

CHAPTER 1

Introduction to Drugs and Society

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Did You Know?

- ▶ The popular use of legal drugs, particularly alcohol and tobacco, have caused far more deaths, sickness, violent crimes, economic loss, and other social problems than the use of all illegal drugs combined.
- ▶ The effect a drug has depends on multiple factors: (1) the ingredients of the drug and its effect on the body, (2) the traditional use of the drug, (3) individual motivation, and (4) the social and physical surroundings in which the drug is taken.
- ▶ The first attempts to regulate drugs were made as long ago as 2240 BC.
- ▶ After marijuana, illicit prescription drugs are now the second leading drug of abuse.
- ▶ Drug abuse is an “equal-opportunity affliction.” This means that drug consumption is found across all income levels, social classes, genders, races, ethnicities, lifestyles, and age groups.
- ▶ Among racial and ethnic groups in the United States, past-month illicit drug use is highest among African Americans and whites and lowest among Asians.
- ▶ Approximately 70% of drug users in the United States are employed (18 years or older) either full time or part time, and 76% of full- or part-time employees are heavy drinkers.
- ▶ In major industry categories, past-month illicit drug use was highest in accommodations and food services; arts, entertainment, and recreation; and management; the highest amount of heavy alcohol use was found in the mining, construction, and accommodations and food services industries.
- ▶ Approximately 60% of individuals arrested for most types of crimes test positive for illegal drugs at the time of their arrest.

Learning Objectives

On completing this chapter, you should be able to:

- Explain how drug use is affected by biological, genetic, and pharmacological factors, as well as cultural, social, and contextual factors.
- Develop a basic understanding of drug use and abuse.
- Explain when drugs were first used and under what circumstances.
- Indicate how widespread drug use is and who potential drug abusers are.
- List four reasons why drugs are used.
- Rank in descending order, from most common to least, the most commonly used licit and illicit drugs.
- Name three types of drug users and explain how they differ.
- Describe how the mass media promotes drug use.
- Explain when drug use leads to abuse.
- List and explain the stages of drug dependence.
- List the major findings regarding drugs and crime.
- Describe employee assistance programs, and explain their role in resolving productivity problems.
- Explain the holistic self-awareness approach.

Introduction

Each year, at an accelerating rate, social change driven by technology affects not only us individually but also our families, communities, cities, nation, and the world. It can certainly be said that technology is one of the primary forces driving change in our society and societies worldwide at an unprecedented and relentless speed, affecting our daily living.

As an example of technological change, let us look at the transformation of the landline telephone into cellular phone technology. In all likelihood, your great-grandparents had a single black stationary rotary type of landline phone at home to communicate with friends and family living at a distance, and they shared telephone lines with other families. Your grandparents experienced newer styles of the same telephone, with one or two other telephones installed in other rooms in their apartments and homes. While growing up, your parents had the same landline type of telephone, but it came in an array of colors and was more stylized, and the standard was multiple extensions of this phone throughout their home in bedrooms, hallways, or kitchens. Today, your available technology may still include a landline phone,¹ with additional features such as voice mail, call waiting, call forwarding, and call blocking, to name a few of many other standard feature options available with landline phones.

An outgrowth of the landline phone and the military radiophone, the cell phone is the gadget most of us carry today without any sense of technological awe. With more than 7 billion worldwide subscribers (Nair, 2015), the cell phone and its recent cousin, the smartphone, named as such because it includes additional software functions resembling a computer, are portable warehouses of technological services that connect to a cellular network. Current cell phones can include an array of accessories and services beyond making phone calls, including caller identification; voice messaging; voice memos; an alarm clock; a stopwatch; calendars; appointment scheduling; current times and temperatures in different cities around the world; a calculator; video games; text messaging (or SMS); a camera with photo

albums; Internet service; email; infrared; Bluetooth; an MP3 player; storage for downloaded music, movies, or podcasts; geographic positioning system (GPS) features; radio broadcasts; maps; stock market quotes; weather; reminders; Skype or FaceTime; and Google Maps, to name a few “basic” applications. As of 2019, more than 2 million apps are available for download offering an array of information, accessories, and services. The completely portable cell phone with its keypad or touchscreen did not exist for the general public until 1973. Further, newer generations of cell phones will include unimaginable new applications, accessories, and services.

Consider another example. More than likely, your great-grandparents wrote letters on manual typewriters (or by hand). Your grandparents wrote letters on electric typewriters, whereas your parents started writing letters on electric typewriters and then had to change to computers. Today, you often communicate with family members and friends by email, text messaging, Facebook, Facebook Messenger, WhatsApp, Instagram, Twitter, Google+, Skype, and Dropbox. Although many of the electronic devices in your life may seem normal, a visit to a science and technology museum can offer many surprises and, more than likely, an appreciation for how things were and how much they have changed.

These examples illustrate how technology is in a continuous state of development and how it affects our day-to-day lives. In a sense, the technology we use today will be replaced tomorrow, as newer and more advanced forms of innovation give birth to new technology and software.

What does this have to do with drug use and abuse? Just as electronics continually evolve, drugs follow similar paths of evolution. Today, thousands of new drugs are available that are used either legally or illegally. These drugs are used for medicinal purposes, recreational purposes, and to achieve effects that do not include maintaining health. Some people in society use drugs to cope with pressures emanating from social change. Others use and eventually abuse drugs to cope with, delay, or postpone reality. For some, illicit drug use becomes a primary method for instant recreation, a way to avoid anxieties, or a substitute to fulfill human desires and pleasures.

Despite the extensive amount of available information regarding the dangers of drug use and an increasing number of laws prohibiting non-medical drug use, many people today continue to abuse legal and illegal types of drugs.

¹Landline phones continue to disappear from U.S. households; approximately 42.8% of American homes had landline phones as of December 2017 (Burke, 2019).

Drug Use

Anyone can become dependent on and addicted to a drug. The desire to use a drug before drug dependence and addiction occur is both seductive and indiscriminate of its users. Most people do not realize that drug use causes at least four major simultaneous changes:

1. The social psychological basis of an attraction to a drug can be explained as feeling rewarded or satisfied because social pressures can appear to have become postponed, momentarily rectified, or neutralized and perceived as nonproblematic.
2. Pharmacologically, the nonmedical use of most drugs alters body chemistry largely by interfering with homeostatic functioning. Drugs *enhance, depress, accelerate, or distort* the perception of reality.
3. Using a drug may satisfy an inborn or genetically programmed need or desire. Psychoactive drugs interfere with the way neurons send, receive, and process signals via neurotransmitters.

Many argue that our “reality” would become perilous and unpredictable if people were legally free to dabble in their drugs of choice. Many do not realize, however, that even legal drugs can be used to alter our perception of reality, can become severely addicting, and can destroy our social relationships with loved ones. Before delving into more specific information, we begin by posing key questions related to drug use that will be discussed in this chapter:

- What constitutes a drug?
- What drugs are commonly abused?
- What are designer drugs?
- How widespread is drug abuse?
- What is the extent and frequency of drug use in our society?
- What are the current statistics and trends of drug use?
- What types of drug users exist?
- How does the media influence drug use?
- What attracts people to drug use?
- When does drug use lead to drug dependence?
- When does the final stage of drug addiction occur?
- What are the costs of drug addiction to society?
- What is gained by learning about the complexity of drug use and abuse?

Dimensions of Drug Use

To determine the perception of drug use in our country, we asked several of the many people we interviewed for this text, “What do you think of the extent and the amount of drug use in our society?” The following are four of the more typical responses:

I think it is a huge problem, especially when you think about the fact that there are so many people doing drugs. Even in my own family, my sister’s kids have had drug problems. My niece became addicted to cocaine, nearly died one night from overdosing, had to leave college for a year and go into rehab. I cannot emphasize enough how this was one of the most beautiful (physically and mentally sharp) and polite nieces I ever had. The rest of the family had no idea why she left school last year. Then, just last week, my sister tearfully announced during a Christmas gathering that Cindee was heavily into drugs while attending her second year of college. We were all shocked by this information. Now, just think how many other kids are addicted to such junk while the people who really care and love them do not have a clue. If the kids are having to deal with this, just stop and think how many other people in other jobs and professions are battling or have caved into their drugs of choice.

How many workers are there on a daily basis doing jobs that require safety and are “high” on drugs? This is a scary thought. Just think of a surgeon on drugs, or an airline pilot. Yes, we have big monster problems with controlling drug use. (*From Venturelli’s research files, female dietitian in Chicago, age 43, February 9, 2003*)

A second response to the same question:

I use drugs, mainly weed and alcohol, and at least once a month I have a night of enjoying coke with several friends. As long as I am not a burden on my family, I think drug use is a personal choice. Locking up people for their drug use is a violation of my rights as a human being. For many years now, our government has not been able to stop recreational drug use, this is despite the millions that have been arrested, and countless numbers of other drug users incarcerated. What’s the point of all this? If after so many years of trying to enforce drug laws has met with failure, we need to take a long hard look at the small percentage of

people like me who are fully employed, have families, pay our taxes regularly and outside of drug use, are fully functioning adults. The funny thing is that the two drugs [referring to alcohol and tobacco] that are legalized are far worse or at least as debilitating as the drugs that are legally prohibitive [sic]. Drug use is a personal choice and unless you are causing problems for other people, it should remain a personal choice. If I am using drugs on a particular night at home either by myself or with friends and we are not outside causing problems, we should not be in violation of any drug law or laws. Substances to get high have been around for hundreds and probably thousands of years, these substances that some of us like should not be any concern to others. Even my pet cat loves his catnip and appears to get a high from it; should I prohibit this little pleasure? I let him occasionally have it even if, for example, my neighbor thinks catnip is affecting the normal nature of my cat. How about if I get a rise from snorting or smoking one of the herbs in my kitchen cabinet? Whose business is it if I like to use herbs in this manner? Maybe we should also outlaw catnip and herbs? Again, drug use for whatever purpose is a personal decision and all the laws against the use of drugs are not going to stop me from using drugs. *(From Venturelli's research files, male residing in a Midwestern town, age 27, May 6, 2010)*

A third response to the same question:

My drug use? Whose business is it anyway? As long as I don't affect your life when I do drugs, what business is it but my own? We come into the world alone and leave this world alone. I don't bother anyone else about whether or not so and so uses drugs, unless of course, their drug use puts me in jeopardy (like a bus driver or pilot high on drugs). On certain days when things are slow, I even get a little high on cocaine while trading stocks. These are the same clients who I have had for years and who really trust my advice. Ask my clients whether they are happy with my investment advice. I handle accounts with millions of dollars for corporations and even the board of education! Never was my judgment impaired or adversely affected because of too much coke. In fact, I know that I work even better under a little buzz. Now, I know this stuff has the potential to become addictive, but I don't

let it. I know how to use it and when to lay off for a few weeks. *(From Venturelli's research files, male investment broker working in a major metropolitan city in California, age 48, June 2, 2000)*

A fourth response to the same question, from an interviewee who recently moved from Indiana to Colorado:

Well, things are changing regarding drug use purely for recreational purposes. I am referring to marijuana of course. In Colorado, marijuana is now legalized. I also think this is the way it should be not only in Colorado but also throughout the country. I can now actually see how state after state will eventually legalize marijuana. There will be hold-out states, like usually deep southern states, but it's just a matter of time. I think it was Oakland, California, where by taxing the sale of marijuana, the city was collecting a nice amount of tax revenues from marijuana sales. If I am not in error, it was reported as millions of dollars they were collecting. Now, don't you think this alone will attract other cities and states to legalize and tax this drug in order to gain tax revenues, especially when state and city tax revenues are in dire need to increase revenue coming in? It won't be the spread of liberalism that will legalize marijuana; it will be common business sense that will get rid of the ridiculous laws outlawing marijuana use and sales. I have always smoked pot and nothing has ever stopped me. On top of this add the millions who feel the same way. If you don't want to use this drug to relax like others may use alcohol that is fine but leave the users alone and stop making law violators! It is still illegal and you [referring to this interviewer] and I know that all these laws and the millions upon millions spent on trying to stop marijuana drug users have not worked, so why keep this up? Again, why prohibit something that given its history cannot be stopped? *(From Venturelli's research files, male attorney, currently practicing law and residing in the state of Colorado, age 33, January 2, 2013)*

These four interviews reflect vastly contrasting views and attitudes about drug use. The first interview shows the most contrast from the second, third, and fourth interviews. The second, third, and fourth interviews show a similarity of views about drug use, largely from an insider's (user's) perspective, which indicate a strong determination and belief that drug use should

not be legally controlled and should be left to the discretion of users. Although much about these viewpoints can certainly be debated, an interesting finding is that such vastly different views about drug use are not only evident, but also, more importantly, often divide drug users and nonusers. From a more social psychological standpoint, drug users or sympathizers of drug use are often considered **insiders** with regard to their drug use, whereas nonusers or those who are against drug use are **outsiders**. These two classifications result in decidedly different sets of values and attitudes about drug usage. Such great differences of opinion and views about drugs and drug use often result from the following sources: (1) prior socialization experiences, such as family upbringing, relations with siblings, and types of peer-group associations; (2) the amount of exposure to drug use and drug users; (3) the age of initial exposure to drug use; and (4) whether an attitude change has occurred regarding the acceptance or rejection of using drugs. Keep in mind that this text views the following four principal factors as affecting how a drug user experiences a drug:

1. *Biological, genetic, and pharmacological factors.* Substance abuse and addiction involve biological and genetic factors. The pharmacology of drug use focuses on how the ingredients of a particular drug affect the body and the nervous system and, in turn, a person's experience with a particular drug.
2. *Cultural factors.* Society's views of drug use, as determined by custom and tradition, affect our initial approach to and use of a particular drug.
3. *Social factors.* The motivation for taking a particular drug is affected by needs such as diminishing physical pain; curing an illness; providing relaxation; relieving stress or anxiety; trying to escape reality; self-medicating; heightening awareness; wanting to distort and change visual, auditory, or sensory inputs; or strengthening confidence. Included in the category of social factors is the belief that attitudes about drug use develop from the values and attitudes of other drug users; the norms in their communities, subcultures, peer groups, and families; and the drug user's personal experiences with using drugs. (These are also known as *influencing social factors*.)
4. *Contextual factors.* Specific contexts define and determine personal dispositions toward

drug use as demonstrated by moods and attitudes about such activity. Specifically, these factors encompass the drug-taking social behavior that develops from the physical surroundings where the drug is used. For example, drug use may be perceived as more acceptable at fraternity parties, while socializing with drug-using friends, outdoors in a secluded area with other drug users, in private homes, secretly at work, or at music concerts.

Paying attention to the cultural, social, and contextual factors of drug use leads us to explore the sociology and psychology of drug use. Equally important are the biological, genetic, and pharmacological factors and consequences that directly focus on why and how drugs may be appealing and how they affect the body—primarily the central nervous system and brain functions.

Although substances that affect both mind and body functioning are commonly called *drugs*, researchers in the field of drug or substance abuse use a more precise term: **psychoactive drugs (substances)**. Why the preference for using this term as opposed to *drugs*? Because the term *psychoactive drugs* is more precise regarding *how* drugs affect the body. This term focuses on how drugs affect the **central nervous system (CNS)**, the part of the nervous system composed of the spinal cord and brain that is responsible for integrating sensory information and responding accordingly. In particular, the term encompasses how psychoactive drugs alter mood, consciousness, thought processes, perception, or behavior. Psychoactive drugs can be used to

KEY TERMS

insiders

people on the inside; those who approve of or use drugs or both

outsiders

people on the outside; those who do not approve of or do not use drugs

psychoactive drugs (substances)

drug compounds (substances) that affect the central nervous system and alter consciousness or perceptions

central nervous system (CNS)

part of the nervous system composed of the spinal cord and brain that is responsible for integrating sensory information and responding accordingly

treat physical, psychological, or mental illness. In addition, with continued use, our bodies can tolerate increasingly larger doses of drugs, often resulting in the need for progressively greater amounts to achieve the same level of effect. For many substances, a user is at risk of moving from occasional to regular use or from moderate to heavy use, ultimately culminating in chronic use. A chronic user may then risk **addiction** a mostly psychological attachment defined as “a complex condition, a brain disease that is manifested by compulsive substance use despite harmful consequences . . .” (APA, 2019) and experiences **withdrawal symptoms** that are psychological or physical in nature whenever the drug is not consumed.

Generally speaking, any substance that modifies the nervous system and state of consciousness is a **drug**. Such modifications include one or more of the following: enhancement, inhibition, or distortion of the body that affects patterns of behavior and social functioning. Psychoactive drugs are classified as either **licit** (legal) or **illicit** (illegal). (See **Table 1.1** for a sample list of slang terms used by drug users.) For example, coffee, tea, cocoa, alcohol, tobacco, and **over-the-counter (OTC)** drugs are licit. When licit drugs are used in moderation, they often go unnoticed and are often



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Examples of illicit drugs that can become costly once drug dependence occurs.

socially acceptable. Marijuana, cocaine, crack, and all of the hallucinogenic types of drugs are examples of illicit drugs. With the exception of marijuana—which some states allow for medical use and small amounts for personal use—federal law continues to prohibit the possession and use of all of these drugs.

Researchers have made some interesting findings about legal and illegal drug use:

- The use of legal substances such as alcohol and tobacco is much more common than the use of illegal drugs such as marijuana, cocaine, heroin, and hallucinogens (psychedelics). Other legal drugs such as depressants and stimulants, although less popular than alcohol and tobacco, are still more widely used than heroin and LSD.
- The popular use of licit drugs, particularly alcohol and tobacco, has caused far more deaths, sickness, violent crime, economic loss, and other social problems than the combined use of all illicit drugs. (See **Figure 1.1** for an illustrated comparison.)

Cigarette smoking and exposure to tobacco smoke led to at least 480,000 premature deaths annually in the United States (includes deaths from secondhand smoke: 278,544 deaths annually among men and 201,773 deaths annually among women). More than 88,000 U.S. deaths are caused by excessive alcohol consumption each year (direct and indirect causes of death include drunk driving, cirrhosis of the liver, falls, cancer, and stroke). The popular use of licit drugs, particularly alcohol and tobacco, has caused far more death, sickness, violent crime, economic loss, and other social problems than the combined use of all illicit drugs. The annual overdose death rate for the 12-month period

KEY TERMS

addiction

generally refers to the psychological attachment to a drug; addiction to “harder” drugs such as heroin results in both psychological and physical attachment to the chemical properties of the drug, with the resulting satisfaction (reward) derived from using the drug in question

withdrawal symptoms

psychological and physical symptoms that result when a drug is absent from the body; physical symptoms are generally present in cases of drug dependence to more addictive drugs such as heroin; physical and psychological symptoms of withdrawal include perspiration, nausea, boredom, anxiety, and muscle spasms

drug(s)

any substance that modifies (either by enhancing, inhibiting, or distorting) mind or body functioning

licit drugs

legalized drugs such as coffee, alcohol, and tobacco

illicit drugs

illegal drugs such as marijuana, cocaine, and LSD

over-the-counter (OTC)

legalized drugs sold without a prescription

TABLE 1.1 A Sampling of 73,000 Slang Terms Relating to Drugs, Drug Use, and the Drug Trade

Slang Term	What It Means	Slang Term	What It Means
24-7	Crack cocaine	Blunt	Marijuana or cocaine inside a cigar
80	OxyContin pill	Boost and shoot	Steal to support a drug habit
714s	Methaqualone	Brain ticklers	Amphetamines
3750	Marijuana and crack rolled in a joint	Brown bombers	LSD
Abolic	Veterinary steroids	Brown sugar	Heroin
A-bomb	Marijuana cigarette with heroin or opium	Buddha	Potent marijuana spiked with opium
AC/DC	Codeine cough syrup	Bull dog	Heroin
Acid, acid cube	LSD, sugar cube with LSD	Bundle	Heroin
Acid freak	Heavy user of LSD	Ditch weed	Inferior quality marijuana
Adam	Methylenedioxymethamphetamine (MDMA)	Dr. Feelgood	Heroin
Air blast	Inhalants	Easy lay	Gamma hydroxybutyrate (GHB)
All star	User of multiple drugs	Fantasy	GHB
Amped	High on amphetamines	Flower flipping	Ecstasy (MDMA) mixed with mushrooms
Angel dust	PCP	Forget-me-drug	Rohypnol
Author	Doctor who writes illegal prescriptions	Fries	Crack cocaine
Baby habit	Occasional use of drugs	Garbage rock	Crack cocaine
Balloon	Heroin supplier; a penny balloon that contains narcotics	Hit the hay	Smoke weed
Bam	Amphetamine; depressants	Hippie crack	Inhalants
Barbies	Depressants	Hot ice	Smokable methamphetamine
Battery acid	LSD	Huff, huffing	Inhalants, to sniff an inhalant
Batu	Smokable methamphetamine	Ice cream habit	Occasional use of a drug
Beam me up, Scottie	Crack dipped in PCP	Idiot pills	Depressants
Beanies	Methamphetamine	Kiddie dope	Prescription drugs
Beast	Heroin, LSD	Lemonade	Heroin; poor quality drugs
Belladonna	PCP	Lunch money drug	Rohypnol
Bender	Drug party	Magic mushroom	Psilocybin or psilocin
Biker's coffee	Methamphetamine and coffee	Monkey dust	PCP
Bin Laden	Heroin (after 9/11)	Moon gas	Inhalants
Black beauties	Amphetamines, depressants	Mother's little helper	Depressants
Blasted	Under the influence of drugs	Nose candy	Cocaine

(continues)

TABLE 1.1 A Sampling of 73,000 Slang Terms Relating to Drugs, Drug Use, and the Drug Trade (*continued*)

Slang Term	What It Means	Slang Term	What It Means
Blow your mind	Getting high on hallucinogens	Paper boy	Heroin peddler
Pepsi habit	Occasional use of drugs	Tornado	Crack cocaine
Pony	Crack cocaine	Totally spent	Hangover after MDMA
Ringer	Good hit of crack, to hear bells	Water-water	Marijuana cigarettes dipped in embalming fluid or laced with PCP
Shot	To inject a drug, an amount of coke	West Coast	Ritalin (ADHD drug)
Soda	Injectable cocaine	Working man's cocaine	Methamphetamine
Special "K"	Ketamine	Zig Zag man	Marijuana rolling papers
Strawberry	LSD; female who trades sex for crack or money to buy crack	Zombie	PCP; heavy user of drugs
The devil	Crack cocaine	Zoom	Marijuana laced with PCP

Reproduced from Office of National Drug Control Policy (ONDCP). (2016). *Street terms: Drugs and the drug trade*. Washington, DC: Author. Retrieved from <http://www.streetlightpublications.net/misc/ondcp.htm>

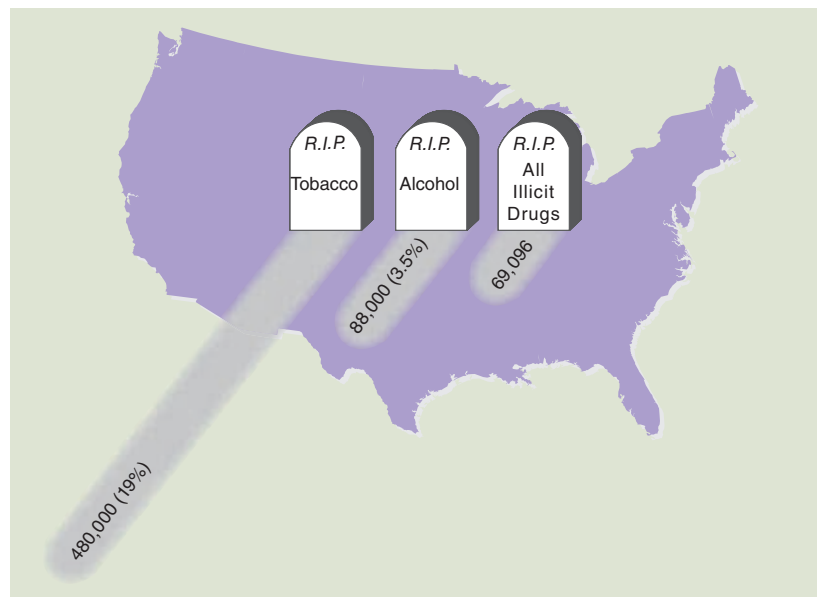


FIGURE 1.1 Cigarette smoking and exposure to tobacco smoke led to at least 480,000 premature deaths annually in the United States (includes deaths from secondhand smoke (278,544 deaths annually among men and 201,773 deaths annually among women). More than 88,000 U.S. deaths are caused by excessive alcohol consumption each year (direct and indirect causes of death include drunk driving, cirrhosis of the liver, falls, cancer, and stroke). The popular use of licit drugs, particularly alcohol and tobacco, has caused far more deaths, sickness, violent crimes, economic loss, and other social problems than the combined use of all illicit drugs. The annual overdose death rate for the 12-month period ending November 2018 was 69,096, which was a drop from 72,300 in 2017. “The drug overdose death numbers include deaths due to natural and semi-synthetic opioids, synthetic opioids other than methadone (fentanyl and its analogs), methadone, methamphetamines and other stimulants, cocaine, and benzodiazepines” (Cato Institute, 2019). Drug licit and illicit overdose deaths rose from 16,849 in 1999 to 69,096, in 2018. “[T]he sharpest increase occurred among deaths related to fentanyl and fentanyl analogs (other synthetic narcotics) with more than 28,400 overdose deaths” (NIDA, 2019a).

Data from Mokdad, A. H., Marks, J. S., Stroup, D. F., & Gerberding, J. L. (2004, March 10). Actual causes of death in the United States, 2000. *Journal of the American Medical Association (JAMA)*, 291, 1238–1245; Centers for Disease Control and Prevention (CDC). (2019, November 15). Fast facts. Atlanta, GA: U.S. Department of Health and Human Services. Retrieved from https://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm; Centers for Disease Control and Prevention (CDC). (2018a, January 3). Fact sheets—Alcohol use and your health. Atlanta, GA: U.S. Department of Health and Human Services. Retrieved from <https://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm>; Singer, J. A. (2019, June 26). CDC provisional drug death numbers show slight improvement. Credit harm reduction. Washington, DC: CATO Institute. Retrieved from <https://www.cato.org/blog/cdc-provisional-drug-death-numbers-show-slight-improvement-credit-harm-reduction>; National Institute on Drug Abuse (NIDA). (2019a). Overdose death rates. Bethesda, MD: National Institutes of Health. Retrieved from <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

ending November 2018 was 69,096, which was a drop from 72,300 in 2017. “The drug overdose death numbers include deaths due to natural and semi-synthetic opioids, synthetic opioids other than methadone (fentanyl and its analogs), methadone, methamphetamines and other stimulants, cocaine, and benzodiazepines” (Singer, 2019). Licit and illicit drug overdose deaths rose from 16,849 in 1999 to 69,096 in 2018. “[T]he sharpest increase occurred among deaths related to fentanyl and fentanyl analogs (other synthetic narcotics) with more than 28,400 overdose deaths” (NIDA, 2019a). (Data from CDC, 2018a, 2019; Mokdad, Marks, Stroup, & Gerberding, 2004; NIDA, 2019a; Singer, 2019.)

Societal reaction to various drugs changes with time and place. Today, opium is an illegal drug and widely condemned as a *pan-pathogen* (a cause of all ills). In the 18th and 19th centuries, however, it was a legal drug and was

popularly praised as a panacea (a cure for all ills). Alcohol use was widespread in the United States in the early 1800s, became illegal during the 1920s, was legalized a second time in the 1930s, and has been widely used ever since. Cigarette smoking is legal in all countries today. In the 17th century, it was illegal in most countries, and smokers were sometimes harshly punished. For example, in Russia, smokers could lose their noses; in Hindustan (India), they could lose their lips; and in China, they could lose their heads (Thio, 1983, 1995, 2000). Today, new emphasis in the United States on the public health hazards from cigarettes again is leading some people to consider new measures to restrict or even outlaw tobacco smoking.

Table 1.2 introduces some of the terminology you will encounter throughout this text. It is important that you understand how the definitions vary.

TABLE 1.2 Commonly Used Terms

Term	Description
Gateway drugs	The word <i>gateway</i> suggests a path or entryway leading to an entrance. Gateway is a theory that the early use of alcohol, tobacco products, and marijuana (the most heavily used illicit type of drug) leads to the use of more powerfully addictive drugs such as cocaine, heroin, and highly addictive prescription medicines.
Medicines	Compounds generally prescribed by a physician that treat, prevent, or alleviate the symptoms of disease. (These can also include over-the-counter [OTC] drugs purchased at pharmacies.)
Prescription medicines	Drugs that are prescribed by a physician. Common examples include antibiotics, antidepressants, and drugs prescribed to relieve pain, induce stimulation, or induce relaxation. These drugs are taken under a physician's recommendation because they are more potent than OTC drugs. In the United States, on a yearly basis, physicians write approximately 4.0 billion prescriptions (Henry J. Kaiser Family Foundation, 2015), with sales totaling \$374 billion in 2015 (“U.S. Prescription Drug Spending,” 2015).
Over-the-counter (OTC)	OTC drugs can be purchased at will without seeking medical advice or a prescription. Examples include aspirin, laxatives, diet pills, cough suppressants, and sore throat medicines. Approximately 1,000 active ingredients are used in the more than 100,000 OTC products available in the marketplace today (Consumer Healthcare Products Association [CHPA], 2012), and it is estimated that there are more than 300,000 marketed OTC drug products (U.S. Food and Drug Administration 2015). In 2010, \$23 billion were spent in the United States on OTC medicines* (CHPA, 2012).
Drug misuse	The unintentional or inappropriate use of prescribed or OTC drugs. Misuse includes but is not limited to (1) taking more drugs than prescribed; (2) using OTC or psychoactive drugs in excess without medical supervision; (3) mixing drugs with alcohol or other drugs, often to accentuate euphoric effects or simply not caring about the effects of mixing drugs; (4) using old medicines to self-treat new symptoms of an illness or ailment; (5) discontinuing certain prescribed drugs at will or against a physician's recommendation; and (6) administering prescription drugs to family members or friends without medical approval and supervision.
Drug abuse	Also known as <i>chemical or substance abuse</i> . The willful misuse of either licit or illicit drugs for recreation, perceived necessity, or convenience. Drug abuse differs from drug use in that drug use is taking or using drugs, whereas drug abuse is a more intense and often willful misuse of drugs, often to the point of becoming addicted.

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TABLE 1.2 Commonly Used Terms (*continued*)

Term	Description
Drug addiction	Drug addiction involves noncasual or nonrecreational drug use. A frequent symptom is intense psychological preoccupation with obtaining and consuming drugs. Most often psychological and—in some cases, depending on the drug—physiological symptoms of withdrawal are manifested when the craving for the drug is not satisfied. Today, more emphasis is placed on the psychological craving (mental attachment) to the drug than on the more physiologically based withdrawal symptoms of addiction.

*This amount excludes OTC sales by Walmart and does not include vitamins, minerals, and nutritional supplements.

Data from Fischer, M. A., Stedman, M. R., Lii, J., Vogeli, C., Shrank, W. H., Brookhart, M. A., & Weissman, J. S. (2010 April). Primary medication non-adherence: Analysis of 195,930 electronic prescriptions. *Journal of General Internal Medicine*, 25, 284–290; The Henry J. Kaiser Family Foundation. (2010). *Prescription drug trends*. Retrieved from <http://www.kff.org/rxdrugs/3057.cfm>. Accessed January 12, 2013; Consumer Healthcare Products Association (CHPA). (2019). *OTC retail sales—1964–2011*. Washington, DC: Author; U.S. Food and Drug Administration. (2015). *Drug applications for over-the-counter (OTC) drugs*. Retrieved from <http://www.fda.gov/drugs/developmentapprovalprocess/howdrugsaredevelopedandapproved/approvalapplications/over-the-counterdrugs/default.htm>; Consumer Healthcare Products Association (CHPA). (2012). *The value of OTC medicine to the United States*. Washington, DC: Booz & Co. Retrieved from http://www.yourhealthathand.org/images/uploads/The_Value_of_OTC_Medicine_to_the_United_States_BoozCo.pdf

Major Types of Commonly Abused Drugs

The six types of major drugs in use are (1) prescription drugs, (2) over-the-counter drugs, (3) recreational drugs (e.g., coffee, tea, alcohol, tobacco, and chocolate), (4) illicit drugs, (5) herbal preparations (generally derived from plants), and (6) commercial drugs (paints, glues, pesticides, and household cleaning products).

To begin, we now briefly examine the major drugs of use and often abuse. The drugs examined next are prescription drugs, performance-enhancing drugs, stimulants, bath salts, hallucinogens (psychedelics) and other similar compounds, depressants, alcohol, nicotine, cannabis (marijuana and hashish), synthetic cannabis (Spice and K2), anabolic steroids, inhalants and organic solvents, narcotics and opiates, and designer drugs, synthetic drugs, and synthetic opioids. A brief overview of each follows.

■ Prescription and Performance-Enhancing Drugs

The term *nonmedical use* of prescription drugs also refers to these categories of misuse. The three classes of medication most commonly misused are:

1. *opioids*, which are usually prescribed to treat pain;
2. *central nervous system (CNS) depressants*, which include tranquilizers, sedatives, and hypnotics, and are used to treat anxiety and sleep disorders; and
3. *stimulants*, which are most often prescribed to treat attention-deficit hyperactivity disorder (ADHD)

Many national studies and published reports indicate that the intentional abuse of prescription drugs such as pain relievers, tranquilizers, stimulants, and sedatives to get high is a growing concern—particularly among teens—in the United States. **Psychotherapeutic drugs** are drugs that are used to treat mental disorders such as depression, schizophrenia, and manic-depressive disorders. These drugs warrant special attention given that they now make up a significantly larger part of the overall U.S. drug problem than they did 10 to 15 years ago. In part this is because the use increased for many prescription drugs over that period and because the use of many street drugs has declined substantially since the middle to late 1990s. It seems likely that young people are less concerned about the dangers of using these prescription drugs outside of a medical regimen because they are widely used for legitimate purposes. (Indeed, the low levels of perceived risk for sedatives and amphetamines observed among 12th graders illustrate this point.) Also, prescription psychotherapeutic drugs are now being advertised directly to the consumer, which implies that they are both widely used and safe to use (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2016; SAMHSA, 2019c).

KEY TERM

psychotherapeutic drugs

drugs that are used to treat mental disorders such as depression, schizophrenia, and manic-depressive disorders

In the United States, young people and adults frequently abuse prescription drugs; the only illicit drug that is abused more frequently is marijuana (SAMHSA, 2019a). In 2017, “an estimated 18 million people (more than 6% of those aged 12 and older) have misused prescription drugs such as prescription opioids, CNS depressants, and stimulants at least once in the past year” (NIDA, 2018a).

Misuse of prescription drugs is highest among young adults ages 18 to 25, with 14.4% reporting nonmedical use in the past year. Among youth ages 12 to 17, 4.9% reported past-year nonmedical use of prescription medications (Miech et al., 2017). After alcohol, marijuana, and tobacco, prescription drugs (taken nonmedically) are among the most commonly used drugs by 12th graders. NIDA’s *Monitoring the Future* survey of substance use and attitudes in teens found that about 6% of high school seniors reported past-year nonmedical use of the prescription stimulant Adderall® in 2017, and 2% reported misusing the opioid pain reliever Vicodin (NIDA, 2018a). Regarding older adults, “more than 80% of older patients (ages 57 to 85 years) use at least one prescription medication on a daily basis, with more than 50% taking more than five medications or supplements daily” (NIDA, 2018a).

Three categories of prescription drugs that are currently abused are narcotics, depressants, and stimulants. Narcotics (e.g., OxyContin, Vicodin, Percocet) include analgesics or **opioids** that are generally prescribed for physical pain. Abuse occurs when they are used nonmedically because of their euphoric and numbing effects. Depressants (e.g., Xanax, Valium, Librium) are generally used to treat anxiety and sleep disorders. These drugs are abused because of their sedating properties. Stimulants (e.g., Ritalin, Dexedrine, Meridia) are used to treat attention-deficit disorder (ADD), attention-deficit hyperactivity disorder (ADHD), and asthma. These drugs are abused because of their euphoric effects and energizing potential.

The two drugs in the stimulants category most often abused are Ritalin (methylphenidate hydrochloride) and Adderall (amphetamine). These prescription drugs are legitimately prescribed for ADHD, ADD, and narcolepsy (a sleep disorder) (Center for Substance Abuse Research [CESAR], 2003). When used nonmedically, they are taken orally as tablets or the tablets are crushed into a powder and snorted (a far more popular method). Students often illegally purchase these tablets for \$5 each from other students who have a legal prescription for the medication.

I feel like Dr. Pill. All these brothers [fraternity brothers] are always looking for me

at parties so that I can sell them a few tabs. What the heck, I make extra money selling Ritalin, enough to buy essentials like beer and cigarettes. *(From Venturelli’s research files, male undergraduate student at a Midwestern university, age 20, December 9, 2004)*

And,

Funny how when I go back to the frat house during homecoming there are other undergrads who have taken over my business and continue to sell their prescribed Ritalin mostly for partying. *(A second interview with the same former student, age 26, now employed in real estate, October 2, 2010)*

These drugs often are used in conjunction with alcohol or marijuana to enhance the high or to stay awake to increase comprehension and remain focused while reading or studying for an exam (CESAR, 2003). Both prescription drugs (Ritalin and Adderall) are readily available and can be easily obtained by teenagers, who may abuse these drugs to experience a variety of desired effects. Increasingly, younger adolescents are obtaining prescription drugs from classmates, friends, and family members or are stealing the drugs from school medicine dispensaries and from other people who have legitimate prescriptions.

Ritalin, Adderall, and other stimulant abusers tend to be late middle school, high school, and college students. Other findings regarding teen abuse of stimulants Ritalin and Adderall include the following (Partnership for Drug-Free Kids, 2016):

- One in eight teens (about 2.7 million) report having misused or abused Ritalin or Adderall at least once in their lifetime.
- Around 1.9 million teens (9%) report having misused or abused Ritalin or Adderall in the past year.
- One in four teens (26%) believe that prescription drugs can be used as a study aid.
- Almost one-third of parents (29%) say they believe that ADHD medication can improve a child’s academic or testing performance, even if the teen does not have ADHD.
- One in six parents (16%) believe that using prescription drugs to get high is safer than using street drugs.

KEY TERM

opioids

drugs derived from opium

- More than half of teens (56%) indicate that it is easy to get prescription drugs from their parents' medicine cabinet. In fact, about half of parents (49%) say anyone can access their medicine cabinet.

In addition, the Partnership for Drug-Free Kids and MetLife Foundation (2013) note that Hispanic and African American teens are more likely to report misusing or abusing prescription drugs compared to their white counterparts, with 27% of Hispanics, 29% of African Americans, and 20% of Caucasians reporting use.

With regard to college students using Adderall, the findings include the following (Muir Wood, 2016):

- Full-time college students were twice as likely as non–full-time college students to abuse Adderall.
- About 6.4% of college students admitted to unauthorized Adderall use in 2006–2007.
- College students who abused Adderall were three times as likely to abuse marijuana, eight times as likely to abuse prescription tranquilizers, and five times as likely to abuse prescription painkillers.
- Cocaine use is more common among college students who use Adderall, and students who use both drugs face an increased risk of heart attack, heart problems, and stroke.

■ Stimulants

Some stimulants can be considered to be **gateway drugs** (see definition in Table 1.2); these substances act on the CNS by increasing alertness, excitation, euphoria, pulse rate, and blood pressure. Insomnia and loss of appetite are common outcomes. The user initially experiences pleasant effects, such as a sense of increased energy and a state of euphoria or being “high.” In addition, users feel restless and talkative and have trouble sleeping. High doses used over the long term can produce personality changes. Some of the psychological risks associated with chronic stimulant use include violent, erratic, or paranoid behavior.

KEY TERMS

gateway drugs

alcohol, tobacco, and marijuana—types of drugs that when used excessively may lead to using other and more addictive drugs such as cocaine, heroin, or crack

Drug Enforcement Administration (DEA)

the principal federal agency responsible for enforcing U.S. drug laws

Other effects can include confusion, anxiety, and depression and loss of interest in sex or food. *Major stimulants* include amphetamines, cocaine and crack, methamphetamine (meth), and methylphenidate (Ritalin). *Minor stimulants* include, cocoa, theophylline, theobromine, sugar, caffeine, and nicotine (the most addictive minor stimulant).

■ Synthetic Cathinones (Bath Salts)

Synthetic cathinones, also commonly known as *bath salts*, are human-made stimulants chemically related to cathinone, a substance found in the khat plant. Khat is a shrub grown in East Africa and southern Arabia, where some people chew its leaves for their mild stimulant effects. Human-made versions of cathinone can be much stronger than the natural product and, in some cases, extremely dangerous (NIDA, 2018b).

Synthetic cathinones are marketed as cheap substitutes for other stimulants such as methamphetamine and cocaine, and methylenedioxymethamphetamine (MDMA), which is sold as Molly, often contain synthetic cathinones instead (NIDA, 2018b).

The usual method of taking this drug is sniffing or snorting, but it can also be taken orally, smoked, or mixed with a solution and then injected into a vein. According to Dr. Mark Ryan, director of the Louisiana Poison Center, bath salts are “the worst drug” he has seen in his 20 years there, noting that “with LSD, you might see pink elephants, but with this drug, you see demons, aliens, extreme paranoia, heart attacks, and superhuman strength like Superman. . . . If you had a reaction, it was a bad reaction” (Vargas-Cooper, 2012, p. 60). Other reactions include “very severe paranoia, suicidal thoughts, agitation, combative/violent behavior, confusion, hallucination/psychosis, increased heart rate, hypertension, chest pain, death or serious injury. The speed of onset is 15 minutes, while the length of the high from these drugs is 4–6 hours” (Partnership at DrugFree.Org, 2013). In October 2011, these synthetic stimulants were listed as Schedule I substances under the Controlled Substances Act. The **Drug Enforcement Administration (DEA)** classifies illicit drugs under Schedules I through V, largely depending on their abuse potential. Synthetic stimulants are classified as Schedule I drugs, meaning that they have a high potential for abuse.

■ Hallucinogens, Psychedelics, and Other Similar Drugs

Whether synthetic or grown naturally, hallucinogens and psychedelic drugs produce intense alterations of perceptions, thoughts, and feelings. They



Courtesy of DEA.

Packets of bath salts sold in head shops.



Courtesy of DEA.

most certainly influence the complex inner workings of the human mind, causing users to refer to these drugs as *psychedelics* (because they cause hallucinations or distortion of reality and thinking). In addition to amplifying states of mind, hallucinogens induce a reality that is reported to be qualitatively different from that of ordinary consciousness. For example, while the user is under their influence, these drugs can affect the senses of taste, smell, hearing, and vision. Tolerance to hallucinogens builds rapidly, which means that increasing amounts of this drug are needed for similar effects. Hallucinogens include LSD, mescaline, **MDMA** (Ecstasy), phencyclidine (PCP), psilocybin or “magic mushrooms,” ketamine, and the more potent (hybrid) varieties of marijuana, hashish, and opium that are smoked.

■ Depressants

These drugs depress the CNS. If taken in high enough quantities, they produce insensibility or stupor. Depressants are also taken for some of the same reasons as hallucinogens, such as to relieve boredom, stress, or anxiety. In addition, the effects of both opioids (drugs that are derived from opium) and morphine derivatives appeal to many people who are struggling with emotional problems and looking for physical and emotional relief, and in some cases to induce sleep. Depressants include alcohol (ethanol), opiates (such as heroin and morphine), sedatives, barbiturates, benzodiazepines (such as diazepam [Valium]), and methaqualone (Quaalude).

ALCOHOL

Known as a gateway drug, **ethanol** is a colorless, volatile, and pungent liquid produced through the fermentation of grains, berries, or other fruits and vegetables. Alcohol is a depressant that mainly affects the CNS. Excessive amounts of alcohol often cause a progressive loss of inhibitions,

flushing and dizziness, loss of coordination, impaired motor skills, blurred vision, slurred speech, sudden mood swings, vomiting, irregular pulse, and memory impairment. Chronic heavy use may lead to high blood pressure, arrhythmia (irregular heartbeat), and cirrhosis (severe liver deterioration).

■ Nicotine

Nicotine is also considered a gateway drug. It is a highly addictive, colorless, highly volatile liquid alkaloid found in all tobacco products, including cigarettes, chewing tobacco, pipe tobacco, and cigars. Because nicotine is so addictive and tobacco use is still socially acceptable under certain circumstances, smokers often start young and have an extremely difficult time quitting. Long-term use of tobacco products can lead to several different chronic respiratory ailments and cancers.

■ Cannabis (Marijuana and Hashish)

Cannabis is the most widely used illicit drug² in the United States. Marijuana consists of the dried and crushed leaves, flowers, and seeds of the *Cannabis sativa* plant, which readily grows in many

²Federal law specifies that cannabis is an illicit drug, although 33 states have legalized this drug for medical purposes or for recreational use as of December 2019.

KEY TERMS

MDMA

a type of illicit drug known as Ecstasy or Adam that has stimulant and hallucinogenic properties

ethanol

the chemical and pharmacological term for drinking alcohol; the psychoactive ingredient in alcoholic beverages; often called *grain alcohol*



Courtesy of DEA

Designer pills made from the illicit drug Ecstasy. This drug has some stimulant properties like amphetamines as well as hallucinogenic properties like LSD.

parts of the world. Delta-9-tetrahydrocannabinol (THC) is the primary psychoactive, mind-altering ingredient in marijuana that produces euphoria (often referred to as a “high”). Plant parts (mainly the leaves and buds of the plant) are usually dried, crushed, and smoked much like tobacco products. Other ways of ingesting marijuana include finely crushing the leaves and mixing them into the butter or oil that goes into making cookie or brownie batter and baking the batter. Another current derivative is **marijuana wax**, also known as *wax* or *ear wax*, *butter*, *honey oil*, *shatter*, *BHO* (which stands for “butane honey oil” or “butane hash oil”), and *dabs*. To date, this is one of the most powerful and the most potent (80% pure THC) types of marijuana on both the illegal and legal drug markets (in states where marijuana has either been decriminalized or medically sanctioned), with smoking or vaporizing this type of marijuana leading to a “quicker, stronger high” (Kimble,

2013). Finally, hashish is a cannabis derivative that contains the purest form of resin and also has extremely high amounts of THC.

■ Designer Drugs, Synthetic Drugs, and Synthetic Opioids

In addition to the most commonly abused illicit drug categories just described, innovations in technology have produced new categories known as **designer drugs**, **synthetic drugs**, and **synthetic opioids**. These relatively new types of drugs are developed by people who seek to circumvent the illegality of a drug by modifying the drug into a new compound. Ecstasy is an example of a designer drug, synthetic drug, or synthetic opioid. Such drugs are created as **structural analogs** of substances already scheduled and legally prohibited under the Controlled Substances Act. Structural analogs are the drugs that result from altered chemical structures of already existing illicit drugs. Generally, these drugs are created by an underground chemist whose goal is to make a profit by creating compounds that mimic, change, or intensify the psychoactive effects of controlled substances. The number of designer drugs that are created and sold illegally is extremely large.

Anyone with knowledge of college-level chemistry can alter the chemical ingredients and produce new designer drugs, although it may be nearly impossible to predict their properties or effects except by trial and error. Currently, three major types of synthetic analog drugs are available through the illicit drug market: analogs of PCP; analogs of fentanyl and meperidine (both synthetic narcotic analgesics), such as Demerol or MPPP (also called MPTP or PEPAP); and analogs of amphetamine and methamphetamine (which have stimulant and hallucinogenic properties), such as MDMA, known as Ecstasy or Adam, which is widely used on college campuses as a euphoriant.

The production of these high-technology psychoactive substances is a sign of the new levels of risk and additional challenge to the criminal justice system. As the production and risk associated with the use of such substances increase, the need for a broader, better-informed view of drug use becomes even more important than in the past.

SYNTHETIC CANNABINOIDS: SPICE AND K2

Synthetic cannabinoids are human-made mind-altering chemicals that are either sprayed on dried, shredded plant material so they can be smoked or sold as liquids to be vaporized and inhaled in

KEY TERMS

marijuana wax

a more recent, extremely potent cannabis product with approximately 80% THC levels made by using butane to extract the THC; the process produces a “waxy” residue that is smoked or vaporized and is highly hallucinogenic, often resulting in high levels of physical and mental impairment

designer drugs

new drugs that are developed by people intending to circumvent the illegality of a drug by modifying a drug into a new compound; Ecstasy is an example. Also known as *synthetic drugs* or *synthetic opioids*

synthetic drugs or synthetic opioids

see designer drugs

structural analogs

new molecular species created by modifying the basic molecular skeleton of a compound; structural analogs are structurally related to their parent compounds

e-cigarettes and other devices. These products are also known as *herbal* or *liquid incense* (NIDA, 2018c).

Synthetic cannabinoids are substances that are designed to affect the body in a manner similar to marijuana but are not derived from the marijuana plant (Office of National Drug Control Policy [ONDCP] 2013b). They are most often smoked like marijuana. Street names for synthetic cannabis include *Spice*, *K2*, *Mr. Smiley*, *Red X Dawn*, and *Blaze*. “A package of K2, a synthetic marijuana, is a concoction of dried herbs sprayed with chemicals, used in the herbal blends that are sold in head shops on the Internet to a growing number of teens and young adults” (Caldwell, 2010). Many of the contents are listed as inactive on the product packaging (DEA, 2012). A retired organic chemistry researcher from Clemson University reports medical problems from synthetic cannabis use as



Courtesy of DEA.

K2 contains synthetic cannabinoids that affect the body in similar fashion as marijuana.

“overdoses, cases of addiction, and even suicide” (Caldwell, 2010).

K2 and Spice are generic trademarks that first went on sale in 2000, initially as legal herbs.

HERE AND NOW

Spice and K2: Past and Current Usage Rates

Spice, also known as *herbal incense*, is dried, shredded plant material treated with a cannabinoid analog. Although labels on spice products will list the ingredients as “natural” psychoactive plant products, chemical analyses show that their active ingredients are primarily synthetic cannabinoids added to the plant material. These synthetic analogs function similarly to the active ingredient in marijuana, Δ^9 -THC (SAMHSA, 2014a).

K2 and *Spice* are two names for a more recently created psychoactive designer drug whose dried, leafy, natural herbs are sprayed with a psychoactive chemical; it is then smoked so the user can experience euphoric effects. In 2011, prior to the Synthetic Drug Abuse Prevention Act being signed into law, one in nine U.S. high school seniors reported having used synthetic marijuana. In 2012, a large sample survey found that annual prevalence was 11.4%, ranking synthetic marijuana as the second most widely used class of illicit drug after marijuana among 12th graders (Johnston et al., 2016). In 2018, synthetic marijuana use significantly dropped. Annual use in 2018 among 8th graders was 1.6%, 10th graders 2.9%, and 12th graders 3.5% (NIDA, 2018c).

Eighth, 10th, and 12th graders were asked if they associated a great risk with trying synthetic marijuana

once or twice; the results showed that there was quite a low level of perceived risk (only 23% and 25%, respectively, thought there was great risk in using once or twice).

Another study at a large public university in Georgia between November 2011 and March 2012 found that the highest level of use was among male students largely identifying with the lesbian, gay, bisexual, and transgender (LGBT) community. This was the first known study to obtain a detailed profile of users of any type of synthetic cannabinoid. Findings indicated the following:

1. The average age of first use was 18 years.
2. The percentage ever using synthetic cannabinoids was twice as high for males as for females (19% vs. 9%).
3. Heavier users were more likely to identify themselves as LGBT; significantly less usage was found in students identifying themselves as heterosexual.

Earlier findings are that “[e]fforts at the federal and state levels to close down the sale of these substances appear to be having an effect” (Johnston et al., 2016). Overall, beginning in 2015 through 2018, use of synthetic marijuana cannabinoids, (K2 and Spice) have statistically decreased for 8th, 10th, 12th graders and college students).

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Data from Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2013). *Monitoring the Future National Results on Drug Use: 2012 Overview, key findings on adolescent drug use*. Ann Arbor, MI: Institute for Social Research, The University of Michigan; Center for Substance Abuse Research (CESAR). (2013, May 20). Study finds that 14% of undergraduate students at a Southeastern University report synthetic cannabinoid use; users more likely to be male and identify as LGBT. CESAR FAX. Retrieved from <http://www.cesar.umd.edu>; Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2016, February). *Monitoring the Future National Survey Results on Drug Use, 1975–2015: Overview, key findings on adolescent drug use*. Ann Arbor, MI: Institute for Social Research, University of Michigan; National Institute on Drug Abuse (NIDA). (2018c). *Synthetic cannabinoids (K2/Spice)*. Bethesda, MD: Author. Retrieved from <https://www.drugabuse.gov/publications/drugfacts/synthetic-cannabinoids-k2spice>

Several years later, it was discovered that they contained synthetic cannabinoids that affected the body in a similar fashion as marijuana (cannabis). In July 2012, federal law placed this drug under Schedule I, making it an illegal drug with the highest abuse potential. The illegality of this drug removed it from retail sales.

As mentioned, before 2012, Spice was sold as a legal herb-based alternative to cannabis. The ingredients list contained only herbs, with no cannabinoid constituents; however, the listed ingredients seemed suspiciously unlikely to produce the drug's reported effects. Street names and slang terms for K2 and Spice include *Spice*, *K2*, *Blaze*, *Red X Dawn*, *Bliss*, *Black Mamba*, *Bombay Blue*, *Fake Weed*, *Genie*, *Spice*, and *Zoh*.

Numerous organizations have now tested the chemicals used to produce the high in synthetic marijuana, that includes K2-Spice. "The five primary research chemicals that mimic THC, are JWH-018, JWH-073, JWH-200, CP-47,497, and cannabicyclohexanol" (The Partnership for a Drug Free New Jersey, n.d.).

The U.S. Army, U.S. Marines, U.S. Air Force, U.S. Coast Guard, and U.S. Navy have also outlawed this drug, and violators risk immediate expulsion from service and incarceration. (For information regarding the extent of Spice use, see "Here and Now: Spice and K2: Past and Current Usage Rates.")



Photographed by Kimberly Pottin.

Inhalants. These volatile chemicals, which include many common household substances, are often the most dangerous drug, per dose, a person can take. In addition, inhalants are most often used by young children.

■ Anabolic Steroids

Steroids are a synthetic form of the male hormone testosterone. They are often used to increase muscle size and strength. Medically, steroids are used to increase body tissues, treat allergies, or reduce swelling. Steroids are available in either liquid or pill form. Athletes have a tendency to use and abuse these drugs because they can dramatically increase body mass and muscle tissue. Some side effects include heart disease, liver cancer, high blood pressure, septic shock, impotence, genital atrophy, manic episodes, depression, violence, and mood swings.

■ Inhalants and Organic Solvents

Inhalants and organic solvents also are often considered gateway drugs and are extremely attractive to and popular among preteens and younger teenagers. Products used include gasoline, model airplane glue, and paint thinner. When inhaled, the vapors from these solvents can produce euphoric effects. Organic solvents can also refer to certain foods, herbs, and vitamins such as "herbal Ecstasy."

■ Narcotics and Opiates

These drugs depress the CNS and, if taken in a high enough quantity, produce insensibility or stupor. Narcotics or opiates are highly addictive. Narcotics include heroin, opium, morphine, codeine, meperidine (often a substitute for morphine, also known as Demerol), Darvon, and Percodan.

An Overview of Drugs in Society

Many people think that problems with drugs are unique to this era. In reality, drug use and abuse have always been part of nearly all—past and present—human societies. For example, the Grecian oracles of Delphi used drugs, Homer's Nestor's Cup induced sleep and provided freedom from care, and the mandrake root mentioned in Genesis, the first book of the Bible, produced a hallucinogenic effect. In Genesis 30:14–16, the mandrake is mentioned in association with bartering for lovemaking:

In the time of wheat harvest Reuben went out, found some mandrakes in the open country, and brought them to his mother Leah. Then Rachel asked Leah for some of her son's mandrakes, but Leah said, "Is it so small a thing to have taken away my husband, that you should take my son's mandrakes as well?" However, Rachel said, "Very well, let him sleep

with you tonight in exchange for your son's mandrakes." So when Jacob came in from the country in the evening, Leah went out to meet him and said, "You are to sleep with me tonight; I have hired you with my son's mandrakes." That night he slept with her.

Ancient literature is filled with references to the use of mushrooms, datura, hemp, marijuana, opium poppies, and so on. Under the influence of some of these drugs, many people experienced extreme ecstasy or sheer terror. Some old pictures of demons and devils look very much like those described by modern drug users during so-called bummers, or bad trips. The belief that witches could fly may also have been drug induced because many natural preparations used in so-called witches' brews induced the sensation of dissociation from the body, as in flying or floating.

As far back as 2240 BC, attempts were made to regulate drug use. For instance, in that year, problem drinking was addressed in the Code of Hammurabi, where it was described as "a problem of men with too much leisure time and lazy dispositions." Nearly every culture has experienced drug abuse, and as found in the historical record, laws were enacted to control the use of certain types of drugs.

■ How Widespread Is Drug Abuse?

As previously mentioned, drug abuse today is more acute and widespread than in any previous age (see "Here and Now: Numbers of Past Month: Illicit Drug Users and Illicit Drug Use Among People Aged 12 or Older by Age Group"). The evidence for this development is how often large

Amanda Geiger never saw the drunk driver.
Friends Don't Let Friends Drive Drunk.



Although the media is often credited with glamorizing dangerous drug use, many successful prevention campaigns have used TV, radio, and print media as outlets. Since the Advertising Council began its "Friends Don't Let Friends Drive Drunk" campaign, 79% of Americans have stopped an intoxicated friend from getting behind the wheel.

quantities of illicit drugs are seized in the United States and throughout the world. Media exposure about illicit drug use is more likely to occur today than in the past. On any given day, you can scan most major national and international newspapers and run across stories about illegal drug manufacture, storage and distribution, use or abuse, and convictions. Drug use is an **equal-opportunity affliction**. This means that no one is immune from the effects of using or abusing both licit and

KEY TERM

equal-opportunity affliction

refers to the use of drugs, stressing that drug use cuts across all members of society regardless of income, education, occupation, social class, or age

HERE AND NOW

Numbers of Past-Month Illicit Drug Users and Age Groups by People Aged 12 and Older, 2018

Among people aged 12 and older in 2018, an estimated 53.2 million people used illicit drugs in the preceding year (**Figure A**), meaning that they had used an illicit drug during the year before the survey interview. The 53.2 million people who used illicit drugs corresponds to 19.4% of the population or approximately one in five people 12 and older in the United States (SAMHSA, 2019a).

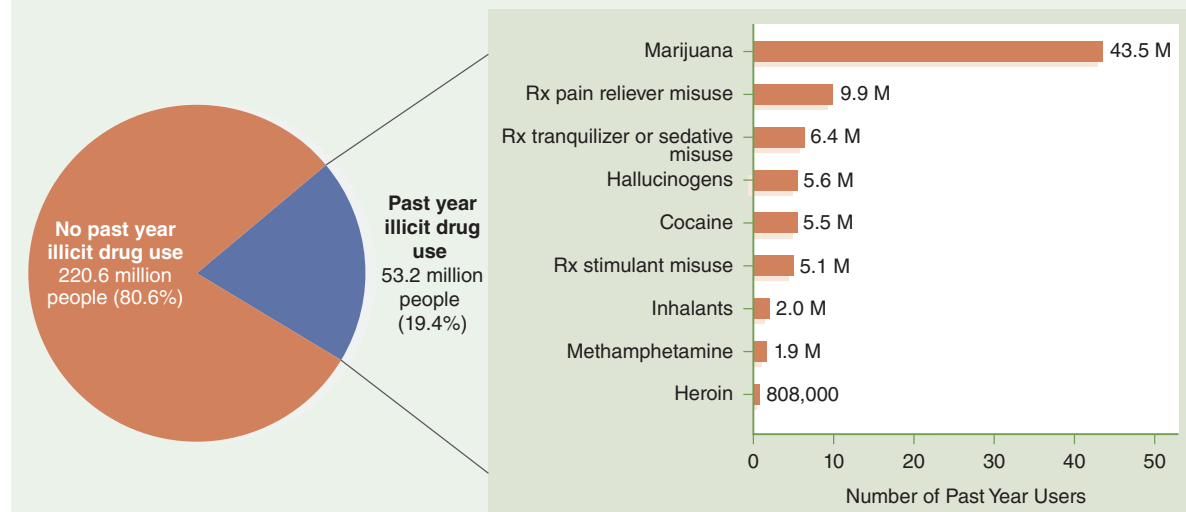
The most commonly used illicit drug in the preceding year was marijuana, which was used by

43.5 million people. The second most common type of illicit drug use in the United States was prescription pain relievers: an estimated 9.9 million people in the preceding year. The third most common type of illicit drug use was prescription tranquilizers or sedatives: 6.4 million people. The fourth most common type of illicit drug use was hallucinogens by an estimated 5.6 million people. The fifth most common type of illicit drug use was cocaine with 5.5 million people. The smaller numbers of other past-year users

(continues)

HERE AND NOW

Numbers of Past-Month Illicit Drug Users and Age Groups by People Aged 12 and Older, 2018 (*continued*)



Rx = prescription.

Note: The estimated numbers of past year users of different illicit drugs are not mutually because people could have used more than one type of illicit drug use in the past year.

FIGURE A Number of past month illicit drug users among persons aged 12 or older: 2018.

misusing prescription stimulants, inhalants, methamphetamine, and heroin is also shown in Figure A (SAMHSA, 2019b).

The age breakdown of past-year illicit users is as follows:

- **Aged 12–17:** Approximately 4.2 million adolescents aged 12 to 17 in 2018 were past-year illicit drug users, which corresponds to about one in six adolescents.
- **Aged 18 to 25:** Approximately two in five young adults aged 18 to 25 in 2018 (38.7%) were past-year users of illicit drugs. This percentage corresponds to about 13.2 million young adults who used illicit drugs in the past year.
- **Aged 26 or older:** In 2018, about one in six adults aged 26 or older (16.7%) were past-year users of illicit drugs, or about 35.9 million adults in this age group (SAMHSA, 2019a).

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Data from Substance Abuse and Mental Health Administration (SAMHSA). (2019). *Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health* (HHS Publication No. PEP19-5068, NSDUH Series H-54). Rockville, MD: Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA). Retrieved from <https://www.samhsa.gov/data>

illicit drugs. Research shows that drug consumption is found across the many different income, education, social class, occupation, race and ethnic, lifestyle, and age groups. To date, no one has proven immune from drug use or abuse.

Many of us, for example, are dismayed or surprised when we discover that certain individuals we admire—our family members (a mother, father, aunt, uncle, cousin, grandparent), close friends, workmates, celebrities, politicians, athletes, clergy, law enforcement personnel, physicians, academics, and even the seemingly upstanding man or woman next door—either admit to are accused of, need treatment for, or are arrested for licit or illicit drug use. We are also taken aback when we hear

that cigarettes, alcohol, and marijuana abuse are commonplace in many public and private middle schools. Furthermore, most of us know of at least one (and many times more than one) close friend or family member who appears to secretly or not so secretly use drugs.

■ Extent and Frequency of Drug Use in Society

Erich Goode (2012), a much-respected sociologist, lists the following four types of drug use.

1. **Legal instrumental use:** Taking prescribed drugs and OTC drugs to relieve or treat mental or physical symptoms.

2. *Legal recreational use:* Using such licit drugs as tobacco, alcohol, and caffeine to achieve a certain mental or psychic state.
3. *Illegal instrumental use:* Taking drugs without a prescription to accomplish a task or goal such as taking nonprescription amphetamines to drive through the night or relying excessively on barbiturates to get through the day.
4. *Illegal recreational use:* Taking illicit drugs for fun or pleasure to experience euphoria such as abusing prescribed methylphenidate (Ritalin) as a substitute for cocaine.

Why has the prevalence of licit and illicit drug use remained consistent since 1988? Why has this trend occurred when federal, state, and local government expenditures for fighting the drug war have been increasing at the same time? There are several possible answers, none of which offers a satisfactory response by itself. One perspective notes that practically all of us use drugs in some form, with what constitutes “drug use” being merely a matter of degree. A second explanation is that more varieties of both licit and illicit drugs are available today. One source estimated that approximately 80% of all currently marketed drugs were either unknown or unavailable 30 years ago (Critser, 1996). Regarding prescriptions, “the average number of prescriptions per person, annually, in 1993 was seven, and in 2005 it was 12 and in 2011, 13 prescriptions per person in the [United States]” (Critser, 2005, p. 23). Another source stated, “The retail sales of all OTC drugs that includes approximately 27 categories of drugs totaled over \$35.2 billion in 2018” (CHPA, 2019). “In the United States, the rate of yearly prescription growth is projected to be 3.8% rate of inflation in the year 2020” (Bresnick, 2019).

By 2024, the total global prescription pharmaceutical market is projected to be at \$1.2 trillion in sales. Similarly, other findings reflecting problems with prescription drug use are as follow (NIDA, 2014b):

- Fifty-two million people in the United States older than 12 have used prescription drugs nonmedically in their lifetime.
- Percentage of persons using at least one prescription drug in the past 30 days: 48.4% (2013–2016) (CDC, 2017a).
- Nearly 70% of Americans are on at least one prescription drug, and more than half take two.
- Approximately 6.1 million Americans have used prescription drugs nonmedically in the past month.

- Although the United States is just 5% of the world’s population, it consumes 75% of the world’s prescription drugs.
- With regards to obtaining prescription drugs, 54.2% reported obtaining them for free from a friend or relative, 18.1% from one doctor, and 16.6% buying or taking them from a friend or relative.

Such figures indicate that it may be more difficult to find people who do not use psychoactive drugs compared to individuals who do.

Further, a third category of drug sales has joined OTC and prescription drugs: herbal medicines, vitamins, minerals, enzymes, and other natural potions. According to Boyles (2009), “Out-of-pocket spending on herbal supplements, chiropractic visits, meditation, and other forms of complementary and alternative medicines (CAM) was estimated at \$34 billion in a single year” and “Americans spend almost a third as much money out-of-pocket on herbal supplements and other alternative medicines as they do on prescription drugs.” A more recent study found that “Americans will spend \$21 billion on vitamins and herbal supplements in 2015. If protein powders are included, supplements are as big a market as all organic foods combined” (Scott, 2015). This is even though the U.S. Preventive Services Task Force does not recommend regular use of any multivitamins or herbs.

Other findings regarding these types of drugs include the following:

- More than four in five American adults (86%) take vitamins or supplements, according to a recent online survey conducted by the Harris Poll on behalf of the American Osteopathic Association (AOA, 2019).
- Americans will spend \$21 billion on supplements in 2015.
- An estimated 75% of the world’s population uses or has used some type of supplement, according to PharmacyTimes.com (Superior Supplement Manufacturing, 2019).
- “In the US alone, an estimated 54 million people over the age of 12 have used prescription drugs for nonmedical reasons in their lifetime” (Talbot Recovery, 2019).
- “Most abused prescription drugs fall under four categories, based on the number of people who misuse the drug: [p]ainkillers—3.3 million users, [t]ranquilizers—2 million users [s]timulants—1.7 million users Sedatives—0.5 million users” (Talbot Recovery, 2019).

- The Food and Drug Administration (FDA) only spot tests 1% of the 65,000 dietary supplements on the market.

Drug use is so common that the average household in the United States owns about five drugs, of which two are prescription drugs and three are OTC drugs. Of the many prescriptions written by physicians, approximately one-third modify moods and behaviors in one way or another. A 2010 National Institute on Drug Abuse (NIDA, 2010) study and other research indicate that more than 60% of adults in the United States have, at some time in their lives, taken a psychoactive drug (one that affects mood or consciousness). More than one-third of adults have used or are using depressants or sedatives.

A third explanation is that “in the modern age, increased sophistication has brought with it techniques of drug production and distribution that have resulted in a worldwide epidemic of drug use” (Kusnitz, 1988, p. 149). In the 1980s and 1990s, for example, illicit drug cartels proliferated, and varieties of marijuana with ever-increasing potency infiltrated all urban and rural areas in the United States, as well as the world. Many of these varieties are crossbred with ultrasophisticated techniques and equipment available everywhere.

Finally, even coffee has undergone a technological revolution. Higher levels of caffeine content have become available worldwide. This trend has led to the phenomenal growth of the following: (1) franchise duplication of gourmet coffee bars in the United States (e.g., Starbucks, Peet’s, Three Brothers Coffee); (2) sales of espresso and cappuccino coffeemakers for home use, with accompanying coffee grinders or coffee pods and capsules; and (3) sales of specialized coffees and teas through a multitude of email coffee and tea clubs.

Before 1990, it was difficult to purchase a cup of espresso or cappuccino in a typical restaurant (Meister, 2017); today, such types of coffees are widely available. Even at university unions and libraries, airports, shopping malls, and inner-city coffee shops, it is not unusual to see people lined up waiting to order and purchase their specially made and specially flavored coffee or tea. This is just one example of how caffeine (often seen as a benign drug) has evolved, with many new varieties of coffee beans from exotic islands and countries coming together with more sophisticated electronic equipment, with the result that the idea of simple brewing has been relegated to the past. The standard American “cup of coffee in the morning” has spilled into including coffee

during the afternoon and evening. This is a small example of a much-tolerated drug maintaining its own impressive history of development, increased use, complexity in developing many more varieties, and added sophistication.

■ Drug Use: Statistics, Trends, and Demographics

An incredible amount of money is spent each year on both licit and illicit chemicals that alter consciousness, awareness, or mood. The following are six categories of widely used licit and illicit types of psychoactive drugs:

1. *Social drugs.* Total costs, which includes costs to society, are approximately \$249 billion on alcohol alone each year. The total economic cost of smoking is more than \$300 billion a year, including nearly \$170 billion in direct medical care for adults and more than \$156 billion in lost productivity from premature death and exposure to secondhand smoke. In 2017, tobacco companies spent \$9.36 billion marketing cigarettes and smokeless tobacco in the United States. This translates to more than \$25 million each day, or more than \$1 million every hour (CDC, 2017b). During 2012–2016, total U.S. cigar unit sales grew by 29%, which was largely driven by increasing sales of cigarillos (CDC, 2017b).
2. *Prescription drugs.* In 2019, the total prescription drug revenue worldwide is expected to generate \$844 billion U.S. in prescription drug revenue worldwide. Revenues are expected to reach nearly \$1.2 trillion U.S. by 2024. There is an increasing growth especially in sales of so-called orphan drugs for the treatment of rare diseases (Mikulic, 2019). More than 131 million people—66% of all adults in the United States—use prescription drugs. Utilization is particularly high for older people and those with chronic conditions (Health Policy Institute, 2019).
3. *Over-the-counter (patent) drugs.* These products, including cough and cold items, external and internal analgesics, antacids, laxatives, antidiarrheal products, sleep aids, sedatives, and so on, had \$35.2 billion in sales in 2018, with U.S. households spending an average of \$338 per year on OTC products. Eighty-one percent of adults use OTC medicines as a first response to minor ailments (CHPA, 2019).
4. *Illicit drugs.* A report prepared by the RAND Corporation for the White House estimated that over a 10-year period, from 2000 to 2010,

an astonishing \$1 trillion was spent on illicit drugs (Ferner, 2014). Pinpointing specific types of drugs, another source indicated that in 2016, Americans spent \$145 billion on cannabis, cocaine, heroin, and methamphetamine, according to a new report (Midgette, 2019). Surveys of 8th, 10th, and 12th graders combined indicated that in 2017 and 2018, 34.4% and 33.9%, respectively had used an illicit drug during their lifetimes (Statista Inc., 2019).

5. Nonmedical use and misuse of prescription-type drugs. Prescription pain reliever misuse was the second most common form of illicit drug use in the United States in 2018, with 3.6% of the population misusing pain relievers. For people 12 and older and young adults 18 to 25, the percentages who misused prescription pain relievers in the preceding year were lower in 2018 than from 2015 to 2017. Similar decreases in pain reliever misuse were observed for adolescents 12 to 17 and adults 26 and older in 2018 compared with 2015 and 2016 but not when compared with 2017. Among people aged 12 and older in 2018 who misused pain relievers in the preceding year, the most common main reason for their last misuse of a pain reliever was to relieve physical pain (63.6%). More than half (51.3%) of people who misused pain relievers in the preceding year obtained the last pain reliever they misused from a friend or relative. The National Survey on Drug Use and Health (NSDUH) also allows an estimation of opioid misuse, which is defined as the use of heroin or the misuse of prescription pain relievers. In 2018, an estimated 10.3 million people 12 or older misused opioids in the preceding year, including 9.9 million prescription pain reliever misusers and 808,000 heroin users. Approximately 506,000 people misused prescription pain relievers and used heroin in the past year. The percentage of people aged 12 or older in 2018 who were past-year opioid misusers was lower than the percentages between 2015 and 2017, which was largely driven by declines in pain reliever misuse rather than by changes in heroin use. Finally, in 2018, the substances with the largest number of recent (i.e., past year) initiates of use or misuse were alcohol (4.9 million new users), marijuana (3.1 million new users), prescription pain relievers (1.9 million new misusers), and cigarettes (1.8 million new users) (SAMHSA, 2019a).

6. Miscellaneous. Finally, the amount spent on inhalants and other miscellaneous drugs,

such as nutmeg and morning glory seeds, cannot be estimated.

During 2016, an estimated 48,501,000 persons, or 18.0% of persons aged 12 and older, reported using illicit drugs or misusing prescription drugs in the preceding year (CDC, 2018b).

- By gender, the prevalence was 20.7% among males and 15.5% among females.
- By age, prevalence was highest among persons aged 18–25 (37.7%) and persons aged 26–34 (28.0%).
- By race and ethnicity, prevalence ranged from 9.2% among Asians to 23.6% among American Indians or Alaska Natives.

Regarding nationwide trends in the use of illicit drug use in 2018, the following findings are noteworthy:

- More than half of new illicit drug users begin with marijuana. Next most commonly used are prescription pain relievers followed by inhalants (which is most common among younger teens).
- After alcohol, marijuana has the highest rate of dependence or abuse among all drugs. Drug use is highest among people in their late teens and 20s. In 2013, 22.6% of those 18 to 20 reported using an illicit drug in the preceding month.
- In 2018, nearly one in five people 12 or older (19.4%) used an illicit drug in the preceding year, which is a higher percentage than in 2015 and 2016. The estimate of past-year illicit drug use for 2018 was driven primarily by marijuana use, with 43.5 million past-year marijuana users. The percentage of people 12 and older in 2018 who used marijuana in the past year (15.9%) was higher than the percentages in 2002 to 2017 (SAMHSA, 2019a).
- Prescription pain reliever misuse was the second most common form of illicit drug use in the United States in 2018, with 3.6% of the population misusing pain relievers. For people 12 and older and young adults 18 to 25, the percentages who misused prescription pain relievers in the preceding year were lower in 2018 than in 2015 to 2017 (SAMHSA, 2019a).
- Among people 12 and older in 2018 who misused pain relievers in the preceding year, the most common main reason for their last misuse of a pain reliever was to relieve physical pain (63.6%). More than half (51.3%) of people who misused pain relievers in the preceding year obtained the last pain reliever

they misused from a friend or relative (SAMHSA, 2019a).

- In 2018, an estimated 10.3 million people 12 and older misused opioids³ in the previous year, including 9.9 million prescription pain reliever misusers and 808,000 heroin users. Approximately 506,000 people misused prescription pain relievers and used heroin in the preceding year (SAMHSA, 2019a).
- The percent of teens who reported past-month marijuana vaping rose from 2.6% to 3.9% of 8th graders, from 7.0% to 12.6% of 10th graders, and from 7.5% to 14.0% of 12th graders. This increase in past-month marijuana vaping in high school seniors is the second largest single-year increase ever measured in the 45-year history of the *Monitoring the Future* (MTF) survey (NIDA, 2019b).
- Cigarette smoking continued a downward trend and significantly fell among 12th graders reporting past-month use, daily use, or consumption of one-half pack or more per day.
- Significant five-year declines in cigarette smoking were reported by all grades and across all prevalence periods, including lifetime use (NIDA, 2019b).
- Past-month, past-year, and lifetime marijuana use remained steady among 8th, 10th, and 12th graders. Daily marijuana use, however, increased among 8th and 10th graders (NIDA, 2019b).
- Past-year prescription opioid misuse (reported in the survey as “narcotics other than heroin”) continued a significant decline among 12th graders, with 2.7% reporting use in 2019 (NIDA, 2019b).
- In 2018, among full-time college students ages 19 to 22, 43% reported using marijuana sometime in the preceding 12 months and 25% reported using marijuana at least once in the previous 30 days. This represents the highest level of marijuana usage in the last 3.5 decades (Michigan News, 2019). Same-age high school graduates, ages 19–22, not attending college had similar rates of marijuana use (Michigan News, 2019).

³The National Survey on Drug Use and Health (NSDUH) defines opioid use as the misuse of prescription pain relievers or heroin.

Table 1.3 shows that in regard to age groups, those 18 to 25 are by far the *heaviest* users and

TABLE 1.3 Trend Data on the Prevalence of Illicit Drug Use: 2015–2018

	2015	2016	2017	2018
Used in Past Month				
All ages 12+	10.1 ^a	10.6 ^a	11.2	11.7
12–17	8.8 ^a	7.9	7.9	8.0
18–25	22.3 ^a	23.2	24.2	23.9
26+	8.2 ^a	8.9 ^a	9.5 ^a	10.1
Used in Past Year				
All ages 12+	17.8 ^a	18.0 ^a	19.0	19.4
12–17	17.5	15.8	16.3	16.7
18–25	37.5	37.7	39.4	38.7
26+	14.6 ^a	15.0 ^a	16.1	16.7
Used in Lifetime (Ever Used)				
All ages 12+	48.8	48.5	49.5	49.2
12–17	25.3 ^a	23.0	23.9	23.9
18–25	57.5 ^a	56.3	57.0	55.6
26+	50.1	50.2	51.3	51.2

^aData difference between 2018 and this estimate significant at the 0.05 level. The rounding may make the estimates look identical.

Data from Substance Abuse and Mental Health Services Administration (SAMHSA). (2019b). *Results from the 2018 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Author. Retrieved from <https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect1pe2018.htm>

HERE AND NOW

Sources of Prescription Drugs Misused by Youths

Although most people take prescription medications responsibly, in 2017 an estimated 18 million people (more than 6% of those aged 12 and older) misused such medications at least once in the preceding year. According to results from the 2017 National Survey on Drug Use and Health, an estimated 2 million Americans misused prescription pain relievers for the first time within the preceding year, which averages approximately 5,480 initiates per day. In addition, more than 1 million misused prescription stimulants, 1.5 million misused tranquilizers, and 271,000 misused sedatives for the first time (NIDA, 2018a).

In focusing on adolescents and young adults, the misuse of prescription drugs is highest among young adults 18 to 25, with 14.4% reporting nonmedical use in the previous year. Among youth 12 to 17, 4.9% reported past-year nonmedical use of prescription medications.

After alcohol, marijuana, and tobacco, prescription drugs (taken nonmedically) are among the most commonly used drugs by 12th graders. NIDA's *Monitoring the Future* survey of substance use and attitudes in teens found that about 6% of high school seniors reported past-year nonmedical use of the prescription stimulant Adderall in 2017, and 2% reported misusing the opioid pain reliever Vicodin (NIDA, 2018a).

Youths who misuse prescription medications are also more likely to report using other drugs. Multiple studies have revealed associations between prescription drug misuse and higher rates of cigarette smoking, heavy episodic drinking, and marijuana, cocaine, and other illicit drug use among adolescents, young

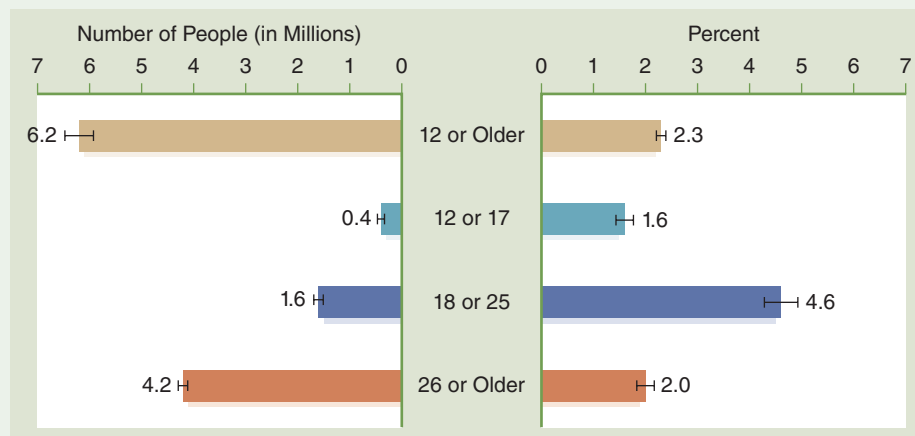
adults, and college students in the United States. In the case of prescription opioids, receiving a legitimate prescription for these drugs during adolescence is also associated with a greater risk of future opioid misuse, particularly in young adults who have little to no history of drug use (NIDA, 2018a).

Older Adults

Friends and family are the most common source of prescription drugs *misused** by youths in the United States, according to an analysis of data from NSDUH. Around one-half of youths who reported misusing prescription stimulants (50%), tranquilizers (47%), or sedatives (47%) in the past year said that they most recently obtained the medication for free from friends or family, as did one-third of those who reported the misuse of prescription opioids. The second most common source for obtaining stimulants, tranquilizers, and sedatives was purchasing from a friend or relative, drug dealer or stranger, or the Internet, and the second most common source for obtaining prescription opioids was acquiring them from a physician.

Another source (Keller, 2019) reported that teens get their prescription drugs from the following locations:

- medicine cabinets,
- a neighbor's house,
- Internet and online pharmacies,
- the dark web,
- a friend of a friend,
- at schools, and
- at parties.



Past month prescription misuse of pain relievers, tranquilizers, stimulants, and sedatives by age group: 2016.

(continues)

HERE AND NOW

Sources of Prescription Drugs Misused by Youths (*continued*)

According to a University of Florida study, “[u]sing someone else’s medication is the most common form of prescription stimulant misuse among adolescents,” with researchers finding that 88% of teens who used the drugs nonmedically in the previous 30 days said “they had obtained the medications from someone else” (Keller, 2020a). Friends and family are the most common source of prescription drugs *misused** by youths in the United States, according to an analysis of data from NSDUH. Around one-half of youths who reported misusing prescription stimulants (50%), tranquilizers (47%),

or sedatives (47%) in the previous year said that they most recently obtained the medication for free from friends or family, as did one-third of those who reported the misuse of prescription opioids. The second most common source for obtaining stimulants, tranquilizers, and sedatives was purchasing from a friend or relative, drug dealer or stranger, or the Internet; the second most common source for acquiring prescription opioids was from a physician (CESAR, 2009; Schepis & Krishnan-Sarin, 2009).

*Misuse is defined as “taking a medication in a manner or dose other than prescribed; taking someone’s else’s prescription, even if for a legitimate medical complaint such as pain; or taking a medication to feel euphoria (i.e., to get high)” (NIDA, 2018a).

Note: Respondents also reported that prescription medicines were obtained “some other way” (stimulants, 5%; tranquilizers, 4%; sedatives, 12%; opioids, 7%). Data are from 36,992 adolescents aged 12 to 17 participating in the 2005 or 2006 National Survey on Drug Use and Health (or both). Of these youths, 8.3% reported any prescription drug misuse in the previous year, 7% reported opioid misuse, 2% reported tranquilizer misuse, 2% reported stimulant misuse, and 0.4% reported sedative misuse.

Reproduced from Center for Substance Abuse Research (CESAR). (2009). Friends and family are most common source of prescription drugs misused by youths. CESAR FAX, 18(32), using data from National Institute on Drug Abuse (NIDA). (2018a). Misuse of prescription drugs. Bethesda, MD: Author. Retrieved from <https://www.drugabuse.gov/publications/misuse-prescription-drugs/overview>; Schepis, T. S., & Krishnan-Sarin, S. (2009). Sources of prescriptions for misuse by adolescents: Differences in sex, ethnicity, and severity of misuse in a population-based study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 48(8), 828–836; Substance Abuse and Mental Health Services Administration (SAMHSA). (2017). *Key substance use and mental health indicators in the United States: Results from the 2016 National Survey on Drug Use and Health*. Rockville, MD: Author. Retrieved from <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2016/NSDUH-FFR1-2016.htm>

experimenters in terms of past-month, past-year, and lifetime users.

Table 1.4 shows a more recent percentage of population and estimated number of alcohol, tobacco, and illicit drug users in the United States among persons aged 12 and older. In looking at *past-month usage*, an estimated 13.9 million Americans, or 51.1% of the total U.S. population age 12 and older, were drinkers. Statistics also reveal that with regard to past-month usage of cigarettes, approximately 46.9 million Americans (17.2%) smoked cigarettes, 31.9 million used illicit drugs (11.7%), and 27.6 million (8.4%) used marijuana in 2018 (see Table 1.4).

■ Current Patterns of Licit and Illicit Drug Use

Table 1.4 shows that both licit and illicit drug use occurs and remains at alarming rates. In looking at *lifetime* use of illicit types of drugs, it is estimated that approximately 13.4 million people—approximately one-half of Americans 49.2% age 12 and older—have used illicit drugs during their lifetime (SAMHSA, 2019b).

Figure 1.2 further shows that regarding lifetime use 80.8% of the U.S. population, used alcohol during sometime during their lifetime. Other lifetime drug uses and percentages of those using were cigarettes (55.7%); illicit drug use, which includes the misuse of prescription psychotherapeutics (49.2%); marijuana (45.3%); cocaine (14.7%); hallucinogens (15.8%); inhalants (9.1%); and heroin (1.9%) (see Figure 1.2).

Figure 1.3 shows the number of past-month illicit drug users among persons age 12 and older in 2018. The category of *illicit drugs* shows the highest use (31.9 million), followed by use of marijuana (27.7 million), psychotherapeutics (5.4 million), cocaine (1.9 million), hallucinogens (1.6 million), inhalants (0.6 million), and heroin (0.4 million).

NONMEDICAL USE OF PSYCHOTHERAPEUTIC DRUGS

Figure 1.4 shows percentage of past month non-medical use of psychotherapeutic drugs (pain relievers, tranquilizers, stimulants, and sedatives)

TABLE 1.4 National Household Survey on Drug Abuse: 2018

Percentage of population and estimated number of alcohol, tobacco, and illicit drug users in the United States among persons aged 12 or older

Substance	LIFETIME		PAST MONTH*	
	Percentage	Number of Users (in Thousands)	Percentage	Number of Users (in Thousands)
Alcohol	80.8	221,220	51.1	139,835
Cigarettes	55.7	152,480	17.2	46,956
Any illicit drug†	49.2	134,791	11.7	31,918
Marijuana	45.3	123,935	10.1	27,667
Illicit drugs other than marijuana‡	¶nr	¶nr	3.2	8,855
Smokeless tobacco	15.6	42,599	2.9	7,972
Nonmedical use of any psychotherapeutic§	¶nr	¶nr	2.0	5,424
Pain Relievers	¶nr	¶nr	1.0	2,852
Cocaine	14.7	40,194	0.7	1,949
<i>Crack</i>	3.4	9,177	0.2	436
Tranquilizers	¶nr	¶nr	0.6	1,799
Hallucinogens	15.8	43,255	0.6	1,630
<i>Ecstasy</i>	7.3	19,949	0.3	689
<i>LSD</i>	10.0	27,339	0.2	458
<i>PCP</i>	2.2	6,085	0.0	34
Stimulants	¶nr	¶nr	0.6	1,670
Methamphetamine	5.4	14,892	0.4	1,001
Inhalants	9.1	24,783	0.2	612
Heroin	1.9	5,108	0.1	354
Sedatives	§nr	§nr	0.1	243

Note: The results obtained from this national survey were completed at 181,879 addresses, and 68,991 completed interviews were obtained. The survey was conducted from January 2018 through December 2018. Weighted response rates for household screening and for interviewing were 73.3% and 66.6%, respectively.

*Lifetime refers to ever used. This column shows the use of drugs from highest to lowest percentages as well as the number of persons using.

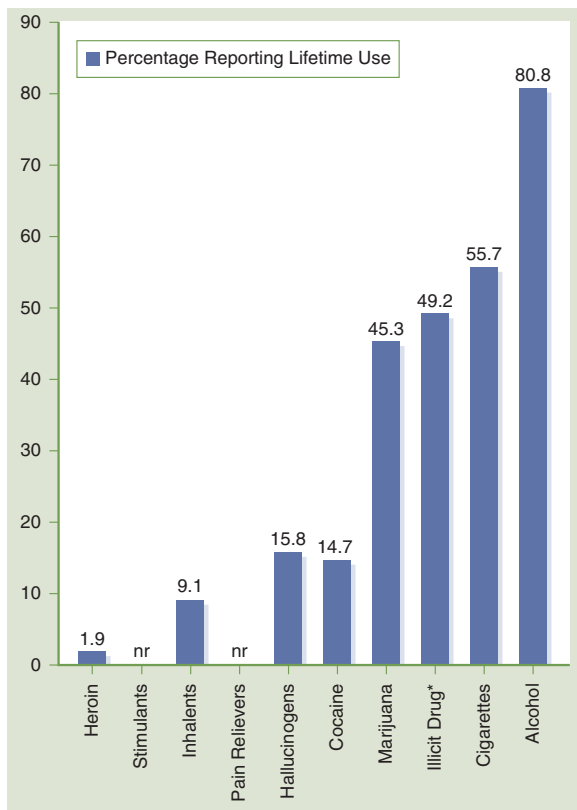
†Any illicit drugs, including the following: marijuana or hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

‡Illicit drugs other than marijuana include cocaine (including crack), heroin, hallucinogens, inhalant, or prescription-type psychotherapeutics used nonmedically.

§Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives but does not include over-the-counter drugs.

¶nr = no report available

Data from Substance Abuse and Mental Health Services Administration (SAMHSA). (2019). *Results from the 2018 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA).



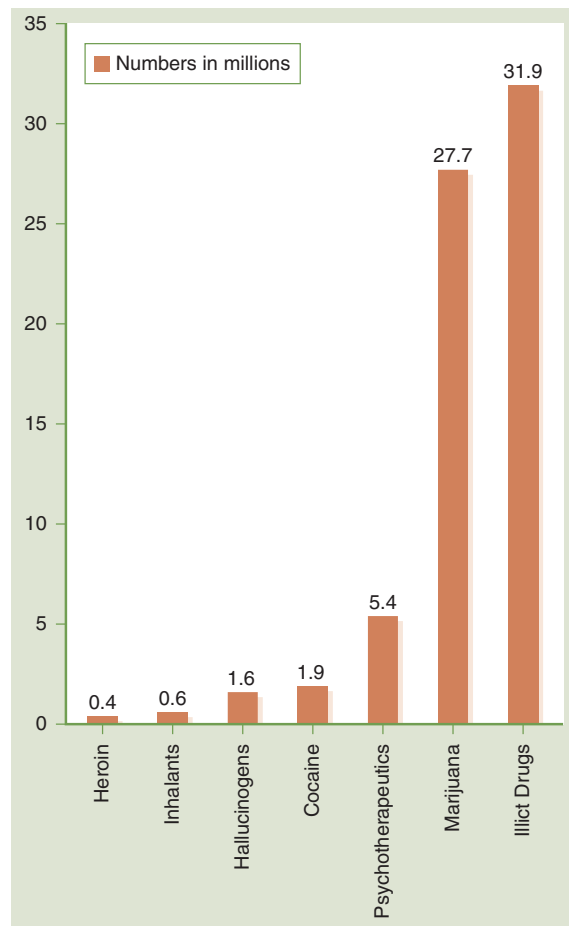
*Illicit drug use in a lifetime includes the misuse of prescription psychotherapeutics.
nr These percentages are not reported due to measurement issues.

FIGURE 1.2 Percentage of U.S. residents aged 12 or older reporting lifetime use of alcohol, tobacco, and illicit drugs: 2018.

Data from Substance Abuse and Mental Health Services Administration (SAMHSA). (2019). *Results from the 2018 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA).

among four age groups—12 and older, 12 to 17, 18 to 25, and 26 and older—from 2015 through 2018; also see the Case in Point highlighting the number of painkiller prescriptions in each of the 50 states and the District of Columbia in 2012 (CDC, 2014). These groupings also include drugs that may be available as prescription medications but currently are much more likely to be manufactured and distributed illegally; one such drug is methamphetamine, which is included under stimulants. The latest major findings of nonmedical use of psychotherapeutic drugs in 2018 include the following (SAMHSA, 2019a):

- Prescription psychotherapeutic drugs consist of prescription stimulants, tranquilizers or sedatives (including benzodiazepines), and pain relievers. In NSDUH, misuse of prescription drugs is defined as use in any way not directed by a doctor, including use without a prescription of one's own, use in



*Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

FIGURE 1.3 Past-month use of selected illicit drugs among persons aged 12 or older, 2018. Illicit drugs include marijuana or hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

Data from Substance Abuse and Mental Health Services Administration (SAMHSA). (2019). *Results from the 2018 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA). Retrieved from <https://www.samhsa.gov/data/>

greater amounts more often or longer than told to take a drug, or use in any other way not directed by a doctor. Misuse of over-the-counter drugs is not included (SAMHSA, 2019a).

- In 2018, an estimated 16.9 million Americans 12 and older misused prescription psychotherapeutic drugs at least once in the preceding year. This number of past-year prescription psychotherapeutic drug misusers corresponds to 6.2% of the population (SAMHSA, 2019a). Of the prescription drugs presented in this report, prescription pain relievers were the most commonly misused by people 12 and older (SAMHSA, 2019a).

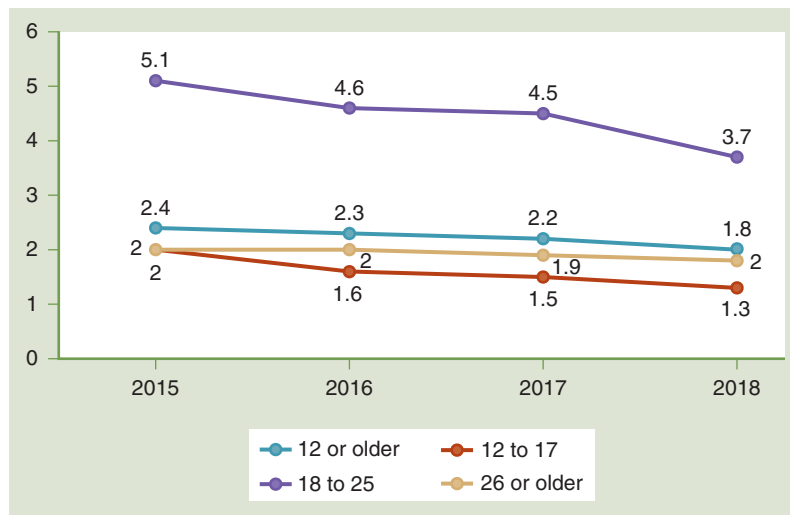


FIGURE 1.4 Past-month nonmedical use of types of psychotherapeutic drugs among persons aged 12 or older: 2015–2018.

Reproduced from Center for Behavioral Health Statistics and Quality (CBHSQ). (2015). *Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health* (HHS Publication No. SMA 15-4927, NSDUH Series H-50). Rockville, MD: Author; Substance Abuse and Mental Health Services Administration (SAMHSA). (2017). *Key substance use and mental health indicators in the United States: Results from the 2016 National Survey on Drug Use and Health* (HHS Publication No. SMA 17-5044, NSDUH Series H-52). Rockville, MD: Author; Substance Abuse and Mental Health Services Administration. (2019). *Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health* (HHS Publication No. PEP19-5068, NSDUH Series H-54). Rockville, MD: Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA).

- The 16.9 million Americans in 2018 who had misused prescription psychotherapeutic drugs in the preceding year included 9.9 million who misused prescription pain relievers in that period, 5.1 million who misused prescription stimulants, and about 6.4 million who misused prescription tranquilizers or sedatives.

The estimate for the misuse of tranquilizers or sedatives includes 5.4 million who misused prescription benzodiazepines in the past year (SAMHSA, 2019a).

Figure 1.5 shows past-month use of illicit drugs among persons 12 and older by age group in 2017

► CASE IN POINT

State Differences in the Number of Painkiller Prescriptions per 100 People, 2017

The color-coded U.S. map (**Figure A**) shows the number of painkiller prescriptions per 100 people in each of the 50 states plus the District of Columbia in 2017 (CDC, 2017a). The major findings include the following:

- The overall national opioid prescribing rate declined from 2012 to 2017, and in 2017 the prescribing rate had fallen to the lowest in more than 10 years at 58.7 prescriptions per 100 persons (total of more than 191 million total opioid prescriptions) (CDC, 2017a).
- However, in 2017, prescribing rates continued to remain especially high in certain areas across the country.

- In 16% of U.S. counties, enough opioid prescriptions were dispensed for every person to have one (CDC, 2017a).
- Leading the country in highest pain prescriptions per 100 persons are Alabama, Arkansas, Mississippi, and Tennessee.
- The states with the lowest pain prescriptions per 100 persons were New York, Hawaii, and California, as well as the District of Columbia.

Figure B shows the total number and rate of opioid (painkiller) prescriptions dispensed in the United States between 2006 and 2017.

(continues)

CASE IN POINT

State Differences in the Number of Painkiller Prescriptions per 100 People, 2017 (*continued*)

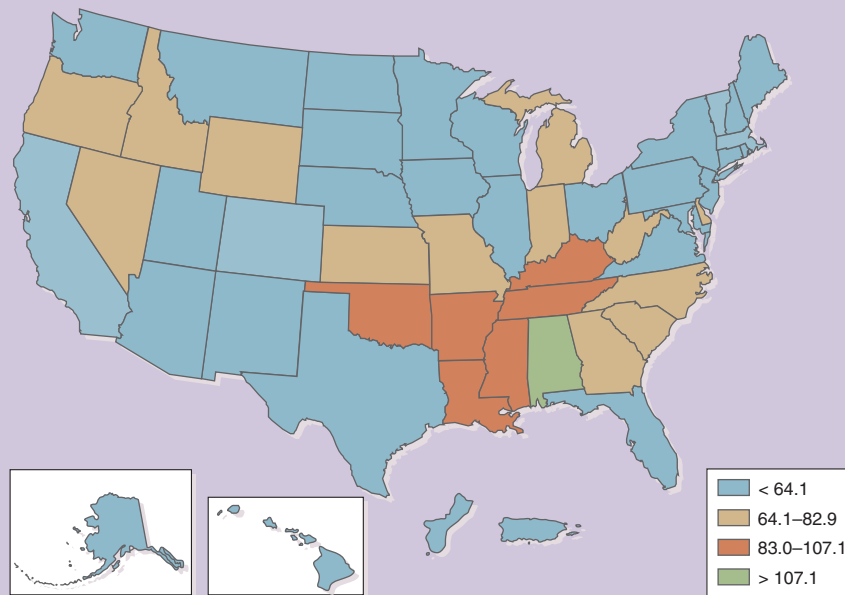


FIGURE A This color-coded U.S. map shows the number of painkiller prescriptions per 100 people in each of the 50 states in 2017.

Reproduced from Centers for Disease Control and Prevention (CDC). (2017c). *U.S. state prescribing rates, 2017*. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from <https://www.cdc.gov/drugoverdose/maps/rxstate2017.html>

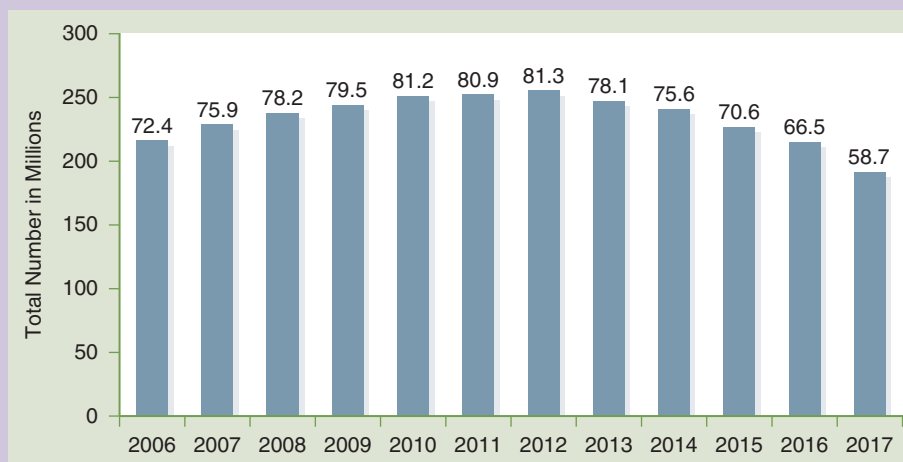


FIGURE B Total number and rate of opioid prescriptions dispensed per 100 persons, United States, 2007–2017.

Reproduced from Centers for Disease Control and Prevention (CDC). (2018c). *U.S. opioid prescribing rate maps*. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from <https://www.cdc.gov/drugoverdose/maps/rxrate-maps.html>

and 2018. With regard to age patterns, the following trends are apparent:

- Rates of drug use show significant variation by age group.
- In comparing 2017 with 2018, past-month illicit drug use was similar across age groups.
- In comparing 2017 with 2018, excluding ages 18 to 25, across all other age groups (12 or older, 12 to 17, and 26 or older), past-month illicit drug use increased slightly in 2018.
- The highest percentage of illicit drug use was among those 18 to 25 (24.2% in 2017 and 23.9% in 2018).
- Of the four age groups (12 or older, 12 to 17, 18 to 25, and 25 and older), those 12 to 17

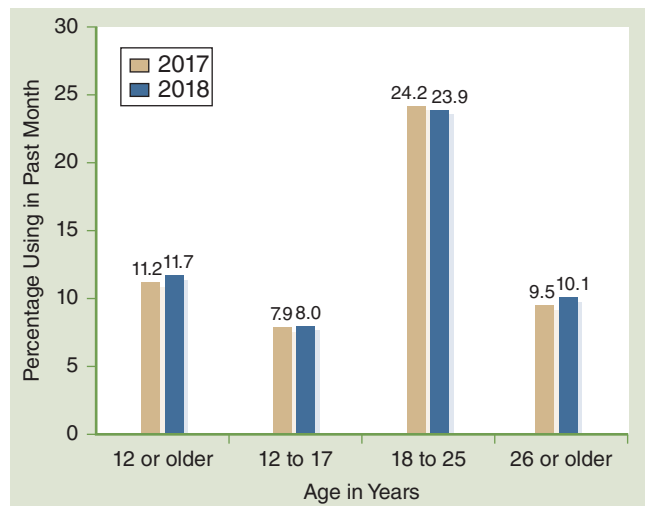


FIGURE 1.5 Percentage of past-month illicit drug use among persons aged 12 or older, by age: 2017 and 2018.

Reproduced from Substance Abuse and Mental Health Services Administration (SAMHSA). (2019). *Results from the 2018 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA). Retrieved from <https://www.samhsa.gov/data/>

had the lowest percentage of past-month illicit drug use.

RACIAL AND ETHNIC DIFFERENCES

Figure 1.6 shows average past-month illicit drug use among persons age 12 or older by race and ethnicity (black or African American, white, Hispanic or Latino, and Asian) for 2018. The figures in this chart reveal the following trends.

In 2018, the following were the major findings regarding illicit drug use by gender, education: college versus noncollege students, ethnicity and race, and criminal justice populations reported with earlier publishing dates.

GENDER

- In 2018, as in preceding years, the rate of past-month illicit drug use among persons 12 and older was higher for males (14.0%) than for females (9.5%). Males were more likely than females to be current users of several different illicit drugs, including marijuana (12.3% vs. 8.0%), cocaine (1.0 vs. 0.4%), hallucinogens (0.8 vs. 0.4%), and crack (0.2% vs. 0.1%).
- In 2015, women continually have lower rates of substance use and substance use disorders (SUDs) than men. For example, past-year illicit drug dependence or abuse was 3.4% for men and 1.9% for women (SAMHSA, 2015).

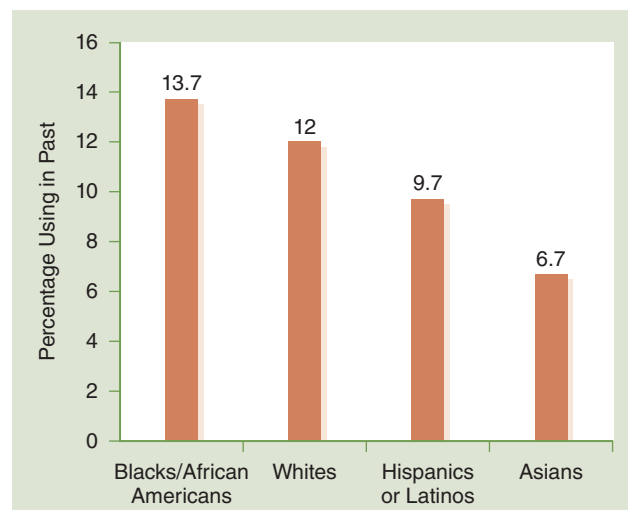


FIGURE 1.6 Past-month illicit drug use among persons age 12 or older, by race or ethnicity: 2018.

Reproduced from Substance Abuse and Mental Health Services Administration (SAMHSA). (2019). *Results from the 2018 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Center for Behavioral Health Statistics and Quality (CBHSQ), Substance Abuse and Mental Health Services Administration (SAMHSA). Retrieved from <https://www.samhsa.gov/data/>

- Rates of alcohol, drug, and tobacco use are lower among pregnant women than nonpregnant women (SAMHSA, 2015).

EDUCATION: COLLEGE VERSUS NONCOLLEGE STUDENTS

- Illicit drug use rates in 2017 and 2018 were correlated with the educational status of adults 18 and older. The rate of past-month illicit drug use was lower among college graduates (9.2%) than among those with some college or associate degree education (12.4%), high school graduates with no further education (12.4%), and those who had not graduated from high school (11.4%) (SAMHSA, 2019b).
- Among full-time college students 18 to 22 in 2013, the rate of current illicit drug use was 9.4% for Asians, 19.7% for blacks, 21.5% for Hispanics, and 25.1% for whites.

ETHNICITY AND RACE

- Past-month illicit drug use rates in 2018 were correlated with ethnicity and race for persons 12 and older. Illicit drug use from highest to lowest percentages having used illicit drugs: people having two or more races, 17.6%; blacks or African Americans, 13.7%; whites, 12.0%; Hispanic or Latino, 9.7%; and Asians, 6.7% (SAMHSA, 2019b).
- The current illicit drug use rate for blacks or African Americans, whites, Hispanics or Latinos, and Asians increased from 2017 to 2018. (Latest published findings in the breakdown of illicit drugs among Hispanic groups indicates that Puerto Ricans were the heaviest users of illicit drugs, followed by Mexican Americans and Cuban Americans. Central and South Americans had the lowest current illicit drug use [SAMHSA, 2019b].)

CRIMINAL JUSTICE POPULATIONS AND ARRESTEES

Certain significant findings and correlations are unique to criminal justice populations:

- In 2013, an estimated 1.7 million adults 18 and older were on parole or other supervised release from prison at some time during the preceding year. About one-quarter (27.4%) were current illicit drug users, with 20.4% reporting current use of marijuana and 12.1% reporting current nonmedical use of

psychotherapeutic drugs. These rates were higher than those reported by adults 18 and older who were not on parole or other supervised release during the preceding year (9.3% for current illicit drug use, 7.5% for current marijuana use, and 2.4% for current nonmedical use of psychotherapeutic drugs) (SAMHSA, 2014a).

- In 2013, an estimated 4.5 million adults 18 and older were on probation at some time during the previous year. More than one-quarter (31.4%) were current illicit drug users, with 23.5% reporting current use of marijuana and 12.3% reporting current nonmedical use of psychotherapeutic drugs. These rates were higher than those reported by adults who were not on probation during the preceding year (9.0% for current illicit drug use, 7.3% for current marijuana use, and 2.3% for current nonmedical use of psychotherapeutic drugs) (SAMHSA 2014a).
- “An estimated 56% of state prisoners, 45% of federal prisoners, and 64% of jail inmates have a mental health problem . . . at the time of the survey . . . conducted by the Urban Institute, . . . 49% of state prisoners, 40% of federal prisoners, and 60% of jail inmates had a symptom of a mental disorder, such as developmental and personality disorders, as well as clinical symptoms as specified in the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM-IV)” (KiDeuk, Becker-Cohen, & Serakos, 2015).
- In 2011, 197,050 sentenced prisoners were under federal jurisdiction. Of these, 94,600 were serving time for drug offenses (Carson & Sabol, 2012).
- In 2010, Home Health Testing (2010) reported that drugs were involved in a wide range of crimes, including violent crimes (78%), property crimes (83%), weapons offenses (77%), and parole violations (77%).
- Arrestee Drug Abuse Monitoring (ADAM) reports that at the time of arrest 40% of arrestees tested positive for the presence of multiple drugs. Approximately 40% tested positive for marijuana, 30% for cocaine, and 20% for crack (National Institute of Justice, 2009). These three drugs are the most prevalent drugs that arrestees test positive for at the time of arrest. (The 2013 ADAM II report provides a comparison of the results over the years; see ONDCP, 2013a.)

■ Types of Drug Users

Just as a diverse set of personality traits exists (e.g., introverts, extroverts, type A, obsessive-compulsive, and so on), drug users also vary according to their general approach or orientation, frequency of use, and types and amounts of the drugs they consume. Some are occasional or moderate users, whereas others display a much stronger attachment to drug use. In fact, some display such obsessive-compulsive behavior that they cannot let a morning, afternoon, or evening pass without using drugs. Some researchers have classified such variability in the frequency and extent of usage as fitting into three basic patterns: experimenters, compulsive users, and *floaters* or *chippers* (members of the last category drift between experimentation and compulsive use).

Experimenters begin using drugs largely because of peer pressure and curiosity, and they confine their use to recreational settings. Generally, they more often enjoy being with peers who also use drugs recreationally. Alcohol, tobacco, marijuana, prescription drugs, hallucinogens, and many of the major stimulants are the drugs they are most likely to use. They are usually able to set limits on when these drugs are taken (often preferred in social settings), and they are more likely to know the difference between light, moderate, and chronic use.

Compulsive users, in contrast, “devote considerable time and energy to getting high, talk incessantly (sometimes exclusively) about drug use . . . [and ‘funny’ or ‘weird’ experiences] . . . and become connoisseurs of street drugs” (Beschner, 1986, p. 7). For compulsive users, recreational fun is impossible without getting high. Other characteristics of these users include the need to escape or postpone personal problems, avoid stress and anxiety, and enjoy the sensation of the drug’s euphoric effects. Often, they have difficulty assuming personal responsibility and suffer from low self-esteem. Many compulsive users are from dysfunctional families, have persistent problems with the law, or have serious psychological problems underlying their drug-taking behavior. Problems with personal and public identity, excessive confusion about their sexual identity and at times sexual orientation, boredom, family discord, childhood sexual or mental abuse, academic pressure, and chronic depression all contribute to the inability to cope with issues without drugs.

Floaters or chippers initially focus more on using other people’s drugs without maintaining a steady supply of drugs. Nonetheless, floaters or

chippers, like experimenters, are generally light to moderate drug users. Floaters or chippers feel a largely unconscious need to seek pleasure from using drugs and the desire to relieve moderate to serious psychological problems. Even though most are on a path to drug dependence, at this stage they may generally drift between or simultaneously intermix with other experimental drug-taking peers and chronic drug-using peers. In a sense, these types of drug users feel marginally attached to conventional society and often appear to conventional members of society as norm abiding, while masking their secret drug use. At this stage, floaters or chippers are not yet firmly attached to compulsive users often because they have not made the commitment to continually do drugs. (See “Signs & Symptoms: Who Is More Likely to Use Licit and Illicit Drugs?”)

■ Drug Use: Mass and Electronic Media and Family Influences

Studies continually show that the majority of young drug users come from homes in which drugs are liberally used (Goode, 1999; National Association for Children of Alcoholics, 2005; SAMHSA, Office of Applied Studies 1996). Children from these homes constantly witness drug use at home, often on a daily basis. For instance, parents may consume large quantities of coffee to wake up in the morning and other forms of medication throughout the day: cigarettes with the morning coffee, pills for either treating or

KEY TERMS

experimenters

first category of drug users, typified as being in the initial stages of drug use; these people often use drugs for recreational purposes

compulsive users

second category of drug users, typified by an insatiable attraction followed by a psychological dependence on drugs

floaters or chippers

third category of drug users; these users vacillate between the need for pleasure seeking and the desire to relieve moderate to serious psychological problems; this category of drug user has two major characteristics: (1) a general focus mostly on using other people’s drugs (often without maintaining a personal supply of the drug) and (2) vacillation between the characteristics of chronic drug users and experimenter types

SIGNS & SYMPTOMS

Who Is More Likely to Use Licit and Illicit Drugs?

Many factors influence whether an adolescent tries drugs, including the availability of drugs within the neighborhood, community, and school and whether the adolescent's friends are using them. The family environment is also important: violence, physical or emotional abuse, mental illness, or drug use in the household increase the likelihood an adolescent will use drugs. Finally, an adolescent's inherited genetic vulnerability; personality traits such as poor impulse control or a high need for excitement; mental health conditions such as depression, anxiety, or ADHD; and beliefs such as drugs are "cool" or harmless make it more likely that an adolescent will use drugs (NIDA, 2014a).

According to the National Institute of Drug Abuse (2014a), adolescents experiment with drugs or continue taking them for several reasons, including the following:

- *To fit in:* Many teens use drugs "because others are doing it"—or they think others are doing it—and they fear not being accepted in a social circle that includes drug-using peers.
- *To feel good:* Abused drugs interact with the neurochemistry of the brain to produce feelings of pleasure. The intensity of this euphoria differs by the type of drug and how it is used.
- *To feel better:* Some adolescents suffer from depression, social anxiety, stress-related disorders, and physical pain. Using drugs may be an attempt to lessen these feelings of distress. Stress especially plays a significant role in starting and continuing drug use as well as returning to drug use (relapsing) for those recovering from an addiction.
- *To do better:* Ours is a highly competitive society in which the pressure to perform athletically and academically can be intense. Some adolescents may turn to certain drugs like illegal or prescription

stimulants because they think those substances will enhance or improve their performance.

- *To experiment:* Adolescents are often motivated to seek new experiences, particularly those they perceive as thrilling or daring.

In addition, adolescents' years can also be preoccupied with the need to explore. They can be preoccupied with using alcohol or other drugs to do the following (DEA, 2018):

- *relieve boredom,*
- *feel good,*
- *forget their troubles and relax,*
- *satisfy their curiosity,*
- *ease their pain,*
- *feel grown up,*
- *show their independence, and*
- *belong to a specific group.*

Finally, when attempting to determine who among drug users has a greater likelihood of becoming addicted, one research finding reports, "As with many other conditions and diseases, vulnerability to addiction differs from person to person. Your genes, mental health, family and social environment all play a role in addiction" (Helpguide.org, n.d.). The following risk factors increase a person's vulnerability to addiction (Helpguide.org, n.d.):

- family history of addiction;
- abuse, neglect, or other traumatic experiences;
- mental disorders such as depression and anxiety;
- early use of drugs; and
- method of administration (smoking or injecting a drug may increase its addictive potential).

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Data from National Institute of Drug Abuse (NIDA). (2014c). *Principles of adolescent substance use disorder treatment: A research-based guide*. Bethesda, MD: Author. Retrieved from https://www.drugabuse.gov/sites/default/files/podata_1_17_14.pdf; Helpguide. (n.d.). Drug abuse and addiction. Helpguide.org. Retrieved from <http://www.helpguide.org/articles/addiction/drug-abuse-and-addiction.htm>; Drug Enforcement Administration (DEA). (2018). Why do teens use drugs? Washington, DC: U.S Government, Drug Enforcement Administration. Retrieved from <https://www.getsmartaboutdrugs.gov/family/why-do-teens-use-drugs>

relieving an upset stomach, vitamins for added nutrition, or aspirin for a headache. Finally, before going to bed, the grown-ups may take a few "nightcaps" or a sleeping pill to relax. The following is an interview related to the overuse of drugs:

Yeah, I always saw my mom smoking early in the morning while reading the newspaper

and slowly sipping nearly a full pot of coffee. She took prescription drugs for asthma, used an inhaler, and took aspirin for headaches. When she accused me of using drugs at concerts, I would pick up her pack of cigarettes and several prescription bottles and while she was raging on me, I would quietly wave all her drugs close up in front of her face. She would

stop nagging within seconds and actually one time I think she wanted to laugh but turned away toward the sink and just started washing cups and saucers. The way I figure it, she has her drugs, and I have mine. She may not agree with my use of my drugs but then she is not better either. It's great to have a drug-using family ain't it? (*From Venturelli's research files, male college student, age 20, June 12, 2000*)

This next interview is an example of how “pill pilfering” can easily occur:

Yes, I came from a home with dozens of pharmacy prescriptions and with medicine cabinets crammed with over-the-counter drugs. In fact, my mom noticed that certain friends of mine were helping themselves to our medicine cabinet. At first, she told my dad that I was taking the pills. Finally, she had to remove most of the prescription medicines from the guest bathroom and hide them in her bedroom bathroom. This was about four years ago when I was in high school. She was right, several of my friends had a knack of lifting tabs from other homes when visiting friends. I know that one of my friends was into this when he told another friend of mine that our home had a nice variety of great drugs in the bathroom. Now, I know why my friends always had to go to the bathroom whenever they would stop by to see me. (*From Venturelli's research files, male attending a mid-size university in the Midwest, age 20, June 6, 2010*)

Some social scientists believe that everyday consumption of legal drugs—caffeine, prescription and OTC drugs, and alcohol—is fueled by the pace of modern lifestyles and greatly accelerated by the influence of today's increasingly sophisticated mass media.

If you look around your classroom building, the dormitories at your college, your college library, or your own home, evidence of mass media and electronic equipment can be found everywhere. Cultural knowledge and information are transmitted via media through electronic gadgets we simply “can't live without”—to the point that they help us define and shape our everyday reality. One recent survey reported that “digital peer pressure appears to have played a significant role in getting teens started on drugs and booze—something that was not the case before the era of social networking sites. Seventy-five percent of respondents said that seeing Facebook pictures of their peers partying with alcohol and marijuana encourages other teens to imitate them” (Huffington Post

2012, p. 1). In addition, “[c]ompared to teens who have not seen pictures on Facebook or other social networking sites of kids getting drunk, passed out, or using drugs, teens who have seen such pictures are: [f]our times likelier to have used marijuana, [m]ore than three times likelier to have used alcohol; and [a]lmost three times likelier to have used tobacco” (CASA Columbia, 2012, p. 3).

With regards to drug advertising, television remains the most influential medium. Today, most homes (82%) have more than one television (Nielsen Company, 2016). The Nielsen Company (2016) also reports that “in 2009 the average American home had 2.86 TV sets, which is roughly 18% higher than in 2000 (2.43 sets per home).” Just as the number of televisions in the average home has been increasing over the last 30 years, “[d]rug firms . . . [have been increasing] . . . their spending on television advertising to consumers seven-fold from 1996 to 2000” (CBS News, 2002). “Prescription drugs account for 10 percent of overall health spending in the United States, totaling \$328 billion annually. (Also calculated as \$450 billion when list prices and middle-man transactions are included. State and federal governments have focused on successfully managing these costs through a variety of approaches” (NCSL, 2020).

More recently,

According to an article in the *Journal of the American Medical Association*, between 1997 and 2016 spending for direct to consumer advertising for all types of healthcare service increased from \$2 billion to \$10 billion. Of this, \$6 billion went toward ads for drugs. During this same time period, out of pocket costs for drugs went from \$116.5 billion to \$328.6 billion (after accounting for industry discounts and rebates). (*Williamsport Sun-Gazette*, 2020)

As an example,

[i]n 2014, two widely recognized erectile dysfunction drugs that have been on the market for more than a decade—Pfizer's Viagra and Eli Lilly's Cialis—ranked among the top five, . . . Pfizer's advertising budget for its “little blue pill” has more than doubled in the past five years to \$232 million, and the company notably started marketing directly to women. (Millman, 2015)

As another example, “Each year, the top 14 major alcohol marketers spent more than a \$3.45 billion dollars on ‘measured media’

advertising, that is television, radio, print, online, direct mail and outdoor ads” (Federal Trade Commission, 2015). “The advertising budget for one beer—Budweiser—is more than the entire budget for research on alcoholism and alcohol abusers” (Kilbourne, 1989, p. 13). Other findings indicate that “Alcohol companies spent \$4.9 billion on television advertising between 2001 and 2005. They spent 2.1% of this amount (\$104 million) on ‘responsibility advertisements’” (Center on Alcohol Marketing and Youth [CAMY], 2007). “For the entire period from 2001 to 2003, Anheuser-Busch

spent 20 times more on product ads than on ‘responsibility’ ads and placed 30 times as many product ads as ‘responsibility’ ads” (CAMY, 2005).

Radio, newspapers, and magazines are also saturated with advertisements for OTC drugs that constantly offer relief from whatever illness you may have. There are pills for inducing sleep and for staying awake, as well as others for treating indigestion, headache, backache, tension, constipation, and the like. Using these medicinal compounds can significantly alter mood, level of consciousness, and physical discomfort.

HERE AND NOW

Abuse of Licit and Illicit Drugs by the Elderly

SAMHSA (2012a) reports the following regarding drug misuse and abuse by the elderly:

Older adults are among those most vulnerable to medication misuse and abuse because they use more prescription and over-the-counter (OTC) medications than other age groups. They are likely to experience more problems with relatively small amounts of medications because of increased medication sensitivity as well as slower metabolism and elimination. Older adults are at high risk for medication misuse due to conditions like pain, sleep disorders [and] insomnia, and anxiety that commonly occur in this population. They are, therefore, more likely to receive prescriptions for psychoactive medications with misuse and abuse potential, such as opioid analgesics for pain and central nervous system depressants like benzodiazepines for sleep disorders and anxiety. Approximately 25% of older adults use prescription psychoactive medications that have a potential to be misused and abused. Older adults are more likely to use psychoactive medications for longer periods than younger adults. Longer periods of use increases the risk of misuse and abuse. In addition to concerns regarding misuse of medications alone, the combination of alcohol and medication misuse has been estimated to affect up to 19% of older Americans.

Scope of the Problem: Drug Use and Abuse Among Older Adults

- “An estimated 4.8 million adults aged 50 and older have used an illicit drug in the past year. . . . The prevalence of illicit drug use was higher

among adults aged 50 to 59 than those aged 60 and older” (Reardon, 2012).

- “Overall, alcohol was the most frequently reported primary substance of abuse for persons aged 50 or older. Opiates were the second most commonly reported primary substances of abuse, reported most frequently by individuals aged 50 to 59. These individuals also had the highest proportions of inpatient admissions for cocaine, marijuana, and stimulant abuse” (Bogunovic, 2012).
- Marijuana use was more common than nonmedical use of prescription-type drugs for adults aged 50 to 54 and those aged 55 to 59 (6.1% vs. 3.4% and 4.1% vs. 3.2%, respectively), but among those aged 65 or older nonmedical use of prescription-type drugs was more common than marijuana use (0.8% vs. 0.4%) (SAMHSA, 2009).
- Marijuana use was more common than nonmedical use of prescription-type drugs among males aged 50 or older (4.2% vs. 2.3%), but among females the rates of marijuana use and nonmedical use of prescription-type drugs were similar (1.7% and 1.9%) (SAMHSA, 2009).
- “Among adults aged 50 or older, the prevalence rates of any illicit drug use and marijuana use in the past year were higher among males than females” (Crabb, 2014).
- “Among adults aged 50 or older who used illicit drugs in the past year, 45.2% used only marijuana, 31.5% used only prescription-type drugs nonmedically, and 5.6% used only other illicit drugs (including cocaine, heroin, hallucinogens, or inhalants) with the remainder using other combinations of illicit drugs” (Crabb, 2014).
- “The number of Americans aged 50+ years is increasing as large numbers of baby boomers reach 50 years or older, and this cohort uses

more psychoactive drugs than older cohorts” (Li-Tzy & Blazer, 2011).

- Many Americans who are now young or middle-aged will carry their use and abuse of alcohol and other drugs with them into old age—and they will also live longer (SAMHSA, 2013).
- Older adults are more likely to take prescribed psychoactive medications for longer periods of time than younger adults and run an additional risk of becoming addicted to their prescribed medications (SAMHSA, 2013).
- Several factors have been associated with an increased risk of psychoactive prescription medication misuse and abuse among older adults:
 - female gender,
 - social isolation,
 - history of substance abuse, and
 - a mental health disorder, particularly depression.
- Older women are at higher risk because they are more likely to use psychoactive medications, especially benzodiazepines. This use may be associated with divorce, widowhood, lower income, poorer health status, depression, or anxiety (SAMHSA, 2012).

An example of elderly drug abuse includes the following:

Oh, I started with cigarettes when I was [14]. Then came the alcohol when I was [16], and now I am now 62 years old and still playing around with drugs. I have several friends who still smoke weed, but not too many around who continue like I do. I generally smoke cigarettes, weed (as they call it today), sometimes buy a little bag of coke and smoke that, too, and drink alcohol. I don't do the coke much

because I like to smoke it, and it is tough on the heart. My drug using friends who are around my age don't really know about the coke use; they think I stopped this years ago. I still have days when I long for it, but I have enough of a hard time with the weed and the drinking. My children do not know how much I drink since I live alone, and they even think I have nothing to do with weed. So, I guess I am a closet user. At times I am sorry to continue with these unnecessary drugs, and it's even darn right embarrassing if anyone finds out. Even the cigarettes are a pain in the butt. I just need to get high every now and then, and I don't know why. I think it is something genetic since I want to quit all these drugs but simply do not do it. You asked if I think a lot of the elderly use drugs unnecessarily [drugs used without medical purposes]. Yes, there are many of us, especially the baby boomers who still smoke weed, but we kind of keep it secret. So, if the numbers of users my age are increasing, I would double the real number of users. As I said, many of us just keep it secret because we still work, have good jobs with a lot of responsibilities, and our kids would look down on us if they knew. You asked if I feel addicted to these drugs. Yes, I am addicted since I really don't want to quit everything, yet it is not good for my health and still keep using these drugs. Isn't this a classic example of addiction, which is to keep using drugs even though you know they are not good for you? If it's not addiction, what else would it be? (From Venturelli's research files, male, age 62, April 22, 2011)

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Data from Reardon, C. (2012, January/February). The changing face of older adult substance abuse. *Social Work Today* 12, 8; Bogunovic, O. (2012, July 27). Substance abuse in aging and elderly adults. *Psychiatric Times*. Retrieved from <http://www.psychiatrictimes.com/geriatric-psychiatry/substance-abuse-aging-and-elderly-adults>; Substance Abuse and Mental Health Service Administration (SAMHSA). (2012c). *Older Americans Behavioral Health, Issue Brief 5: Prescription medication misuse and abuse among older adults*. Rockville, MD: Author. Retrieved from <https://acl.gov/sites/default/files/programs/2016-11/Issue%20Brief%205%20Prescription%20Med%20Misuse%20Abuse.pdf>; Office of Applied Studies (OAS). (2012). Illicit drug use among older adults. *The NSDUH [National Survey on Drug Use and Health] Report*. Rockville, MD: U.S. Department of Health and Human Services; Crabb, G. (2014, March 7). Illicit drug use among older adults. Naples, FL: Author. Retrieved from <http://drgeorgecrabb.com/>; Li-Tzy, W., & Blazer, D. G. (2011). Illicit and nonmedical drug use among older adults: A review. *Journal of Aging Health*, 23, 481–504; Substance Abuse and Mental Health Services Administration (SAMHSA). (2013). *Substance abuse among older adults*. Rockville, MD: Author.

Experts warn that such drug advertising is likely to increase.

In the early 1990s, the FDA lifted a two-year ban on consumer advertising of prescription drugs; since then, there has been an onslaught of new sales pitches. In their attempts to sell drugs,

product advertisers use the authority of a physician or health expert or the seemingly sincere testimony of a product user. Viewers or listeners are strongly affected by testimonial advertising because these drug commercials can appear authentic and convincing.

The constant barrage of commercials, including many for OTC drugs, relays the message that taking drugs is an acceptable and normal response if you are experiencing restlessness or uncomfortable symptoms. As a result, television viewers, newspaper and magazine readers, and radio listeners are led to believe or unconsciously select the particular brand advertised when confronted with dozens upon dozens of drug choices for a particular ailment. In effect, this advertising reaffirms the belief that drugs are necessary when taken for a real or an imagined symptom.

Drug Use and Drug Dependence

Why are so many people attracted to drugs and the effects of recreational drug use? Like the ancient Assyrians, who sucked on opium lozenges, and the Romans, who ate hashish sweets some 2,000 years ago, many users claim to be bored, in pain, frustrated, unable to enjoy life, or alienated. Such people turn to drugs in the hope of finding oblivion, peace, inner connections, outer connections (togetherness), or euphoria. The fact that many OTC drugs never really cure the ailment, especially if taken for social and psychological reasons, and the fact that frequent use of most drugs increases the risk of addiction, do not seem to be deterrents. People continue to take drugs for many reasons, including the following:

- searching for pleasure and using drugs to heighten good feelings;
- taking drugs to temporarily relieve stress or tension or provide a temporary escape for people with anxiety;
- taking drugs to temporarily forget one's problems and avoid or postpone worries;
- viewing certain drugs (such as alcohol, marijuana, and tobacco) as necessary to relax after a tension-filled day at work;
- taking drugs to fit in with peers, especially when peer pressure is strong during early and late adolescence;
- seeing drugs as a rite of passage;
- taking drugs to enhance religious or mystical experiences (few cultures teach children how to use specific drugs for this purpose);
- taking drugs to relieve pain and some symptoms of illness; and
- resuming drug use from teenage and young adult periods of life—for example, elderly baby boomers who may have used drugs in their youth.

It is important to understand why, historically, many people have been unsuccessful in eliminating their fascination with drugs. To understand, we must address questions dealing with (1) why people are attracted to drugs, (2) how experiences with the different types of drugs vary (here many attitudes are conveyed from the “inside”—the users themselves), (3) how each of the major drugs affects the body and the mind, (4) how patterns of use vary among different groups, and (5) what forms of treatment are available for the addicted.

■ When Does Use Lead to Abuse?

Views about the use of drugs depend on one's perspective. For example, from a pharmacological perspective, if a patient is suffering severe pain because of injuries sustained from an automobile accident, high doses of a narcotic such as morphine or Demerol should be given to control discomfort. While someone is in pain, no reason exists not to take the drug. From a medical standpoint, once healing has occurred and pain has been relieved, drug use should cease. If the patient continues using the narcotic because it provides a sense of well-being, then he or she has become dependent to the point of addiction and the pattern of drug intake is then considered abuse. Thus, the amount of drug taken or the frequency of dosing does not necessarily determine abuse (even though individuals who abuse drugs usually consume increasingly higher doses). Most important is the motive for taking the drug, which is the principal factor in determining the presence of abuse.

Initial drug abuse symptoms include (1) excessive use, (2) constant preoccupation about the availability and supply of the drug, (3) denial in admitting the excessive use, and (4) reliance on the drug. All of these four factors frequently result in producing the initial symptoms of withdrawal whenever the user attempts to stop taking the drug. As a result, the user often begins to neglect other responsibilities or ambitions in favor of using the drug.

Even the legitimate use of a drug can be controversial. Often, physicians cannot decide even among themselves what constitutes legitimate use of a drug. For example, MDMA (Ecstasy) is

currently prohibited for therapeutic use, but in 1985, when the Drug Enforcement Administration was deciding MDMA's status, some 35 to 200 physicians (mostly psychiatrists) were using the drug in their practice. These clinicians claimed that MDMA relaxed inhibitions and enhanced communication and was useful as a psychotherapeutic adjunct to assist in dealing with psychiatric patients (Levinthal, 1996; Schechter, 1989). From the perspective of these physicians, Ecstasy was a useful medicinal tool. However, the DEA did not agree and made Ecstasy a Schedule I drug. Schedule I excludes any legitimate, legal use of the drug in therapeutics; consequently, according to this ruling, anyone taking Ecstasy is guilty of drug abuse (Goode, 2012) and is violating drug laws.

If the problem of drug abuse is to be understood and solutions are to be found, identifying the causes of the abuse is most important. When a drug is being abused, it is not legitimately therapeutic; that is, it does not improve the user's physical or mental health. When drug use is not used for therapeutic purposes, what is the motive for taking the drug?

There are many possible answers to this question. Initially, most drug abusers perceive some psychological advantage when using these compounds. For many, the psychological lift is significant enough that they are willing to risk social exclusion, health problems, dramatic changes in personality, arrest, incarceration, and fines to have their drug. The psychological effects that these drugs cause may entail an array of diverse feelings. Different types of drugs have different psychological effects. The type of drug an individual selects to abuse may ultimately reflect his or her own mental state.

For example, people who experience chronic depression, feel intense job pressures, are unable to focus on accomplishing goals, or have a sense of inferiority may find that a stimulant such as cocaine or an amphetamine-type drug appears to provide immediate relief—a solution to a set of psychological frustrations. These drugs cause a spurt of energy, a feeling of euphoria, a sense of superiority, and imagined self-confidence. In contrast, people who experience nervousness and anxiety and want instant relief from the pressures of life may choose a depressant such as alcohol or barbiturates. These agents sedate, relax, provide relief, and even have some amnesiac properties, allowing users to suspend or forget their immediate pressing concerns or

problems. People who perceive themselves as creative or who have artistic talents may select hallucinogenic types of drugs to “expand” their minds, heighten their senses, and distort what appears to be a confining and sometimes monotonous nature of reality. As individuals come to rely more on drugs to inhibit, deny, accelerate, or distort their realities, they run the risk of becoming psychologically dependent on drugs.

Some people have argued that taking a particular drug to meet a psychological need, especially if a person is 21 years of age or older, is not especially different from taking a drug to cure an ailment. The belief here is that physical needs and psychological needs are really indistinguishable. In fact, several drug researchers and writers, including Szasz (1992) and Lenson (1995), believe that drug taking is a citizen's right and a personal matter involving individual decision making. They see drug taking as simply a personal choice to depart from or alter consciousness. Lenson states that taking drugs for recreational purposes is simply an additional form of diversity, a type of mental diversity that should exist with many other acceptable forms of diversity such as cultural, racial, religious, gender, and sexual orientation diversity. (For additional elaboration on these views, see Venturelli, 2000.) Obviously, this is a strikingly different and often extremely controversial point of view that can easily cause polemic and highly debatable perspectives!

■ Drug Dependence

This section introduces some underlying factors that lead to drug dependence. Our discussion emphasizes drug dependence instead of addiction because the term *addiction* is both controversial and relative, as evidenced with celebrities and rock and movie stars and their drug dependence, including some who have died from drug dependence. Stars such as Charlie Sheen, Mel Gibson, and Ben Affleck (alcoholism); John Belushi, Lindsay Lohan, and Robin Williams (alcoholism and cocaine); Robert Downey, Jr. (cocaine and heroin); Michael Jackson (prescription drugs); Philip Seymour Hoffman (illegal drug); Cory Monteith (illegal drug and alcohol); Chris Kelly (illegal drug); Whitney Houston (illegal drug); Amy Winehouse (alcohol); and Eminem (analgesic prescription drugs) are just a few examples.

Even when drug dependence becomes full-fledged, addiction remains debatable, with many experts unable to agree on one set of characteristics that constitutes addiction. Furthermore, the

term *addiction* is viewed by some as a pejorative that adds to the labeling process.

The main characteristics necessary for drug dependence are as follows:

- Both physical and psychological factors precipitate drug dependence. Recently, closer attention has been focused on the mental (psychological) attachments than on the physical addiction to drug use as principally indicative of addiction—mostly, the craving aspect of wanting the drug for consumption.
- More specifically, *psychological dependence* refers to the need that a user may feel for continued use of a drug to experience its effects. *Physical dependence* refers to the need to continue taking the drug to avoid withdrawal symptoms that often include feelings of discomfort and illness.
- With repeated use, there is a tendency to become dependent on and addicted to most psychoactive drugs.
- Addiction to a drug sets in when the drug user has advanced within the dependence phase. (Having an addiction to a drug is simply an advanced stage of dependence.)
- Generally, the addiction process involves mental (psychological) and physical (physiological or biophysiological) dependence.

Figure 1.7 shows that the process of addiction involves five separate phases: relief, increased use, preoccupation, dependency, and withdrawal. Initially, the **relief phase** refers to the relief experienced by using a drug, which allows a potential addict to escape one or more of the following feelings: boredom, loneliness, tension, fatigue, anger, or anxiety. The **increased use phase** involves taking greater quantities of

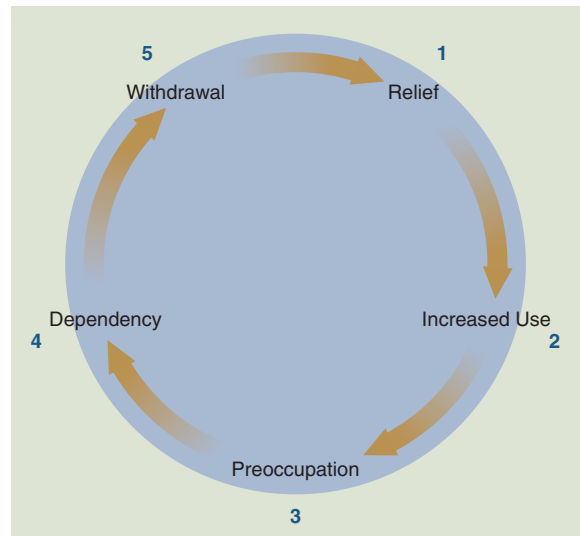


FIGURE 1.7 Stages of drug dependence.

the drug. The **preoccupation phase** consists of a continuous interest with and concern for the substance—that is, always having a supply of the drug—and taking the drug is perceived as “normal” behavior. The **dependency phase** is synonymous with addiction. In this phase, more of the drug is sought without regard for the presence of negative physical symptoms such as congested coughing or shortness of breath in cases of cigarette and marijuana addiction, blackouts from advanced alcohol abuse, and moderate to acute soreness and inflammation of nasal passages from snorting cocaine. The **withdrawal phase** involves such symptoms as itching, chills, tension, stomach pain, or depression from the nonuse of the addictive drug or an entire set of psychological concerns mainly involving an insatiable craving for the drug (Monroe, 1996).

KEY TERMS

relief phase

satisfaction derived from escaping negative feelings by using a drug

increased use phase

taking increasing quantities of a drug

preoccupation phase

constant concern with the supply of the drug

dependency phase

synonym for addiction

withdrawal phase

physical or psychological effects derived from not using a drug

Noteworthy Costs of Substance Abuse

Many of the costs of drug abuse and addiction range from those for users to those for society. Consider, for example, the loss of an addicted person’s connection with reality and the loss of responsible dedication to careers and professions, illnesses experienced by the addicted individual, marital strife, shortened lives, and so on. In addition, society pays a high price for drug abuse and addiction in the dollar costs of addiction to society, which can be enormous. Abuse of tobacco, alcohol, and illicit drugs costs our

nation more than \$740 billion annually in costs related to crime, lost work productivity, and health care (NIDA, 2017).

Narcotics and Heroin Usage

The **National Institute on Drug Abuse (NIDA)** has estimated that the typical narcotic habit costs the user approximately \$150 a day to support his or her addiction. The precise dollar amount spent to support a narcotic addiction largely depends on the geographic location where the drug is procured and used, availability of the drug affecting the price, and numerous other factors. For example, a heroin addict, will spend “\$150–200 per day in order to support his or her habit” (Heroin.net 2016), which adds up to \$54,750 to \$73,000 per year just to maintain the drug supply. It is impossible for most addicts to get this amount of money legally; therefore, many support their habits by resorting to criminal activity or by working as or for drug dealers.

As reported more recently,

The retail price of heroin varies by geographic region, but it generally costs about \$5 to \$10 for a “stamp bag,” a waxed paper or plastic bag stamped by the dealer with a name or brand. These bags usually contain about one-tenth of a gram of heroin. . . . [Further] . . . [in] some cities, heroin can cost \$15 to \$20 a bag. . . . Heroin doesn’t stay inexpensive for long, though. The illegal opioid is extremely addictive, and when addiction takes hold, an individual can easily spend \$150 to \$200 a day on the drug. At that rate, a heroin addiction could easily cost someone more than \$53,000 a year. (Keller, 2020b)

Most crimes related to drugs involve theft of personal property—primarily burglary and shoplifting—and, less commonly, assault and robbery (often mugging). Estimates are that a heroin addict must steal three to five times the actual cost of the drugs to maintain the habit, which becomes an astronomical and impractical amount per year. Further, it is not unusual with crack and heroin use that a high proportion of hardcore addicts resort to pimping and prostitution (with no accurate figures available regarding the cost of drug-related prostitution), although some law enforcement officials have estimated that prostitutes take in a total of \$10 billion to \$20 billion per year. It has also

been estimated that nearly three out of every four prostitutes in major cities have a serious drug dependency.

Methamphetamine Usage

The misuse of methamphetamine—a potent and highly addictive stimulant—remains an extremely serious problem in the United States. In some areas of the country, it poses an even greater threat than opioids, and it is the drug that most contributes to violent crime. According to data from the 2017 National Survey on Drug Use and Health, more than 14.7 million people (5.4% of the population) have tried methamphetamine at least once. NSDUH also reports that almost 1.6 million people used methamphetamine in the year leading up to the survey, and it remains one of the most commonly misused stimulant drugs in the world (NIDA, 2019d).

The consequences of methamphetamine misuse are terrible for the individual—psychologically, medically, and socially. Using the drug can cause memory loss, aggression, psychotic behavior, damage to the cardiovascular system, malnutrition, and severe dental problems. Methamphetamine misuse has also been shown to contribute to increased transmission of infectious diseases such as hepatitis and HIV and AIDS (NIDA, 2019d).

Beyond its devastating effects on individual health, methamphetamine misuse threatens whole communities, causing new waves of crime, unemployment, child neglect or abuse, and other social ills. A 2009 report from the RAND Corporation noted that methamphetamine misuse cost the nation approximately \$23.4 billion in 2005 (NIDA, 2019d).

In looking at the scope of methamphetamine misuse in the United States, we find that approximately 1.6 million people (0.6% of the population) reported using methamphetamine in the past year, and 774,000 (0.3%) reported using it in the past month, according to the 2017 NSDUH (NIDA, 2019c). The average age of new methamphetamine users in 2016 was 23.3 years old. An estimated 964,000 people

KEY TERM

National Institute on Drug Abuse (NIDA)

principal federal agency responsible for directing research related to drug use and abuse

aged 12 and older (about 0.4% of the population) had a methamphetamine use disorder in 2017—that is, they reported clinically significant impairment, including health problems, disability, and failure to meet responsibilities at work, school, or home as a result of their drug use. This number is significantly higher than the 684,000 people who reported having methamphetamine use disorder in 2016. The 2018 MTF survey of adolescent drug use and attitudes reported that about 0.5% of 8th, 10th, and 12th graders had used methamphetamine within the past year. Use of methamphetamine by adolescents has declined significantly since 1999, when this drug was first added to the survey (NIDA, 2019c).

Review of the use of this drug indicates that past-month methamphetamine use has been increasing. For example, in the yearly National Survey on Drug Use and Health there were 569,000 (0.2%) users in 2014 and 440,000 (0.2%) users in 2011 (CBHSQ, 2015; SAMHSA 2012).

The late 1990s brought significant concern regarding the nationwide increase in clandestine laboratories involved in synthesizing or processing this type of illicit drug. Such laboratories produced amphetamine-type drugs, heroin-type drugs, designer drugs, and LSD and processed other drugs of abuse such as cocaine and crack. The DEA reported that 390 laboratories were seized in 1993, a figure that increased to 967 in 1995. Another example of the phenomenal growth of methamphetamine laboratories was found in Missouri. From 1995 to 1997, seizures of such labs in Missouri increased by 535% (Steward & Sitarmiah, 1997). “In Dawson County in western Nebraska. . . ‘The percentage of meth-related crimes is through the roof’ . . . as reiterated by an investigator with the county sheriff’s office. . . . In the state as a whole, officials discovered 38 methamphetamine laboratories in 1999; last year [2001] they discovered 179” (Butterfield, 2002, p. A23). In 2012, the total number of meth clandestine laboratory incidents was 11,210 and included lab, dumpsite, chemicals, glass, and equipment incidents (USDOJ, 2013). Regarding seizures of this drug, one report states that “36,572 pounds: That’s the amount of methamphetamine seized near the U.S.–Mexico border at U.S. Border Patrol stations and Customs and Border Protection ports of entry near the border from 2005 to 2011” (Chen, 2013). In 2015, the state

of Indiana had the highest number of clandestine methamphetamine lab incidents, resulting in 1,530 site seizures (Meth.IN.gov, 2015). The reasons for such dramatic increases and usage are related to the enormous profits and relatively low risk associated with these operations. As a rule, clandestine laboratories are fairly mobile and relatively crude (often operating in a kitchen, basement, or garage) and are run by individuals with only elementary chemical skills.

Another interesting discovery was that these laboratories were not always stationary in locations such as garages, barns, homes, apartments, and so on. Although these stationary labs predominated, especially in the production of methamphetamine, mobile labs also made an appearance:

Cooking in cars and trucks helped producers in two ways: It eludes identification by law enforcement and motion helps the chemical reaction [of methamphetamine production]. Motels are a new production setting . . . [though fewer in number today]. Clandestine labs are also set up in federal parklands, where toxic by-products pose a danger to hikers and campers. (ONDCP 2002, p. 58)

To demonstrate how a drug such as methamphetamine affects society, in 2003, the following was reported:

With portable meth labs popping up everywhere from motel bathrooms to the back seat of a Chevy, it was only a matter of time before they made their way onto campus. Last November, a custodian notified campus police at [University of Texas] about what appeared to be a lab set up in a music practice room in the [university’s] Fine Arts Center. “We found beakers of red liquid, papers and other residue, and the room had this horrible odor. . . .”

Students were on vacation, so the practice room, which had its windows blackened out, would have afforded the occupant a few days to cook. [One campus police official] . . . speculates that this is just the beginning: “Labs are popping up on campuses all over the country. It’s just too easy now. You can get the recipe on the Internet. Still, how could someone be so brazen as to set up an operation next to the French horn section?” (Jellinek, 2003)

Because of a lack of training, inexperience, and the danger of experiencing the effects of methamphetamine while making the drug, the

chemical “cooking” procedures are performed crudely, sometimes resulting in adulterants and impure products. Such contaminants can be highly toxic, causing severe harm or even death to the unsuspecting user as well as a greater likelihood of sudden explosion (Drug Strategies, 1995). Fortunately, when looking at all the illicit drugs produced by such underground laboratories, such outbreaks of physically harmful drugs do not occur often. Partial proof of this is found in the small number of news stories of deaths or poisonings from illicit drugs. Nevertheless, because profit drives these clandestine labs, which obviously have no government supervision, impurities or “cheap fillers” are always possible so that greater profits can be made. Here, caution is highly advisable in that drug purchasers do not have any guarantees when purchasing powerful illicit drugs.

Overall Costs of Drug Addiction

Society continues paying a large sum even after users, addicts, and drug dealers are caught and sentenced because it takes from \$75 to \$1,500 per day to keep one person incarcerated. A post by the *Federal Register* (2015) reports, “The fee to cover the average cost of incarceration for Federal inmates in Fiscal Year 2014 was \$30,619.85 (\$83.89 per day).” More recent reports are that “[a]mong the 45 states that provided data (representing 1.29 million of the 1.33 million total people incarcerated in all 50 state prison systems), the total cost per inmate averaged \$33,274 and ranged from a low of \$14,780 in Alabama to a high of \$69,355 in New York” (Vera Institute of Justice, 2020). Supporting programs such as methadone maintenance costs much less. New York officials estimate that methadone maintenance costs about \$3,000 per year per patient. For non-hospital residential treatment, methadone costs average around \$76.13 per day. With outpatient methadone programs, daily costs average around \$17.78 per day (Methadone Centers, 2016), which is much less than the cost of incarceration.

A more long-term effect of drug abuse that has substantial impact on society is the medical and psychological care often required by addicts because of disease from their drug habits. Particularly noteworthy are the communicable diseases spread because of needle sharing within the drug-abusing population, such as hepatitis and HIV.

Also of great concern is drug abuse by women during pregnancy. Some psychoactive drugs can have profound, permanent effects on a developing fetus. The best documented is fetal alcohol syndrome, which can affect the offspring of alcoholic mothers. Cocaine and amphetamine-related drugs can also cause irreversible congenital changes when used during pregnancy. All too often, the affected offspring of addicted mothers become the responsibility of welfare organizations. In addition to the costs to society just mentioned, other costs of drug abuse include drug-related deaths, emergency room visits and hospital stays, and automobile fatalities.

■ Drugs, Crime, and Violence

There is a long-established close association between drug abuse and criminality. The beliefs (hypotheses) for this association range along a continuum between two opposing views:

(1) Criminal behavior develops as a means to support addiction, and (2) criminality is inherently linked to the user’s personality and occurs independently of drug use (Bureau of Justice Statistics [BJS], 2006; Common Sense for Drug Policy, 2020; Drug Strategies, 1995; McBride & McCoy, 2003). In other words, does drug addiction cause a person to engage in criminal behavior such as burglary, theft, and larceny to pay for the drug habit? Or does criminal behavior stem from an already existing criminal personality such that drugs are used as an adjunct to commit such acts? In other words, are drugs used in conjunction with crime to sedate and give the added confidence needed to commit daring law violations?

The answers to these questions have never been clear because findings that contradict one view in favor of the other continue to mount on both sides. Part of the reason for the controversy about the relationship between criminal activity and drug abuse is that studies have been conducted in different settings and cultures, employing different research methods and focusing on different addictive drugs. As a result, too many factors are involved to allow us to distinguish the cause from the result. We know that each type of drug has unique addictive potential and that interpretation of exactly when a deviant act is an offense (violation of law) varies. Furthermore, we know that people think differently while under the influence of drugs. Whether criminalistic behavior is *directly* caused by the drug use or whether prior socialization and peer influence work in concert to cause

criminal behavior remains unclear. Certainly, we think it would be safe to believe that prior socialization, law-violating peers, and drugs are strong contributing factors for criminal behavior.

Although this controversy about the connection between drugs and crime continues to challenge our thinking, the following findings are also noteworthy.

- Drug abuse is implicated in at least three types of drug-related offenses: (1) offenses defined by drug possession or sales, (2) offenses directly related to drug abuse (e.g., stealing to get money for drugs), and (3) offenses related to a lifestyle that predisposes the drug abuser to engage in illegal activity—for example, through association with other offenders or with illicit markets (NIDA, 2014c).
- Individuals who use illicit drugs are more likely to commit crimes, and it is common for many offenses, including violent crimes, to be committed by individuals who had used drugs or alcohol before committing the crime, or who were using at the time of the offense (NIDA, 2014c).
- Of the estimated 1,654,282 drug law violations in the United States in 2018, 86.4% (1,429,300) were for possession of a controlled substance. Only 13.6% (224,982) were for sale or manufacture of a drug (Common Sense for Drug Policy, 2020).
- The United States ranks first in the world in the number of people incarcerated in federal and state correctional facilities. In 2014, 1,561,500 prisoners were under the jurisdiction of state and federal correctional authorities (BJS, 2015a). Almost half (48%) of the federal inmates were serving time for drug offenses (Carson & Sabol, 2012).
- The United States incarcerates more people for drug offenses than any other country (Natarajan, Petteruti, Walsh, & Ziedenberg, 2008; Sentencing Project, 2013).
- With an estimated 24.6 million Americans struggling with current (within 30 days of use) drug use or dependence (SAMHSA 2014a), the growth of the prison population continues to be driven largely by incarceration for drug offenses.
- In 2006, “17% of State and 18% of Federal prisoners committed their crime to obtain money for drugs” (Mumola & Karberg, 2007). Approximately one out of every six major crimes are committed because of the offender’s need to obtain money for drugs.
- An estimated 516,900 black males—37% of the sentenced male prison population—were in state or federal prison on December 31, 2014, on sentences of more than one year. White males made up an additional 32% of the male population (453,500 inmates), followed by Hispanic males (308,700 inmates, or 22%). White females in state or federal prison at yearend 2014 (53,100 prisoners) outnumbered black (22,600) and Hispanic females (17,800) combined (BJS, 2015b).
- Eighty percent of offenders abuse drugs or alcohol (National Council on Alcoholism and Drug Dependence [NCADD], 2015).
- Nearly 50% of jail and prison inmates are clinically addicted (NCADD, 2015).
- Approximately 60% of individuals arrested for most types of crimes tested positive for illegal drugs at arrest (NCADD, 2015).
- In 2011, 45% of arrestees tested positive for marijuana during their arrest, 41% for cocaine, 61% for opiates, and 61% for methamphetamine (ONDCP, 2012).
- The ADAM program reports that arrestees are tested for the presence of 10 drugs. The proportion of arrestees testing positive for any of the 10 drugs ranged from 63% in Atlanta to 83% in Chicago and Sacramento. Arrestees testing positive for multiple drugs in their system ranged from 12% in Atlanta to 50% in Sacramento (ONDCP, 2014).
- Marijuana remained the most commonly detected drug in urine testing, from 34% of ADAM II arrestees testing positive in Atlanta to 59% in Sacramento. Those who obtained marijuana in the prior 30 days reported little difficulty obtaining the drug, indicating an overall high availability of the drug in all sites (ONDCP, 2014).
- In federal prisons in 2015, the Bureau of Justice Statistics (2015b) reported that almost all (99.5%) drug offenders in federal prison were serving sentences for drug trafficking.
- Cocaine (powder or crack) was the primary drug type for more than half (54%) of drug offenders in federal prison.
- Race of drug offenders varied greatly by drug type. Blacks were 88% of crack cocaine offenders, Hispanics or Latinos were 54% of powder cocaine offenders, and whites were 48% of methamphetamine offenders (BJS, 2015b).

- More than one-third (35%) of drug offenders in federal prison at sentencing had either no or minimal criminal history (BJS, 2015b).
- Fifty-two percent of female jail inmates were found to be dependent on alcohol or drugs compared to 44% of male inmates (BJS, 2015b).
- Jail inmates between ages 25 and 44 had the highest rate of substance dependence or abuse (seven in 10 inmates). Those 55 and older had the lowest rate (nearly five in 10 inmates) (Karberg & James, 2002).
- More than 50% of drug or property offenders were dependent on or had abused a substance compared to more than 60% of violent and public-order offenders (Karberg & James 2002).
- Women and white inmates were more likely to have used drugs at the time of their offense (Karberg & James 2002).
- Thirty-two percent of state and 26.4% of federal prison inmates reported being under the influence of drugs at the time of their offense in 2004 (see **Table 1.5**). Approximately 44% were incarcerated for drug offenses in state prisons, and 32% were incarcerated in federal prisons. Of these, 46% in state prisons and 21% in federal prisons were arrested for possession. Forty-two percent were serving time in state prisons, and 34% were serving time in federal prisons for trafficking in drugs. One outcome of these findings is that one out of every four major crimes committed—violent, property, and drug offenses—involves an offender who is under the influence of drugs (Mumola & Karberg, 2007).
- Of the 1,561,231 arrests for drug law violations in 2014, 83.1% (1,297,384) were for possession of a controlled substance. Only 16.9% (263,848) were for the sale or manufacturing of a drug (DrugWarFacts, 2016).

In regard to the connection between drug use and crime, the following findings can be summarized: (1) Drug users in comparison to nondrug users are more likely to commit crimes, (2) a high percentage of arrestees are often under the influence of a drug while committing crimes, and (3) a high percentage of drug users arrested for drug use and violence are more likely to be under the influence of alcohol or stimulant types of drugs such as cocaine, crack, and methamphetamines.

TABLE 1.5 Percentage of State and Federal Inmates Reporting Being Under the Influence of Drugs at the Time of Their Offense: 2004

Offense	State (%)	Federal (%)
Total^a	32.1	26.4
Violent offenses	27.7	24.0
Homicide	27.3	16.8
Sexual assault ^b	17.4	13.8
Robbery	40.7	29.4
Assault	24.1	20.1
Property offenses	38.5	13.6
Burglary	41.1	:
Larceny or theft	40.1	:
Motor vehicle theft	38.7	:
Fraud	34.1	9.3
Drug offenses	43.6	32.3
Possession	46.0	20.9
Trafficking	42.3	33.8
Public order offenses^c	25.4	18.7
Weapons	27.6	27.8
Other public order	24.6	8.0

^aIncludes offenses not shown.

^bIncludes rape and other sexual assault.

^cExcluding DWI/DUI.

: Not calculated; too few cases to permit calculation.

Data from Mumola, C. J., & Karberg, J. C. (2007, January 19). *Drug use and dependence, State and Federal prisoners, 2004*. Washington, DC: U.S. Department of Justice (USDJJ), Office of Justice Programs (OJP), 1–12.

Drug-related crimes are undoubtedly overwhelming the U.S. judicial system. Table 1.5 shows the percentage of state and federal inmates reportedly under the influence of drugs at the time of their offenses in 2004. Approximately 29% of state and federal prisoners were under the influence of drugs for violent offenses (e.g., homicide, sexual assault, robbery, assault), 26% for property offenses (e.g., burglary, larceny or theft, motor vehicle theft, fraud), 38% for drug offenses (possession, trafficking), and 22% for public order offenses (e.g., weapons, other public-order offenses) (Mumola & Karberg, 2007). Furthermore, nearly 40% of the young

people (often younger than 21) in adult correctional facilities reported drinking before committing a crime.

DRUG CARTELS

Drug cartels are defined as large, highly sophisticated organizations composed of multiple drug-trafficking organizations (DTOs) and **drug cells** with specific assignments such as drug transportation, security and enforcement, or money laundering. (A drug cell is similar to a terrorist cell, consisting of only three to five members to ensure operational security. Members of adjacent drug cells usually do not know each other or the identity of their leadership.) Drug cartel command-and-control structures are based outside the United States; however, they produce, transport, and distribute illicit drugs domestically with the assistance of DTOs that are either a part of the cartel or in an alliance with it. Here are some reports of incidents in the world of drugs, violence, and crime:

The United States–Mexico drug war strategy has led to the explosion of violence and criminal activity. The deep-rooted complicity between government officials and security forces on the one hand, and cartels on the other, means that the training, equipment, and firepower given in aid and sold to the Mexican government fuels violence on both sides.

The lines blur. The cartels are not fighting the state for political power; they are seeking to protect a \$40 billion drug-trafficking business that has been converted into a war for control of territory, a war against the people. (Carlsen, 2016)

In recent years, . . . (notorious drug lord “El Chapo”) . . . Guzmán extended the

operations of his Sinaloa cartel to an estimated 50 countries across Latin America, Africa, and Europe, even hooking up with one of the most notorious Italian mafias, the ‘Ndrangheta. (Fausset & Wilkinson, 2014)

In Mexico, [former] President Felipe Calderon may [have been] the constitutionally elected leader of the nation [in 2007], but in reality, drug cartels and warlords exercise de facto authority over much of the area. . . . Drug trafficking overwhelmingly is the prevailing social malady throughout the country, particularly along the border with the United States. In spite of lengthy declarations by government officials in Mexico City and Washington, and their insistence that important battles are being won against drug trafficking, criminal organizations like the Tijuana cartel continue to thrive, ruling over whole sections of the Mexican countryside like sectoral feudal lords. . . . The governor of the state of Nuevo Leon (bordering the United States), Natividad Gonzalez Paras, has declared that: “Unfortunately, the drug problem has escalated significantly in the past six to seven years. It is a national problem affecting most of the country’s states. It is a dispute between cartels or organizations to control locations, cities, and routes.”

In another news report:

Once known merely as “mules” for Colombia’s powerful cocaine cartels, today Mexico’s narcotics traffickers are the kingpins of this hemisphere’s drug trade, and the front line of the war on drugs has shifted from Colombia to America’s back door.

In August 2005, the *Christian Science Monitor* reported that according to senior U.S. officials, in the biggest reorganization since the 1980s, Mexican cartels had leveraged the profits from their delivery routes to wrest control from the Colombian producers. As a result, Mexican drug lords are in control of what the U.N. estimates is a \$142 billion a year business in cocaine, heroin, marijuana, methamphetamine, and other illicit drugs.

The new dominance of Mexican cartels has caused a spike in violence along the 2,000-mile U.S.–Mexico border where rival cartels

KEY TERMS

drug cartels

large, highly sophisticated organizations composed of multiple drug-trafficking organizations (DTOs) and cells with specific assignments, such as drug transportation, security/enforcement, or money laundering

drug cells

cells similar to terrorist cells and consisting of only three to five members to ensure operational security; members of adjacent drug cells usually do not know each other or the identity of their leadership

are warring against Mexican and U.S. authorities. Drugs are either flown from Colombia to Mexico in small planes, or, in the case of marijuana and methamphetamine, produced locally. Then, they're shipped into the U.S. by boat, private vehicles, or in commercial trucks crossing the border. . . .

The Sept. 26 edition of the *San Antonio Express-News* reported that a new method of intimidation is being utilized by Mexican drug cartels—beheadings. So far this year, at least 26 people have been decapitated in Mexico, with heads stuck on fences, dumped in trash piles, and even tossed onto a nightclub dance floor. In the latter act of violence, which took place in early morning hours of Wednesday, Sept. 6, five heads were scattered on the dance floor of a bar in the state of Michoacan, notorious for drug trafficking. No arrests for the killings have been announced. (Worldpress, 2006)

And, in another news report:

The dead policeman is found propped against a tree off a dirt road on the outskirts of the city. He is dressed like a cartoon version of a Mexican cowboy wearing a blanket. The murder and symbolic mutilation of *policia* has become almost routine in Caliacán, capital of the Mexican state of Sinaloa: Pablo Aispuro Ramírez is one of 90 cops to be killed here this year. There is a note pinned to the body, a warning to anyone who dares to oppose the powerful drug lord who ordered the execution “I’m a copy-cowboy!” the note reads. “Ahoo-ya! There are going to be more soon.” (Lawson, 2008, p. 76)

In addition,

The Tijuana-based Felix drug cartel and the Juarez-based Fuentes cartel began buying legitimate businesses in small towns in Los Angeles County in the early 1990s. . . . They purchased restaurants, used-car lots, auto-body shops and other small businesses. One of their purposes was to use these businesses for money-laundering operations. Once established in their community, these cartel-financed business owners ran for city council and other local offices. (Farah 2006, quoting an excerpt from *In Mortal Danger* by Tom Tancredo, a former U.S. Congressman, Colorado)

These news briefs are just a tiny sampling of the types of crimes and violence perpetrated by drug dealers. It is clear that production, merchandising, and distribution of illicit drugs have developed into a worldwide operation worth hundreds of billions of dollars (Goldstein, 2001). One publication states that the United Nations estimates that the global world drug trade is worth \$320 billion annually (Stopthedrugwar.org, 2005). These enormous profits have attracted organized crime both in the United States and abroad—and all too frequently even corrupt law enforcement agencies (McShane, 1994). For the participants in such operations, drugs can mean incredible wealth and power. For example, dating back to 1992, Pablo Escobar was recognized as a drug kingpin and leader of the cocaine cartel in Colombia, and he was acknowledged as one of the world’s richest men and Colombia’s most powerful man (Wire Services, 1992). With his drug-related wealth, Escobar financed a private army to conduct a personal war against the government of Colombia (Associated Press, 1992). Until his death in 1993, he was a serious threat to his country’s stability.

In December 1999, the notorious Juarez drug cartel was believed to be responsible for burying more than 100 bodies (including 22 Americans) in a mass grave at a ranch in Mexico. All of the deaths were believed to be drug related. According to a news story on this gruesome discovery, the alleged perpetrator, Vincente Carrillo Fuentes, is one among dozens of drug lords and lieutenants wanted by U.S. law enforcement agents (Associated Press, 1999). A more current drug lord, Ismael “el Mayo” Zambada, now in his early 70s, is “one of Mexico’s most wanted drug lords, who has never been arrested despite a \$5 million reward offered in the United States” (Campbell, 2010). This same news release indicated that the drug trade would not end until drug cartels are eliminated. Such occurrences, which are often reported by the mass media, indicate the existence of powerful and dangerous drug cartels that are responsible for the availability of illicit drugs around the world.

And, finally, more recent information involves another drug kingpin, “El Chapo” Guzmán:

Born in Badiraguato, Mexico, Joaquín Guzmán Loera (El Chapo) entered the drug trade as a teenager and founded the Sinaloa cartel in 1989, building it into an immensely profitable global drug-trafficking operation. Known for

his violent actions and powerful influence, Guzmán established gangs—“Los Chachos,” “Los Texas,” “Los Lobos,” and “Los Negros”—to protect his empire. Over the years, he has been accused of committing more than 1,000 murders throughout Mexico, including those of incompetent henchmen and rival bosses. . . .

On January 8, 2016, Mexican President Enrique Peña Nieto announced that Mexican authorities had recaptured Guzmán after a shootout in Los Mochis.

“Mission Accomplished,” the President wrote. “We have him.” (<https://www.biography.com/crime-figure/el-chapo-joaquin-guzman-loera>)

Drug-related violence takes its toll at all levels, as rival gangs fight to control their “turf” and associated drug operations. Innocent bystanders often become unsuspecting victims of the indiscriminate violence. For example, a Roman Catholic cardinal was killed on May 24, 1993, when a car he was a passenger in was inadvertently driven into the middle of a drug-related shootout between traffickers at the international airport in Guadalajara, Mexico. Five other innocent bystanders were killed in the incident (Associated Press, 1993). Finally, it was recently reported that, when spotted, the Mexican army engages in shooting at cartel members and likewise armed cartel members shoot back. When this occurs, mostly in border towns and cities in Mexico, innocent bystanders, many of them children, are often caught in the crossfire and are routinely killed (Del Bosque, 2010). On April 13, 2010, one report cites just such an incident. In Acapulco, Mexico, 24 people died, half of whom were innocent bystanders: “[T]he shootout broke out in the middle of the day in the center of the town as it was full of bystanders” (Associated Press, 2010, p. 38). In many other incidents, unsuspecting people have been injured or killed by drug users who, while under the influence of drugs, commit violent criminal acts.

■ Drugs in the Workplace: A Persistent Affliction

“He was a good, solid worker, always on the job—until he suddenly backed his truck over a 4-inch gas line.” If the line had ruptured, there would have been a serious explosion, according to the driver’s employer. The accident raised a red flag: “under the company’s standard

policy, the employee was tested for drugs and alcohol. He was positive for both” (Edelson, 2000, p. 3).

Another tragic incident involving drug use occurred in Alvin, Texas, in December 2012, when “a 20-year-old man ran over two young boys, ages 11 and 12, in front of their father after having too much drink. Later, the driver was killed by gunshot, and the boys’ father was charged” (Project Know, 2016).

Generally, once drug use becomes habitual, it enters the workplace because, second to the home and social environments, the work environment for full-time employees is the place where they spend the most time. The National Household Surveys, for example, found evidence of significant drug use among full-time workers, with approximately 7% to 9% drinking while working. In the surveys, 64.3% of full-time workers reported alcohol use within the past month (SAMHSA, 2012). Some 6.4% of full-time workers reported marijuana use within the past month. Part-time employees were slightly more likely to be past-month illicit drug users in comparison to full-time workers in 2010 (11.2 % vs. 8.4%) (SAMHSA 2012).

WORKER SUBSTANCE ABUSE IN DIFFERENT INDUSTRIES

Substance use in the workplace negatively affects U.S. industry through lost productivity, workplace accidents and injuries, employee absenteeism, low morale, and increased illness. The loss to U.S. companies from employees’ alcohol and drug use and related problems is estimated at billions of dollars a year. Research shows that the rate of substance use varies by occupation and industry (Larson, Eyeman, Foster, & Gfroerer, 2007). Studies also have indicated that employers vary in their treatment of substance use issues and that workplace-based employee assistance programs can be a valuable resource for obtaining help for substance-using workers (Delaney, Grube, & Ames, 1998; Reynolds & Lehman, 2003).

Regarding employment, highlights from SAMHSA (2014b) indicate the following:

ILLICIT DRUG USE

- Current illicit drug use differed by employment status in 2013 and 2014. Among adults 18 and older, the numbers and percentage

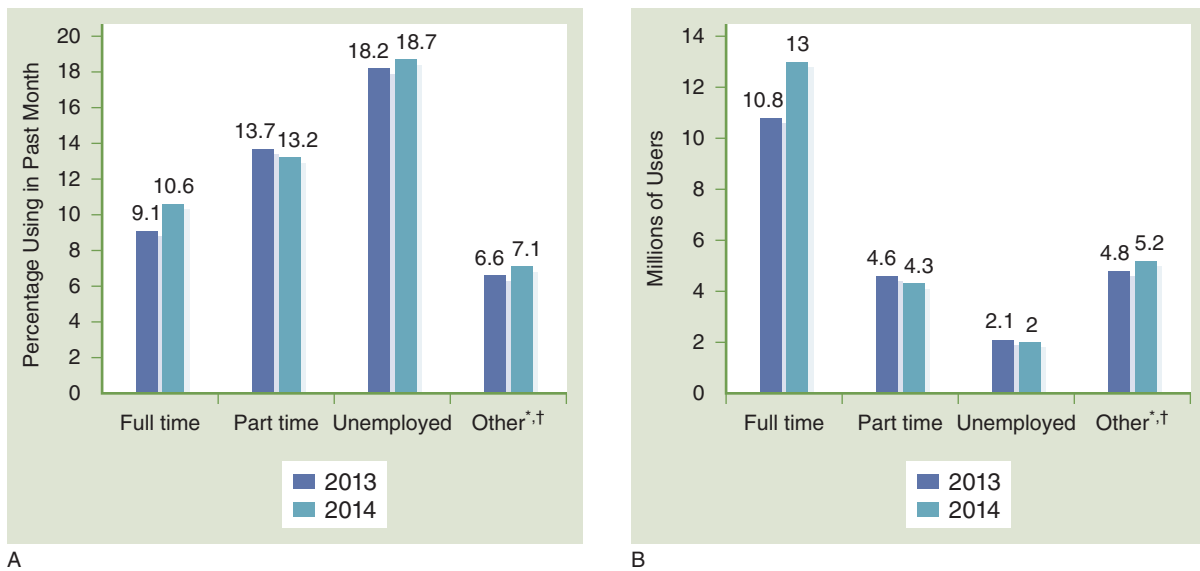


FIGURE 1.8 Panel A shows the percentages of past-month illicit drug use among persons 18 and older by employment status in 2013 and 2014. Panel B shows the numbers in millions of past-month illicit drug users based on employment status.

*Difference between this estimate and the 2014 estimate is statistically significant at the .05 level.

†The Other employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

Reproduced from Center for Behavioral Health Statistics and Quality (CBHSQ). (2015). *Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health* (HHS Publication No. (SMA) 15-4927, NSDUH Series H-50). Rockville, MD: Author.

of illicit drug use was higher for unemployed persons (2.1 million users—18.2%—in 2013 and 2 million—or 18.7%—in 2014) than for those who were employed full-time (10.8 million—or 9.1%—in 2013 and 13 million—10.6%—in 2014) or part time (4.6 million—13.7%—in 2013 and 4.3 million—13.2%—in 2014). The rate of other employment, which includes retired and disabled persons, homemakers, students, or other persons not in the labor force, was 4.8 million (6.6%) in 2013 and 5.2 million (7.1%) in 2014. These rates were all similar to the corresponding rates in 2012 (see **Figure 1.8**).

- Of the 22.4 million illicit drug users 18 and older in 2013, 15.4 million (68.9%) were employed either full- or part-time.

ALCOHOL USE

- The rate of current alcohol usage in 2013 was 65.8% for full-time employed adults 18 and older, which was higher than the rate for unemployed adults (53.8%). The rates of binge drinking were similar for adults who were employed full-time and those who were unemployed (30.5% and 31.3%, respectively).

- Among adults in 2013, most binge and heavy alcohol users were employed. Among the 58.5 million adults who were binge drinkers, 44.5 million (76.1%) were employed either full- or part-time. Among the 16.2 million adults who were heavy drinkers, 12.4 million (76.0%) were employed.

TOBACCO USE

- In 2013, current cigarette smoking was more common among unemployed adults 18 and older (40.1%) than among adults who were working full-time or part-time (22.8% and 23.4%, respectively).
- Use of smokeless tobacco in 2013 was higher among adults 18 and older who were employed full-time (4.8%) and those who were unemployed (4.9%) than among those who were employed part-time (2.2%) and those in the “other” employment category, which includes persons not in the labor force (1.9%).

SUBSTANCE DEPENDENCE

- Rates of substance dependence or abuse were associated with current employment status in 2013. A higher percentage of unemployed

adults aged 18 or older were classified with dependence or abuse (15.2%) than were full-time employed adults (9.5%) or part-time employed adults (9.3%).

- More than half of the adults 18 and older with substance dependence or abuse were employed full-time in 2013. Of the 20.3 million adults who were classified with dependence or abuse, 11.3 million (55.7%) were employed full-time.

Highlights from SAMHSA, Office of Applied Studies (2007), indicate the following (see **Figure 1.9**):

- Among the 19 major industry categories, the highest rates of past-month illicit drug use among full-time workers ages 18 to 64 were found in accommodations and food services (19.1%) and arts, entertainment, and recreation (13.7%).



FIGURE 1.9 Illicit drug use by industry category: Past-month illicit drug use among full-time workers aged 18 to 64: 2011–2012, combined.

*The full title of this category is "Management of companies and enterprises, administration, support, waste management, and remediation services."

Reproduced from Substance Abuse and Mental Health Services Administration (SAMHSA). (2012, March 24). *The National Survey on Drug Use and Health (NSDUH) Report: Worker substance use, by industry category*. Rockville, MD: Office of Applied Studies (OAS).

- The industry categories with the lowest rates of past-month illicit drug use were found in mining (5.0%), educational services (4.8%), and public administration (4.3%).
- The overall rate of past-month illicit drug use among full-time workers aged 18 to 64 was 8.6%. Rates of past-month illicit drug use ranged from 19.1% among workers in the accommodations and food services industry to 4.3% among workers in the public administration industry. These findings remained true even when controlling for gender and age differences across industries.
- The overall rate of past-year substance use disorder among full-time workers aged 18 to 64 was 9.5%. Rates of past-year substance use disorder ranged from 16.9% among workers in the accommodations and food services industry to 5.5% among workers in the educational services industry.
- Although the accommodations and food services industry group had the highest rate of past-year substance use disorder, this finding did not remain true after controlling for age and gender distributions. *This indicates that the high rate can be attributed to the demographic composition of the accommodation and food services industry.*

Although not shown in Figure 1.9, the following findings have also been reported (CBHSQ, 2013, unless otherwise noted):

- The overall rate of past-month heavy alcohol use among full-time workers 18 to 64 was 8.7%. Rates of past-month heavy alcohol use ranged from 17.5% among workers in the mining industry to 4.4% among workers in the health-care and social assistance industry.
- Workers in the mining (17.5%) and construction (16.5%) industries had the highest rates of past-month heavy alcohol use. For the workers in the construction industry, this finding remained true even when controlling for gender and age differences across industries. This indicates something unique about past-month heavy alcohol use for the construction industry that would remain even if the construction industry had the same gender and age distribution of any other industry. However, for the mining industry, this higher rate did not remain when controlling for age or gender differences. *This indicates that the high heavy alcohol use rate in the mining industry*

can be attributed to the demographic composition of the mining industry.

- Approximately 80% of large companies test for drug use, and approximately 60% of medium companies and 26% of small companies perform such testing. Of those companies that drug test, more than 90% use urine analysis, less than 20% use blood analysis, and less than 6% use hair analysis.
- Most companies that administer drug tests are testing for marijuana, cocaine, opiates, amphetamines, and PCP.
- Age is the most significant predictor of marijuana and cocaine use. Younger employees (18 to 24) are more likely to report drug use than older employees are (25 years or older).
- In general, unmarried workers report roughly twice as much illicit drug and heavy alcohol use as married workers. Among food-preparation workers, transportation drivers, and mechanics, and in industries such as construction and machinery (not electrical), the discrepancy between married and unmarried workers is especially notable.
- Workers who report having three or more jobs in the previous five years are twice as likely to be current or past-year illicit drug users as those who held two or fewer jobs over the same period (NCADD, 2016).
- Seventy percent of the estimated 14.8 million Americans who use illegal drugs are employed (NCADD, 2016).
- Marijuana is the most commonly used and abused illegal drug by employees, followed by cocaine, with prescription drug use steadily increasing (NCADD, 2016).
- Workers in occupations that affect public safety, including truck drivers, firefighters, and police officers, report the highest rate of participation in drug testing.
- “Among full-time workers, heavy drinkers and illicit drug users are more likely than those who do not drink heavily or use illicit drugs to have skipped work in the past month or have worked for three or more employers in the past year” (Robert Wood Johnson Foundation, 2001, p. 45).
- Most youths do not cease drug use when they begin working.

In summarizing this research on employees who abuse alcohol or other drugs, five major findings emerge: (1) These workers are three times more likely than the average employee to be late

to work, (2) three times more likely to receive sickness benefits, (3) 16 times more likely to be absent from work, (4) five times more likely to be involved in on-the-job accidents (note that many of these hurt others, not themselves), and (5) five times more likely to file compensation claims.

Employee Assistance Programs

Many industries have responded to drugs in the workplace by creating **drug testing** and **employee assistance programs (EAPs)**. Most often, drug testing generally involves urine screening, blood screening, or hair follicle analysis that is undertaken to identify which employees are using drugs and which employees may have current or potential drug problems. EAPs are employer-financed programs administered by a company or through an outside contractor. More than 400,000 EAPs have been established in the United States.

The following are some important findings regarding workplace substance use policies and programs among full-time workers:

- Full-time workers aged 18 to 64 who used illicit drugs in the past month were generally less likely than those who did not use illicit drugs in the previous month to work for an employer who had a written policy about employee use of alcohol and drugs. Similarly, full-time workers who drank heavily in the preceding month were less likely than those who did not drink heavily to have an employer that provided these workplace policies and programs (SAMHSA 2014b).
- Of employees ages 18 to 64 who had used an illicit drug in the past month, 32.1% worked for an employer who offered educational information about alcohol and drug use, 71% were aware of a written policy about drug and alcohol use in the workplace, and 45.4% worked for an employer who maintained an

EAP or other type of counseling program for employees who have an alcohol- or drug-related problem (SAMHSA, OAS 2007).

- Among full-time workers who used alcohol heavily in the preceding month, 37.2% worked for an employer who provided educational information about drug and alcohol use, 73.7% were aware of written policies about drug and alcohol use, and 51.1% had access to an EAP at their workplace (SAMHSA, OAS 2007).
- The most common EAP service that companies utilize is for job stress (87.9%), followed by substance abuse (84.1%), bereavement (83.4%), work-life balance (82.8%), and relationship counseling (82.2%); with slightly lower percentages mainly involving elder care, child care, or parenting issues (78.3%); family violence (75.2%); harassment (73.2%); and financial or legal services (72.6%) (Pyrilllis, 2014).
- Approximately three-quarters of companies have an EAP (Pyrilllis 2014).
- “U.S. enrollment in EAPs has increased by 285% since 2002, according to a 2011 survey by Open Minds, a market research firm based in Gettysburg, Pennsylvania. More than 97% of companies with more than 5000 employees have an EAP and continued growth is expected, according to the Employee Assistance Research Foundation” (Pyrilllis, 2014).

EAP programs are designed to aid in identifying and resolving productivity problems associated with employees’ emotional or physical concerns, such as those related to health, marital problems, family relationships, financial issues, and substance abuse. EAPs have also expanded their focus to combat employee abuse of OTC and prescription drugs in addition to illicit psychoactive substances. Overall, the programs attempt to formally reduce problems associated with impaired job performance.

Regarding drug testing today, the Society for Human Resource Management conducted an online survey taken by 454 randomly selected human resource managers from diverse organizations (U.S. Department of Labor, 2009). The following drug-testing practices were in effect:

- 84% of employers required new hires to pass drug screenings,
- 74% used drug screening when reasonable suspicion of drug use was determined,
- 58% of organizations used post-accident drug screening,

KEY TERMS

drug testing

urine, blood screening, or hair analysis used to identify those who may be using drugs

employee assistance programs (EAPs)

drug-assistance programs for drug-dependent employees

- 39% used random drug screening, and
- 14% used scheduled drug testing.

Further, 70% of those responding to this survey indicated that their organization has a written policy that addresses drug testing. From these survey results, we can see that the future for employee drug testing is bright. In all probability, if you have not already experienced such a screening, you will experience one at some point in your working life.

Today, drug testing can include the following types (U.S. Department of Labor 2016).

- **Urine:** Testing for drug metabolites in a person's urine.
- **Breath:** The breath-alcohol test is the most common test for finding out how much alcohol is currently in the blood.
- **Hair:** Analysis of hair provides a much longer "testing window," giving a more complete drug-use history going back as far as 90 days.
- **Oral fluids:** Saliva, or oral fluids, collected from the mouth also can be used to detect traces of drugs and alcohol. Oral fluids are easy to collect (a swab of the inner cheek is the most common method), harder to adulterate or substitute, and may be better at detecting specific substances, including marijuana, cocaine, and amphetamines or methamphetamines.
- **Sweat:** Another type of drug test consists of a skin patch that measures drugs in sweat. The patch, which looks like a large adhesive bandage, is applied to the skin and worn for some length of time. A gas-permeable membrane on the patch protects the tested area from dirt and other contaminants. Although relatively easy to administer, this method has not been widely used in workplaces and is more often used to maintain compliance with probation and parole.

The following drugs that are detectable differ in the length of time they are detectable (U.S. Department of Labor, 2016) as shown in the following.

- alcohol: 1 ounce for 1.5 hours
- amphetamines: 48 hours
- barbiturates: two to 10 days
- benzodiazepines: 2 to 3 weeks
- cocaine: 2 to 10 days
- heroin metabolites: less than 1 day
- morphine: 2 to 3 days
- LSD: 8 hours

- marijuana: casual use, 3 to 4 days; chronic use, several weeks
- methamphetamine: 2 to 3 days
- methadone: 2 to 3 days
- PCP: 1 week

Venturing to a Higher Form of Consciousness: The Holistic Self-Awareness Approach to Drug Use

Whenever drug use leads to abuse, it rarely results from a single, isolated cause. Instead, it is often caused or preceded by multiple factors, which may include combinations of the following:

- hereditary (genetic) factors,
- psychological conditioning,
- peer-group pressures,
- inability to cope with the stress and anxiety of daily living,
- quality of role models,
- degree of attachment to a family structure,
- level of security with gender identity and sexual orientation,
- personality traits, and
- perceived ethnic and racial compatibility with society as a whole and socioeconomic status (social class).

As authors, we strongly endorse and advocate a **holistic self-awareness approach** that emphasizes a healthy balance among mind, body, and spirit. Health and wellness can be achieved only when these three domains of existence are free from any unnecessary use of psychoactive substances. The holistic philosophy is based on the idea that the mind has a powerful influence on

KEY TERMS

oral fluids

oral fluid testing analyzes saliva samples for the presence of drugs of abuse and their metabolites

sweat (perspiration)

used for drug testing; a skin patch absorbs sweats for analysis for the presence of cocaine, marijuana, opiates, amphetamine, methamphetamine, or PCP

holistic self-awareness approach

emphasizes that nonmedical and often recreational drug use interferes with the healthy balance of mind, body, and spirit

maintaining health. All three—mind, body, and spirit—work as a unified whole to promote health and wellness. Similarly, we are in agreement with holistic health advocates who emphasize the following viewpoint:

Holistic Health is based on the law of nature that a whole is made up of interdependent parts. The earth is made up of systems, such as air, land, water, plants and animals. If life is to be sustained, they cannot be separated, for what is happening to one is also felt by all the other systems. In the same way, an individual is a whole made up of interdependent parts, which are the physical, mental, emotional, and spiritual. While one part is not working at its best, it impacts all the other parts of that person. . . . A common explanation is to view wellness as a continuum along a line. The line represents all possible degrees of health. The far left end of the line represents premature death. On the far right end is the highest possible level of wellness or maximum well-being. The center point of the line represents a lack of apparent disease. This places all levels of illness on the left half of the wellness continuum. The right half shows that even when no illness seems to be present, there is still a lot of room for improvement. . . . Holistic Health is an ongoing process. As a lifestyle, it includes a personal commitment to be moving toward the right end of the wellness continuum. No matter what their current status of health, people can improve their level of well-being. Even when there are temporary setbacks, movement is always headed toward wellness. (<https://ahha.org/selfhelp-articles/holistic-health/>)⁴

This passage embodies the essence of achieving a holistic self-awareness by presenting a unified blend of different perspectives that can add to

our awareness of what is at stake when the goal of drug use is for nonmedical purposes, such as using drugs for the sole purpose of achieving a high. Knowing about the holistic self-awareness perspective should expand people's often limited and narrow values and attitudes about drug use so that the information about and the use of drugs are viewed and understood from pharmacological, psychological, and sociological perspectives.

As previously mentioned, understanding drug use is important not only for comprehending our own health but also for understanding the following:

- why and how others can become attracted to drugs;
- how to detect drug use and abuse in others;
- what to do (remedies and solutions) when family members or friends abuse drugs;
- how to help and advise drug abusers about the pitfalls of substance use;
- what the best available educational, preventive, and treatment options are for victims of drug abuse; and
- what danger signals can arise when others you care about exceed normal or necessary drug usage.

Awareness and knowledge about drug use and abuse coupled with holistic health awareness can result in self-awareness, and self-awareness leads to self-understanding and self-assurance. Maintaining at least some belief in holistic self-awareness, either as a humanistic philosophy or adding this philosophy into a religious orientation you may already have, should increase your understanding of your own drug use practices as well as those of family members and close friends. By including at least some aspect of holistic self-awareness regarding the use of psychoactive substances, you will be better equipped to understand not only yourself but also others who may need advice and role modeling.

⁴Reproduced from Walter, 1999. Used with permission.

LEARNING PORTFOLIO

Discussion Questions

1. Give an example of a drug-using friend or family members and describe how the user may be affected by any three of the following: biological, genetic, pharmacological, cultural, social, and contextual factors responsible for abusing illicit drugs.
2. Discuss and debate whether the often-considered “benign” drug known as marijuana is or is not addictive. In your discussion or debate, consider the finding in Table 1.4 from SAMHSA (2019a) that for persons aged 12 or older, 45.3% of illicit drug users (123,935 million) used marijuana during their lifetime, and past-month users of this drug accounted for 10.1% of all illicit drug users (27,667 million). Explain how such high percentages and numbers of users of this “less addictive” drug is *harmless* or *harmful* to society?
3. What is the future of prescription drug abuse? For example, how much will it increase in the years to come? Do you think prescription drugs will ever become *the* drugs of choice for recreational or abusive use? Will prescription drug abuse ever surpass the use of marijuana? In addition, should parents be prosecuted for not guarding their legally prescribed drugs if their children are legally caught using prescription drugs?
4. In reviewing the ancient historical uses of drugs, how do you think drug use today is different from than in the past? Explain your answer.
5. Why do Americans use so many legal drugs (e.g., alcohol, tobacco, and OTC drugs)? What do you think is primarily responsible for such extensive nonmedical and recreational drug use?
6. Table 1.3 shows that the amount of illicit drug use for people aged 18 through 25 are consistently the highest percentages of illicit drug use for past-month, past-year, and lifetime (ever used) categories. Cite what you think are two main reasons why this age group continually uses illicit types of drugs despite laws against illicit drug use and other media messages and antidrug campaigns promoted by private organizations, state governments, the federal government, and efforts by law enforcement organizations against recreational drug use.
7. Because most casual and experimental drug users do not gravitate toward excessive drug use, should these two groups be left alone or perhaps be given legal warnings or fines? Overall, do you think recreational drug users should be punished by society?
8. Do the mass media promote drug use, or do they merely reflect our extensive use of drugs? Provide some evidence for your position.

Key Terms

addiction	6
central nervous system (CNS)	5
compulsive users	31
dependency phase	38
designer drugs	14
drug(s)	6
drug cartels	44
drug cells	44
Drug Enforcement Administration (DEA)	12
drug testing	50
employee assistance programs (EAPs)	50
equal-opportunity affliction	17
ethanol	13
experimenters	31
floaters or chippers	31
gateway drugs	12
holistic self-awareness approach	51
illicit drugs	6
increased use phase	38
insiders	5
licit drugs	6
marijuana wax	14
MDMA	13
National Institute on Drug Abuse (NIDA)	39
opioids	11
oral fluids	51
outsiders	5
over-the-counter (OTC)	6
preoccupation phase	38
psychoactive drugs (substances)	5
psychotherapeutic drugs	10
relief phase	38
structural analogs	14
sweat (perspiration)	51
synthetic drugs or synthetic opioids	14
withdrawal phase	38
withdrawal symptoms	6

9. At what point do you think drug use leads to abuse? When do you think drug use does not lead to abuse?
10. What do you believe is the relationship between drug use and crime? Does drug use cause crime or is crime simply a manifestation of personality?
11. What principal factors are involved in the relationship between drugs and crime?
12. Should all employees be randomly tested for drug use? If not, which types of employees or occupations should always be randomly drug tested?
13. List and rank order at least three things you found especially interesting about drug use in this chapter.
14. Should all students and faculty be randomly drug tested at their schools and universities? Why or why not?
15. Do you think that the holistic self-awareness approach advocated by the authors regarding drug use is a viable one that can be used successfully for stopping drug use? Why or why not? What additional improvements if any can be made to strengthen this approach?

Summary

1. Biological issues, genetic issues, pharmacological issues, and cultural, social, and contextual issues are the four principal factors responsible for determining how a drug user experiences drug use. Biological, genetic, and pharmacological factors take into account a particular drug's effects and how it affects the body. Cultural factors examine how society's views, determined by custom and tradition, effect and affect the use of a particular drug. Social factors include the specific reasons why a drug is taken and how drug use develops from factors such as family upbringing, peer-group alliances, subcultures, and communities. Contextual factors account for how drug use behavior develops from the physical surroundings in which the drug is taken.
2. Initial understanding of drug use includes the following key terms: *drug*, *gateway drugs*, *medicines* and *prescription medicines*, *over the counter* (OTC), *drug misuse*, *drug abuse*, and *drug addiction*.
3. Mentions of drug use date back to biblical times and ancient literature that goes back to 2240 BC. Under the influence of drugs, many people experienced feelings ranging from extreme ecstasy to sheer terror. At times, drugs were used to induce sleep and provide freedom from care.
4. Drug users are found in all occupations and professions, at all income and social class levels, and in all age groups. No one is immune to drug use. In summary, drug use is an equal-opportunity affliction.
5. According to sociologist Erich Goode (2012), drugs are used for four reasons: (a) legal instrumental use, (b) legal recreational use, (c) illegal instrumental use, and (d) illegal recreational use.
6. The most commonly used licit and illicit *past-month* use of drugs (rated from highest to lowest in the percentages [frequency] of use) are:
 - alcohol (51.1%)
 - cigarettes (17.2%)
 - any illicit drugs (11.7%)
 - marijuana (10.1%)
 - any illicit drugs other than marijuana (3.2%)
 - smokeless tobacco (2.9%)
 - nonmedical use of any psychotherapeutics (2.0%),
 - pain relievers (1.0%)
 - cocaine (0.7%)
 - tranquilizers (0.6%), hallucinogens (0.6%), stimulants (0.6%)
 - methamphetamine (0.4%)
 - inhalants (0.2%)
 - sedatives (0.1%), heroin (0.1%)
7. The three types of drug users are experimenters, compulsive users, and floaters or chippers. Experimenters try drugs because

of curiosity and peer pressure. Compulsive users use drugs on a full-time basis and continually desire to escape from or alter reality. Floaters or chippers vacillate between experimental drug use and chronic drug use.

8. The mass media tend to promote drug use through advertising. The constant barrage of OTC drug commercials relays the message that if you are experiencing some symptom, taking drugs is an acceptable option.
9. Drug use leads to abuse when the following occurs: (a) excessive use, (b) constant concern and preoccupation about the availability and supply of the drug, (c) refusal to admit excessive use, and (d) reliance on the drug.
10. The stages of drug dependence are *relief* from using the drug, *increased use* of the drug, *preoccupation* with the supply of the drug, *dependency* or addiction to the drug, and experiencing (either or both) physical or psychological *withdrawal* effects from not using the drug.
11. The following are the major findings of the connection between drugs and crime: (a) drug users are more likely to commit crimes, (b) arrestees are often under the influence of drugs while committing their crimes, and (c) drugs and violence often go hand in hand, especially when alcohol, cocaine, crack, methamphetamine, or other stimulant types of drugs are used.
12. Employee assistance programs (EAPs) are employer-financed programs administered by a company or through an outside contractor. More than 400,000 EAPs have been established in the United States. They are designed to aid in identifying and resolving productivity problems associated with employees' emotional or physical concerns, such as those related to health, marriage, family, bereavement, finances, and substance abuse. Recently, EAPs have expanded their focus to combat employee abuse of OTC and prescription drugs as well as illicit psychoactive substances.

13. The holistic self-awareness philosophy is based on the idea that the mind, body, and spirit have a powerful influence on maintaining health. These three domains—mind, body, and spirit—work best when unobstructed by unnecessary drug use and when all three domains work in a unified manner to promote health and wellness.

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