quiz

See how much you learned from the article by answering the questions below.

1. **What percentage of 10th-grade students say they've used illicit drugs in the last year?**
 - a. 50 percent
 - b. nearly 30 percent
 - c. 15 percent
 - d. less than 5 percent
2. **When teens guess how many of their peers use illicit drugs, the guess is usually**
 - a. too high.
 - b. too low.
 - c. about right.
 - d. exactly right.
3. **The part of the brain known as the prefrontal cortex is fully developed**
 - a. around age 5.
 - b. around age 10.
 - c. around age 15.
 - d. around age 25.
4. **The last part of the brain to develop is the area responsible for**
 - a. emotions.
 - b. decision-making and impulse control.
 - c. understanding complex facts.
 - d. breathing.
5. **When you see others use illicit drugs, it can be tempting because the brain is wired to learn first by**
 - a. repetition.
 - b. rote.
 - c. imitation.
 - d. reading.
6. **Most teens _____ the amount of pressure others will put on them to use illicit drugs.**
 - a. underestimate
 - b. overestimate
 - c. don't care about
 - d. read about
7. **As a teen, each time you repeat an activity or skill the pathways in your brain are**
 - a. strengthened.
 - b. unchanged.
 - c. weakened.
 - d. not used.
8. **Practicing saying "No, thanks" to drugs _____ teens' likelihood of abusing drugs.**
 - a. raises
 - b. has no effect on
 - c. lowers
 - d. confuses
9. **If you suspect a friend may be overdosing on drugs or alcohol, you should**
 - a. let your friend try to sleep it off.
 - b. call 911 immediately.
 - c. wait 10 minutes, then decide what to do.
 - d. give your friend coffee.
10. **Which of the following is a symptom of a drug overdose?**
 - a. extreme confusion
 - b. seizures
 - c. loss of consciousness
 - d. all of the above



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Heads Up: Teens and Drug Abuse— Understanding the Statistics

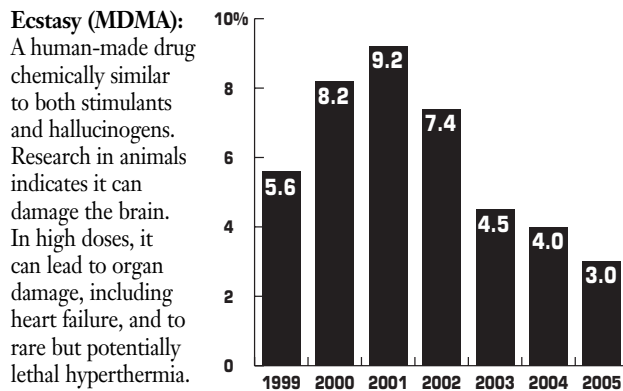
Introduction: 2005 Monitoring the Future Survey

- One of scientists' main tools for understanding drug-abuse trends among teens is the annual Monitoring the Future survey. In this survey, approximately 50,000 8th-, 10th-, and 12th-grade students in public and private schools across the country answer questions that provide information about teen drug-abuse behaviors and attitudes. The Monitoring the Future survey has been done essentially the same way for more than 30 years, so scientists trust the trends that the data reveal.
- Students participating in the survey fill out questionnaires in school. (All answers are kept confidential.) Scientists then tally and analyze the answers. They compare the current year's results with those from previous years to see how drug abuse among teens is changing. Armed with these results, scientists can target research and drug abuse prevention efforts in areas that most need them.
- Scientists must take precautions when interpreting the Monitoring the Future results. For example, an increase in the percentage of students saying they've used a particular drug *doesn't* necessarily mean use of that drug is on the rise. The rise has to be larger than the **margin of error**, which is an estimate of how a survey would vary if it were taken multiple times using a different group of people each time. Statisticians (mathematicians who study statistics) have devised formulas to determine the margin of error and whether a result is or isn't **statistically significant**, meaning it didn't happen by pure chance. The formulas take into account sample size (number of people surveyed), the number of possible answers, and the number of people giving each answer. Scientists use the formulas to help them analyze data from surveys such as Monitoring the Future.

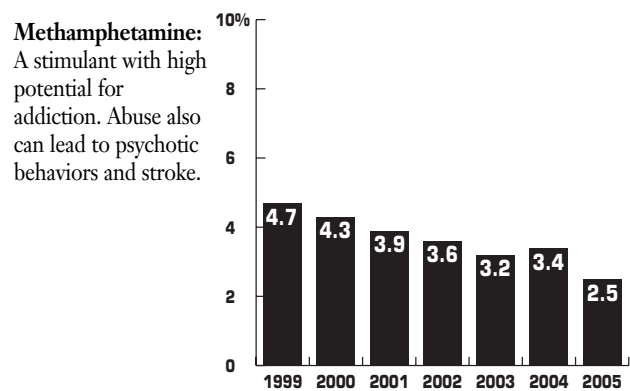
Interpreting the Data: Findings From the 2005 Monitoring the Future Survey

Now it's your turn to analyze and interpret statistics from the 2005 Monitoring the Future survey. The two bar graphs below chart 12th-graders' use of two drugs with very harmful health consequences: ecstasy and methamphetamine.

Percentage of 12th-grade students saying they used ecstasy at least once in 12 months leading up to the survey



Percentage of 12th-grade students saying they used methamphetamine at least once in 12 months leading up to the survey



You're the Scientist

Write your answers on the back of this page.

1. How did ecstasy abuse among 12th-graders change between 1999 and 2005? When did it rise? When did it fall?
2. How did methamphetamine abuse among 12th-graders change between 1999 and 2005? What word best describes the overall trend?
3. What is the main difference between the ecstasy graph and the methamphetamine graph? (Don't look at the numbers; look at the general trends shown in the graphs.)
4. The Monitoring the Future survey has found a general decrease in drug abuse among teens since the late 1990s. Did ecstasy and methamphetamine follow this trend?