CHAPTER 1

Psychology of Alcohol and Other Drugs

Here's to alcohol: the cause of, and solution to, all of life's problems.

—Homer Simpson

B*ooze, pot, dope, coffin nails, horse, crack, bennies, reds, coke, speed, ice, Ecstasy, speedball, junk*—the list of colorful names for psychoactive drugs is a long one that continues to grow. Throughout recorded history in most societies, people have discovered and used substances capable of altering normal experiences and consciousness. Most of these substances have come from natural sources such as plants, seeds, mushrooms, yeast, and grains, but in modern times synthetic products such as heroin and amphetamines have been added to the list. For a variety of reasons ranging from curiosity to boredom to stress, people are motivated to seek variations in mood, going from high to low as well as from low to high activation. Psychoactive drugs are a potent means of producing these mood states. In addition, many of them, including alcohol, nicotine, hallucinogens, opioids, and marijuana, have been used for medicinal and healing purposes.

Alcohol, tobacco, marijuana, cocaine, heroin, amphetamines, hallucinogens, crack—the list of psychoactive drugs used by humans throughout history is, as already noted, rather extensive. In the present book, we will consider all chemical substances as drugs if they are voluntarily consumed for social and recreational purposes to alter mood and conscious states as opposed to being used medicinally to treat, for example, physical and psychological disorders.

Using this definition, alcohol would be classified as a "drug," contrary to a longstanding distinction between alcohol *and* drugs held by the public as well as many professionals working in the field of addictions. This separation of alcohol and other drugs into their own domains appears at the highest levels of the federal government, as reflected by the creation in the early 1970s of separate governmental agencies to deal with funding for treatment and prevention research on alcohol (National Institute on Alcohol Abuse and Alcoholism) and drugs (National Institute on Drug Abuse). This separation of alcohol from other drugs has perpetuated the failure of many research, treatment, and prevention activities to acknowledge the reality that many users of psychoactive drugs started with—and usually continue—the use of alcohol. A more accurate understanding of substance use needs to recognize the central role that use of alcohol plays in the development of the use of other drugs.

FOCUS AND GOALS OF THIS BOOK

This book will examine the major legal psychoactive drugs of current concern to society due to their widespread use and/or because of the potential harm to the users and to society that may occur from excessive use. Considerably more coverage will be devoted to alcohol because for most American adults it is the psychoactive drug of choice, consumed by more people, in larger volume and on more frequent occasions, than any other drug. Our society approves of—and even expects and encourages—drinking in many situations.

Many prescription and over-the-counter drugs such as sedatives, tranquilizers, stimulants, and analgesics developed and intended for medical treatment unfortunately are also abused for nonmedical purposes. These drugs include barbiturates (e.g., Mebaral® and Nembutal®) used to treat anxiety, tension, and sleep disorders; benzodiazepines (e.g., Valium®, Librium®, and Xanax®) prescribed to treat anxiety, acute stress reactions, and panic attacks; stimulants (e.g., Dexedrine® and Ritalin®) used to treat depression, attention deficit hyperactivity disorder, and narcolepsy; and opioids (e.g., OxyContin®, Darvon®, Vicodin®, and Demerol®) prescribed to alleviate pain.

Although these are legal drugs for medical purposes, their increasing use to produce psychoactive rather than therapeutic outcomes represents a serious problem for society because of the risk of addiction to these substances and the dangers when their use is combined with use of alcohol. In 2006, 16.2 million Americans age 12 and older had taken a prescription pain reliever, tranquilizer, stimulant, or sedative for nonmedical purposes at least once in the past year (Substance Abuse and Mental Health Services Administration [SAMHSA], 2007). However, research on the misuse of these drugs is beyond the scope of this book, which focuses on alcohol and other drugs that were developed primarily for psychoactive effects.

Alcohol is more thoroughly researched than other drugs, a result in large part of the significant population of drinkers. Another justification for a focus on alcohol is that, like tobacco, it is widely assumed to be a **gateway drug**, which may lead to subsequent as well as concurrent use of illicit drugs. In contrast, relatively less research on illicit drugs is available due to the difficulty of identifying and recruiting large and representative samples of illicit drug users. Most of the research on illicit drug use comes from treatment samples,

which may not be generalizable to other users. Unlike legal drugs on which controlled studies are available, there are major ethical and legal barriers to conducting experiments with illicit drugs so that findings from these studies are limited to correlational data, which do not permit firm causal conclusions.

A secondary goal is to show some of the similarities and differences among these drugs in their origins and their effects. The norms of use patterns will be compared across major demographic factors such as age, sex, and social class and/or ethnicity. By comparing different major drugs, we hope to identify some common factors underlying the causes and effects of drug use. Issues, methods, and theories of treatment of drug abuse and dependency will be examined.

A Psychological Emphasis

A psychology of alcohol and drugs needs no more justification than we require for the study of any other behavior whether it be watching movies, reading books, attending church, gambling, or working. People use alcohol and other drugs, and it is important to identify and understand the factors that influence such behaviors, especially since alcohol and other drug abuse and dependency develop for some users, with destructive and harmful consequences for them and others around them. This book will examine the central role of psychological causes, correlates, and effects of alcohol and other drug use and abuse. Understanding how adverse outcomes develop and how to treat them calls for a psychological approach. Furthermore, a psychology of alcohol and drug use is essential for designing effective methods for intervention and prevention of drug problems.

Psychology Precedes Pharmacology

Multiple factors are involved in alcohol and other drug use. First, the substance must be physically available. A complex process involving cultural, historical, legal, political, and economic factors determines the extent to which a drug is available in a particular society at a given time.

As we grow up, we form many beliefs and attitudes about alcohol and other drugs. We learn that these substances can exert powerful changes on our conscious states, behaviors, and experiences. Such beliefs may increase the desire to use drugs for some people. Without these psychological factors first leading to drug use, the potential pharmacological effects that drugs can produce on the nervous system to affect behavior and experience cannot occur. Subsequently, these pharmacological processes exert a reciprocal influence on the psychological processes and behavior of the user.

And although alcohol and other drugs may be readily available, not everyone will be attracted to them. Those more concerned about the risks and dangers of drugs than enticed by their possible benefits will be less likely to use them. Psychological beliefs and attitudes again are a critical determinant, in this case preventing the use of drugs. Without certain beliefs, motives, and personality characteristics, a person will not use a particular drug even if the opportunity is present. Understanding why people seek drugs, why they may not seek treatment, and why relapse is so common are important tasks of a psychology of drugs. Thus,

psychology may help in developing methods for prevention of drug use by identifying what motivates users to engage in drug use as well as what deters nonusers.

A psychology of drugs is also useful for developing methods to convince users to want to reduce or stop their use of drugs. Thus, quitting—or at least the attempt to quit—may work best when it is perceived to be a choice rather than a mandate. But fear of failure may prevent some from even making the attempt. Such efforts may be more likely if positive consequences or alternatives are offered. These psychological considerations may be needed to design effective methods for improving success in quitting. Psychology can help reduce these setbacks by identifying the conditions, such as psychological state and social and physical environment, that are associated with relapse.

HISTORY OF DRUGS IN AMERICA

An overview of the history and background of major psychoactive drugs currently used in the United States is essential for understanding contemporary alcohol and other drug issues and problems. Prior to about 1900, although many states passed drug control legislation, there were no federal laws against any psychoactive drugs in the United States, and such drugs were widely available and consumed. How this situation changed and what determined which drugs were regarded as more dangerous than others and thus warranted penalties for possession and use is an intriguing tale of politics, prejudice, and propaganda more than one informed by persuasive scientific evidence.

Alcohol consumption prior to the 20th century was quite extensive, and heavy levels of use were commonplace. The immigrants who settled the American colonies in the late 17th century came from European countries with long histories of alcohol use, and they continued their drinking-related cultural traditions and practices after they settled. In colonial America, drinking was a widespread, generally tolerated, and accepted activity. Alcohol was not only widely available as a beverage but also served as a home remedy for many medicinal purposes. Drunkenness was commonplace, but it was not considered a social problem for the society of that era (Gusfield, 1963). However, from the early 1700s to the mid-1800s, drunkenness and alcohol problems increased, generating greater societal disruption as the nation changed from an agrarian economy to an urban industrial society.

The widespread social problems such as poverty, crime, and disorderly public conduct created by excessive use of alcohol led to reform movements by religious groups such as the Quakers and many Protestant denominations. Organized efforts against alcohol were formed, including the American Temperance Society in 1833. As the movement gathered strength, by the late 1800s calls for **temperance** yielded to efforts to eliminate alcohol entirely as organizations such as the Woman's Christian Temperance Union (WCTU) and the Anti-Saloon League led the fight against the evils of alcohol, tobacco, and other drugs (Gusfield, 1963).

Tobacco was, in contrast, completely unfamiliar to Christopher Columbus in 1492. However, the Native Americans who met him had been chewing and smoking tobacco in pipes for a long while. By the time the American colonies were settled a little over a century later, smoking tobacco was also an established and acceptable drug for the early European immigrants.

Morphine was widely used during the Civil War on the battlefield as an anesthetic for the wounded and dying. Unfortunately, many who survived their battle wounds with the aid of morphine later succumbed to morphine addiction. Interestingly, cocaine injections were initially used to treat morphine withdrawal before it came to be recognized that cocaine itself was an addictive substance. The widely used patent medicines, supposedly cure-alls for "whatever ails you," contained alcohol and cocaine. They became drugs of abuse, especially by women.

American cities suffered increasingly from child labor, excessive drug use, crime, and violence, leading social reformers to launch vigorous moral reform campaigns. Many of the poor urban living conditions stemmed from or were exacerbated by alcohol and other drug abuse, but economic oppression, prejudice, and social injustice were also contributory factors. In addition, some substance abuse may have been the effect, rather than the cause, of poverty and oppression. Nonetheless, political and social pressures encouraged a focus on drugs as the major culprit of society's ills, and the social reformers helped make many of them illegal in the early part of this century.

In contrast to the 19th century when drugs were unregulated for the most part, state and federal legislation to control drugs increased in the 20th century. Thomas Szasz (1985), a prominent psychiatrist and critic of many social policies restricting choice, contended that drugs served as a convenient scapegoat for the social ills of urban life. He observed that a double standard was used in setting drug policy and suggested that because alcohol and tobacco are so well ingrained in Christian and English-speaking cultures, we regard them as good while drugs such as opium and marijuana, which originated in foreign countries, are viewed as bad. Thus, consider the different labels and terms used in connection with legal and illegal drugs: "People who sell liquor are retail merchants, not 'pushers'; and people who buy liquor are citizens, not 'dope fiends.'" The same goes for tobacco, coffee, and tea (Szasz, 1985, pp. 52–53).

Table 1.1 identifies some major developments in drug legislation and other aspects of drug control in America over the course of the 20th century. One of the earliest drugs to be controlled in America was opium, banned in San Francisco in 1875. At the federal level, the Pure Food and Drug Act was passed in 1906 due to increasing concern about impurities from opioid drugs in foods and patent medicines. It did not make drugs illegal but required labels to specify the contents.

In 1914, the **Harrison Narcotic Act** was passed as part of an international effort to reduce the widespread and increasing use of opiate drugs as well as cocaine (Musto, 1987). This law did not make these drugs illegal but required that heroin and morphine be prescribed by a physician. During this era, the federal government was prevented from passing national laws by the doctrine that the states held the rights to make these laws for themselves. The federal government adroitly circumvented this problem by exercising its powers to raise tax revenues and placing a tax on opiates.

The restrictions against opium may have been a statement against the Chinese as much as the drug (Gusfield, 1963). The opium tax was directed toward the Chinese in America, the heaviest users of opium. In the late 1800s, Chinese immigrants were regarded as the "yellow peril" because they provided a large, industrious, and cheap source of labor against which the White population could not compete. Public attitudes were extremely hostile

TABLE 1.1 Historical timeline of national events, concerns, and federal drug control legislation.

Year	National Events and Concerns	Federal Drug Control Legislation
1900s	Temperance Movement	Pure Food and Drug Act (1906) led to decline of patent medicines
1910s	World War I	Harrison Narcotic Act (1914) taxed and regulated distribution and sale of narcotics
1920s	Attitudes of nationalism and nativism and fear of anarchy and communism were tied to regulation of alcohol and drugs	Volstead Act (1920): national alcohol prohibition
1930s	Onset of Depression Prohibition repealed (1933)	Federal Bureau of Narcotics established (1930) Marijuana Tax Act (1937)
1940s	Drug interest dwindled due to concerns with events in Europe World War II (1941–1945) By the end of World War II, the public considered drugs to have no major societal impact	
1950s	Korean War Tolerance of drugs associated with unpatriotic attitudes in early 1950s	Boggs Act (1951): harsher penalties for narcotics and marijuana offenses Narcotic Control Act (1956) increased penalties for narcotics and marijuana offenses
1960s	Treatment, rehabilitation efforts rose Psychedelics (e.g., LSD) appeared; marijuana use rose; amphetamines and barbiturates became street drugs; rise in heroin use led to methadone maintenance programs Vietnam War	Mental Retardation Facilities and Community Mental Health Centers Construction Act (1963): federal support for local treatment of addiction classified as mental illness Surgeon General's report on smoking (1964) Drug Abuse Control Amendments (1965) Bureau of Drug Abuse Control (1966) Bureau of Narcotics and Dangerous Drugs (1968)
1970s	Rise in cocaine use	Controlled Substances Act (1970) Drug Abuse Office and Treatment Act (1972) Drug Enforcement Administration (1973)
1980s	Crack arrived in inner cities AIDS problem arose	Comprehensive Crime Control Act (1984) Anti-Drug Abuse Act created Office for Substance Abuse Prevention (1986) and Office of National Drug Control Policy (1988)

Year	National Events and Concerns	Federal Drug Control Legislation
1990s	Cigarettes recognized as addictive	Crime Control Act (1990)
	Tougher drug control and legislation	Food and Drug Administration (FDA) rules cigarettes to be "drug delivery devices" (1995)
2000s	Increased methamphetamine abuse	U.S. Supreme Court rules FDA has no authority to regulate cigarettes as drugs (2000)
		Anabolic Steroid Control Act of 2004
		Combat Methamphetamine Epidemic Act of 2005

Source: Adapted from *Drugs, Crime, and the Justice System: A National Report From the Bureau of Justice Statistics (NCJ-133652)*, by the Bureau of Justice Statistics, 1992, Washington, DC: U.S. Government Printing Office.

toward this easily identifiable ethnic group, with its differences in cultural customs and physical appearance. Similarly, some of the opposition to cocaine was related to prejudices toward Blacks in the South during the Reconstruction period after the Civil War. Unsubstantiated beliefs that cocaine-using Blacks might become violent toward Whites aroused fear. Restrictions imposed in the 1930s against marijuana were similarly tied to violence and crimes committed by immigrant Mexican workers under the influence of marijuana in the Southwest, a perception for which there was flimsy evidence (Musto, 1987). Despite these attempts to control these drugs, after World War I, the use of opioids and cocaine expanded rapidly in the United States. Physicians were still able to prescribe narcotics to patients, but this practice soon was halted as law enforcement agencies began to arrest physicians and druggists for use of opiates even for medical purposes.

The temperance movement, led by such groups as the WCTU, waged vigorous moral crusades against the harms of alcohol to society. Alcohol was made illegal in 1920 with the Volstead Act although Prohibition was repealed in 1933 and considered a failure as a means of controlling alcohol use (Musto, 1987). Many who voted in favor of Prohibition were actually unopposed to drinking. Their vote was a means of attacking the powerful saloons and the alcohol industry. Drinking continued illegally with so many people violating the law that it was unworkable, creating other problems such as crime and corruption associated with the underground manufacture and sale of alcohol.

In the 1920s, several federal agencies were established to control narcotics, culminating with the formation of the Federal Bureau of Narcotics in 1930. Its commissioner, Harry Anslinger, was given strong authority over drug interdiction and law enforcement with the goal of stemming the widespread and increasing narcotics problem. The term *narcotic* (meaning "sleep inducing") was later dropped since it is inaccurate. Nonetheless, people still refer to "hard drugs," both depressants and stimulants alike, as "**narcotics**." Also during this period, there was recognition of a need for treatment of drug addicts, and hospitals were started in some federal prisons in the mid-1930s.

It might be only coincidental that as alcohol was made less available during Prohibition, Americans increased their use of marijuana. Possibly, when a widely used drug declines in

availability and/or acceptance, other drugs increase in popularity to fill the void. Thus, after alcohol was outlawed, immigrant Mexican laborers introduced marijuana during the 1920s to the southwestern United States (Musto, 1987). They smoked joints made with leaves from one variety of marijuana plant, *Cannabis indica*.

However, by 1933 the promise of Prohibition failed, and the nation was ready to repeal it. With the return of alcohol, law enforcement officials increasingly depicted marijuana as evil and harmful. Incorrectly classified as a narcotic, it was portrayed to the public as "the killer drug," as newspapers linked its use to violence and crime. Its harmful effects were promoted in propaganda films of the era such as *Reefer Madness.* This hysterical atmosphere led to the Marihuana Tax Act, passed in 1937, which placed controls on marijuana use by imposing a tax on its sale or purchase.

By the mid-1930s, a grassroots movement for helping alcoholics eventually led to the formation of **Alcoholics Anonymous (AA)**, a mutual support and recovery group that grew worldwide (White, 1998) and will be discussed in more detail in Chapter 14. Similar organizations, including Narcotics Anonymous (NA) and Cocaine Anonymous (CA), soon developed and employed a similar program for recovery from other drugs.

One of the leading alcohol researchers of his time (Jellinek, 1960) proposed the **disease conception of alcoholism**, which was based in part on surveys of AA members and observations at AA meetings. The disease conception of alcoholism was an advance because it offered an alternative to the prevailing moral model that held that alcoholics drink because they lack willpower. The disease model called for a nonjudgmental response and compassionate treatment of alcoholics just as patients with medical diseases receive. Alcoholics were seen as unable to control the disease and in need of expert medical attention. A central tenet of Jellinek's model was that the disease involves a **loss of control** over drinking. Once drinking starts, the alcoholic is unable to stop. Instead of condemning the alcoholic, this view had a major influence on improving the way society viewed **alcoholism** as well as other drug dependencies that continues to this day. Alcoholism was now seen as a treatable problem rather than a hopeless condition.

Drugs designed originally for medical purposes, such as barbiturates and amphetamines, began being widely dispensed by physicians. Before long, these drugs, some of which could readily be made at home, were being abused for nonmedical purposes and became part of the growing drug problem.

During World War II, drug problems declined, perhaps due to the priorities of the war effort and concerns with national defense. The end of this conflict saw a resumption of illicit drug use, leading the federal government to pass stiffer penalties and mandatory jail sentences for offenders during the 1950s. Heroin use, dormant since the Harrison Narcotic Act in 1914, started to increase mainly in lower socioeconomic areas. Prices started to rise as well, leading dealers to adulterate the drug by mixing in fillers to meet the demand and increase profits.

During the 1960s, social activism in civil rights and other empowerment movements led to major social changes. This activism involved many young people and was accompanied by widespread use of many drugs, including marijuana and hallucinogens popularized by the experiences described by Timothy Leary, a Harvard professor who was a pioneer in the experimental use of LSD-25. Due to the influence of "hippies" and "flower children" during this era, alternative lifestyles flourished, including experimentation with drugs.

At the same time, changes in social attitudes, social policy, and drug legislation occurred with a de-emphasis on a law enforcement "lock them up and throw away the key" philosophy toward drug offenders to a focus on treatment and rehabilitation of drug abusers. In 1962, the Supreme Court viewed addiction as a disease, not a criminal activity in itself. The Mental Retardation Facilities and Community Health Centers Construction Act of 1963 facilitated rehabilitation of drug abusers. The Narcotic Addict Rehabilitation Act of 1966 regarded opioid abuse as a disease. The disease conception encouraged a medical treatment rather than an incarceration approach to drugs.

The heroin problem increased throughout the 1960s. The almost pure supply of inexpensive heroin in Southeast Asia led to a high rate of heroin use by American military personnel during the Vietnam War. As this war wound down, the threat of so many young American military personnel coming back from Vietnam with heroin addiction was a real concern. The danger turned out to be less serious than originally expected as most of the opiate users in Vietnam were able to quit once they returned to their own communities in the United States (Musto, 1987).

One explanation is that the resumption of their former lives reduced their psychological need to use heroin, but it is also possible that the unavailability of pure or high-grade heroin in the United States was a factor. Heroin use became perceived as a problem primarily of the urban poor living in the inner city. The dangers of heroin use were compounded with the advent of AIDS in the 1980s. Heroin users were at high risk for HIV infection from the shared needles used for their injections.

President Richard Nixon launched a "war on drugs" in 1971 and passed significant legislation changing how drug possession, sale, and use were handled in the United States. Law enforcement through the Drug Enforcement Administration (DEA), the successor in 1973 to the Federal Bureau of Narcotics, became the approach for controlling substances, replacing the excise tax method of earlier eras (Musto, 1987). Drug interdiction to cut off the supply of heroin from Turkey became a priority. Greater efforts were made to provide treatment facilities as well.

The Comprehensive Drug Abuse Prevention and Control Act of 1970 (Public Law 91-513) was a landmark piece of federal drug legislation that overturned or replaced the existing laws. It authorized the creation of two separate federal agencies for the development of research, prevention, and treatment programs: the National Institute on Alcohol Abuse and Alcoholism (NIAAA) in 1971 to address alcohol issues and the National Institute on Drug Abuse (NIDA) in 1973 to deal with illicit drug problems.

A new approach for classifying drugs, or a **schedule of drugs**, was implemented. Instead of banning classes of drugs and setting penalties for their use based on their chemical structure and pharmacological effect, the **Controlled Substances Act** passed by Congress in 1970 classified all drugs except nicotine and alcohol by two functional criteria: the drug's medical use and the drug's potential for abuse. Using only those two criteria, all drugs were placed in one of five categories, each with different penalties based on its relative benefits and potential for harm.

As shown in Table 1.2, Schedule I drugs are those such as **marijuana** (cannabis) and **hashish** that have little or no medical use but a high potential for abuse. Campaigns exist to legalize the medical use of marijuana, but it is not yet widely accepted. Schedule II drugs

TABLE 1.2 Schedule of drugs based on effects, medical use, and abuse potential.

Drugs are scheduled under federal law according to their effects, medical use, and potential for abuse.

DEA Schedule	Abuse Potential	Examples of Drugs Covered	Some of the Effects	Medical Use
I	Highest	Heroin, LSD, hashish, marijuana, methaqualone, designer drugs	Unpredictable effects, severe psychological or physical dependence, death	No accepted use; some are legal for limited research use only
II	High	Morphine, PCP, codeine, cocaine, methadone, Demerol®, Benzedrine®, Dexedrine®	May lead to severe psychological or physical dependence	Accepted use with restrictions
III	Medium	Codeine with aspirin or Tylenol®, some amphetamines, anabolic steroids	May lead to moderate or low physical or high psychological dependence	Accepted use
IV	Low	Darvon®, Talwin®, phenobarbital, Equanil®, Miltown®, Librium®, diazepam	May lead to limited physical or psychological dependence	Accepted use
V	Lowest	Over-the-counter or prescription compounds with codeine, Lomotil®, Robitussin A-C®	May lead to limited physical or psychological dependence	Accepted use

Source: Adapted from the Controlled Substances Act, by the Drug Enforcement Administration, 1989, Washington, DC: U.S. Department of Justice.

have some medical use but also a high potential for abuse, such as barbiturates, cocaine, and amphetamines. Schedule III drugs have medical use and a high potential for abuse and include morphine and codeine, which is found in prescription cough medicine and is highly addictive. Schedule IV drugs such as sedative-hypnotics and minor tranquilizers have therapeutic value but less risk of abuse and dependency than Schedule III drugs. Finally, Schedule V drugs such as antibiotics have high medical use but little potential for abuse and often do not require a prescription.

In the 1960s, as mounting research called into question the seriousness of the harm produced by marijuana, its use began increasing, especially among college students and lower socioeconomic groups. By 1969, due to the widespread use and growing public sentiment, the government lowered the penalties for marijuana below the level associated with other Schedule I drugs.

A shift in attitudes toward more tolerant positions occurred, as exemplified by the recommendation in 1973 by the National Commission on Marijuana and Drug Abuse that marijuana possession for personal use be "decriminalized." The commission's view was partly based on its conclusions that alcohol and tobacco presented more serious problems. However, concern over the sharp increase in marijuana use, especially among high school students by the 1970s, prompted President Nixon to reject the commission report and its recommendations.

Federal drug policies were more relaxed under Nixon's successor, President Gerald Ford. He used a containment approach to drugs aimed to limit damage in contrast to Nixon's all-out-war approach. A peak in marijuana use occurred in 1973, and a continuing decline was seen until it began regaining popularity in the 1990s. Before long, however, new problems began to surface. Cocaine use, which had peaked in the 1920s, began to increase again in the late 1960s, especially among the affluent and upwardly mobile, fueled by supplies from Colombian drug cartels. Initially viewed as a drug with few dangers, its popularity reached a peak in 1982 before declining (Gfroerer & Brodsky, 1992), according to retrospective data from the National Household Survey on Drug Abuse between 1962 and 1989. A new upsurge in cocaine use occurred during the late 1980s before subsiding in the 1990s, spreading to the streets and to underclass users as well. **Crack cocaine**, a more potent smokeable form of the drug, arrived on the scene in 1985 and caused great concern, especially in the inner cities. Heroin also made a comeback in the mid-1970s as new sources of less expensive heroin from Mexico replaced the curtailed supplies from Turkey.

President Jimmy Carter supported efforts to decriminalize marijuana use in the late 1970s, but these and other attempts to decriminalize possession of less than an ounce of marijuana did not succeed. The politics of drug policy shifted back under the administration of President Ronald Reagan starting in the early 1980s. He renewed Nixon's strong antidrug campaigns with crusades against illicit drugs such as cocaine, heroin, and marijuana. In Nancy Reagan's terms, the solution was to "just say no." The Anti-Drug Abuse Act of 1986 allowed for almost $4 billion, primarily for law enforcement, toward a renewed war on drugs. Stiffer penalties were imposed for illegal drug use and trafficking, with mandatory minimum jail time imposed for drug offenses.

Drug use continued to increase, leading to more arrests as a zero-tolerance attitude was promoted by a law-and-order administration. In contrast, increased beliefs that drug addiction was a disease rather than a crime led to campaigns for drug treatment rather than incarceration. More and more businesses, realizing that drug-abusing employees were costly in terms of absenteeism, lower productivity, and workplace accidents, had the incentive to provide drug treatment coverage to employees as part of their benefits. In the 1980s, the private sector aggressively promoted inpatient treatment programs and created an addiction treatment industry that grew rapidly.

But by the late 1980s, faced with rapidly increasing costs and rising demand for treatment of alcohol and drug abuse and dependency, employers that paid health care providers for treatment moved to contain costs by instituting managed care (Institute of Medicine [IOM], 1990). The outpatient treatment industry was no longer viable. Insurance providers required preutilization approval for access to services from health maintenance organizations (HMOs) and preferred provider organizations (PPOs). This approach is governed more by efficiency and costs than by considerations of therapeutic effectiveness. Managed care led to reduced access to inpatient care and increased reliance on less expensive outpatient services and briefer therapy (Steenrod, Brisson, McCarty, & Hodgkin, 2001).

Under the first President George Bush, the Anti-Drug Abuse Act of 1988 established the White House Office of National Drug Control Policy (ONDCP), which was charged with formulating policies, priorities, and objectives for national drug control. Its aim was to reduce illicit drug use, manufacturing, and trafficking; drug-related crime and violence; and drug-related health consequences.

Toward the end of the 20th century, the war on drugs faced new challenges. Pressures to decriminalize marijuana and to allow medical marijuana for terminally ill patients increased. Other drugs of abuse developed. Increased abuse of anabolic steroids received more attention as world-class athletes were discovered to be using them to increase muscle strength. A bill, H.R. 4658, the Anabolic Steroid Control Act of 1990, added these substances to Schedule III of the Controlled Substances Act. The growing problem of methamphetamine abuse, aided by the ease of clandestine home production using over-the-counter cough medicines, led to the Combat Methamphetamine Epidemic Act of 2005 as a subsection of the Patriot Act. It restricted the amount of ephedrine and pseudoephedrine one could purchase in a specified time period and required that these products be stored securely.

This brief overview of American drug policies shows how directions can shift back and forth over history depending on the political climate. History seems to have repeated itself, with the strong fears of cocaine triggering a broad antidrug atmosphere as they did during the early 1900s (Musto, 1987). The history of drug attitudes and policies from the early years of the nation to the present involves a struggle among three types of values: libertarian, medical, and criminal (IOM, 1990). During the colonial period, a laissez-faire individual-freedom approach seemed adequate. Government involvement with drugs was mainly to impose taxes. As industrialization developed and the nation grew more urbanized, however, the dangers of excessive drug use became recognized as a growing social problem, and medical approaches to treating drug problems developed. The third approach, criminalization, more prevalent in the 20th century, emphasized punishment of drug users and legal restriction of availability and consumption of drugs.

ORIGINS OF LICIT DRUGS

Depressants

Alcohol

Most civilizations throughout recorded history have used alcoholic beverages like beer and wine, derived from the fermentation of grains and grapes, respectively. They have been used in rituals and ceremonies as well as for healing purposes since ancient times. The ancient

Egyptians honored a god, Osiris, who cultivated the vine and created wine and beer. Hippocrates, the Greek father of medicine, is known to have recommended wine for its therapeutic properties. The Greeks paid homage to wine through Dionysus (known to the Romans as Bacchus), the god of wine, with celebrations and festivities. Fermented rice wines were known in the Far East as well as in ancient China and India.

In the 10th century, the Arabians developed the practice of distillation, a process by which the alcohol from fermented beverages is extracted by being boiled until it vaporizes. Then, the alcohol is recaptured after condensation to create more potent beverages with higher concentrations of alcohol.

All alcoholic beverages contain the same active ingredient, ethyl alcohol or **ethanol**. The percentage of ethanol in the total volume ranges from low levels of around 3%–4% in beer and 12%–14% in wines to higher levels of 45%–50% in distilled spirits such as liquor (Maisto, Galizio, & Conners, 1995).

Alcoholic beverages are consumed for many different reasons, including celebrations, social conviviality, coping with negative emotions, and feelings of intoxication. Sometimes alcohol is consumed to disinhibit or release suppressed feelings, and sometimes it is used to calm or reduce tension and anxiety. The effects can vary with the dose consumed, with low levels generally releasing inhibitions and higher levels often producing drowsiness, lack of concentration, and lack of coordination.

Today, alcohol, in its various beverage types, has annual sales of billions of dollars in the United States. After the end of Prohibition in 1933, the rate of alcohol consumption grew rapidly, although there has been a slight decline in the sale of distilled liquor in the past decade. Drinking is widely promoted and advertised. Although societal attitudes toward drunkenness have become more negative, drinking is generally accepted in our society.

Stimulants

Nicotine

Tobacco is America's homegrown drug. It had already been used for a long time by Native Americans when Columbus arrived in 1492. **Nicotine**, a potent but highly toxic central nervous system stimulant, comes from the dried tobacco plant, *Nicotiana tabacum*, which is native to North America (McKim, 2007).

About 8 mg of nicotine exists in a cigarette, but the amount delivered to the smoker ranges from 0.1 to 0.9 mg depending on specific brands. Cigarettes involve more than nicotine, containing over 2,500 different compounds, with cigarette smoke involving over 4,000 compounds. In addition, as there are no legal restrictions on additives to cigarettes, wide variations exist in what manufacturers add to their products, including sugar, preservatives, and taste improvers.

When first introduced to Europe, tobacco was used for various medicinal purposes. It later became a major source of revenue for the American colonies in trade with England, and tobacco use became widespread, so much so that King James I came to ban smoking. During the early 1700s, tobacco use continued in England but in the form of snuff. Users held a pinch of powdered tobacco near the nose for sniffing, usually until a sneeze was induced, a method that never was popular in the United States where smokeless or chewing tobacco developed as an alternative to smoking. As a stimulant, nicotine increases alertness and

concentration by activating the central nervous system, but it also can paradoxically facilitate relaxation on other occasions, as its effects are biphasic and reverse direction at higher doses.

By the mid-1800s, temperance organizations in America were already condemning the moral and health hazards of smoking as its addictive propensities were recognized. But the development in 1881 of a machine that could manufacture cigarettes rapidly and substantially increased the availability and use of cigarettes. Advertising and promotion, which even had doctors testifying to the relaxing benefits of smoking, aided its growth as a major industry. As in the case of alcohol, smoking survived these early attempts to restrict its use. It was not until the 1960s, with increased awareness and scientific evidence about the health risks of smoking, that growing regulation of many aspects of cigarette sales and use in public settings gained widespread popular support.

Caffeine

The methylxanthines include stimulants such as caffeine, typically consumed in coffee, tea, cocoa, and carbonated soft drinks (McKim, 2007). Beans of the coffee bush in Ethiopia date back more than a thousand years. Coffee was thought to have medicinal value, but it seems to increase alertness and energy. It became highly popular in England when coffeehouses proliferated there in the 1600s to such an extent that in 1674 some women published a petition against coffee in which they protested the waste of time and money by men for a "little base, black, thick, nasty bitter stinking, nauseous Puddle water . . ." (*The women's petition against coffee*, 1674, ¶ 6).

Although methylxanthines, which stimulate the central nervous system, are widely consumed, they are not commonly viewed as "drugs." An estimated 80%–90% of American adults consume caffeine in some form daily with a mean daily level of over 200 mg, and many children consume it in soft drinks. Large doses may cause insomnia, jitteriness, and tension. Discontinued use may be associated with headaches, fatigue, and lowered alertness.

Use of these beverages does not interfere with holding a job, produce intoxication, or cause automobile accidents. In fact, coffee is commonly regarded as a stimulant, one that may improve alertness, cognitive processes, and work productivity. Coffee drinking is also closely tied to social gatherings, meals, and work breaks. Perhaps there are no laws or penalties associated with its use because it does not produce the major social problems associated with alcohol. Unlike nicotine, health concerns about caffeine have not yet produced legislation restricting its use. The coffee industry has responded to concerns about insomnia, headaches, and stomachaches by successfully promoting decaffeinated alternatives for consumers.

ORIGINS OF ILLICIT DRUGS

Opioids

Opium

Opium comes from the resin of poppy flowers found in the Middle East. As a central nervous system depressant, opium sedates and dulls responsiveness. Pain is deadened, coughing is suppressed, mental alertness is reduced, and drowsiness is induced (McKim, 2007).

From early Egyptian and Greek accounts, opium was widely used for a variety of medical problems, primarily for its analgesic, or pain-killing, capacity. Islamic cultures utilized opium as well and spread its use to India and China where it began to be smoked, leading to widespread opium addiction. Eventually the Chinese government banned opium, but the British persisted in trading opium to the Chinese to pay for their tea, which was highly popular in Britain. Finally, the opium wars were waged between the two nations in the mid-1800s with the victorious British acquiring the rights to Hong Kong in 1842, which they held until 1997.

The British, however, did not avoid their own addiction problems with opium. Leading 19th-century English poets such as Elizabeth Barrett Browning and Samuel Taylor Coleridge who fell under its spell romanticized the drug by associating it with creative powers. The use of opium in England expanded after Thomas De Quincey published a literary account in 1821, *Confessions of an English Opium Eater*, in praise of the dreamlike states experienced from his drinking laudanum, a mixture of opium with alcohol (Hart, Ray, & Ksir, 2006).

Morphine

In Germany, the active ingredient in opium was identified in 1803 and named morphine. It is about 10 times as potent as opium itself. That fact, coupled with the development of the hypodermic needle in 1853, which allowed for faster delivery of the drug, made it a powerful medical resource. As an analgesic, it found immediate and widespread application during several major wars of the mid-19th century; during the American Civil War, for example, morphine addiction became known as the "army disease" because of the high rates of such addiction among wounded soldiers (McKim, 2007).

Heroin

A synthetic compound, **heroin**, was developed in 1874 in Germany based on morphine. Originally thought to be free from addictive propensities, it came to be recognized as a dangerous drug, with about three times the potency of morphine. Heroin users typically inject the drug directly into their veins with hypodermic needles to produce a stronger effect from the faster delivery of the drug to the brain (Beck & Bargman, 1993). On the street, it is typically found as a white or brown powder and commonly called "smack," "H," "skag," and "junk."

Methadone

Another synthetic drug, methadone, has properties similar to heroin but is less potent, slower acting, and available in tablet form for daily oral use. Due to these features, methadone has less potential for creating addiction or dependency (Hart et al., 2006). Methadone has been used since the 1970s to help heroin abusers deal with their withdrawal reactions when they try to stop using heroin. This method of using one drug to treat another drug is controversial but was widely used in England until abuses in the control of access to the drug became common in the 1960s.

Stimulants

Cocaine

Coca shrubs found in the Andes mountains of Peru are the source of **cocaine**, a potent stimulant extracted from their leaves. Cocaine use leads to short but immediate bursts of energy, strength, and pleasure (McKim, 2007). Its discovery dates back to before the Incas, who chewed its leaves during ceremonies and religious activities until their Spanish conquerors banned its use in the 1500s. It was not until the 1800s that the drug became widely used in Europe for its energizing and stimulating effects on well-being. Extraction of the active ingredient from the leaves provided a more potent form, one that could be sniffed or injected intravenously. Cocaine became widely used in patent medicines that could be obtained without prescription.

This alkaloid is made into a paste by being heated with hydrochloric acid to produce cocaine hydrochloride (Maisto et al., 1995). Cocaine is approximately only 80%–90% pure because of manufacturing impurities. Drug dealers often "cut" their supply by using cheaper substances such as talcum powder, amphetamines, and other fillers until street cocaine is less than 50% pure (Hart et al., 2006).

Cocaine can be snorted through the nasal passages, intravenously injected, or taken by mouth. It gradually loses its potency so that the frequency and dosage must be increased to maintain the pleasurable feelings. Higher doses can be directly inhaled by snorting cocaine powder through nasal passages, injecting it in veins, or smoking it to produce greater stimulation than is possible from the low levels obtained from chewing the leaves. However, high doses may also lead to paranoialike responses, irritability, and hallucinations.

By boiling cocaine in a mixture of strong alkali and explosive solvents, "pure" cocaine is "freed' from many of the impurities. Cocaine without its water-soluble component, or "base," is called freebase. Since it is not water soluble, freebase must be vaporized and inhaled to be absorbed by the body.

Crack Cocaine

Another form of cocaine, crack, developed in the mid-1980s, is more concentrated since the water base of cocaine hydrochloride is boiled out by being heated with a baking soda solution and does not require dangerous explosive solvents. The product is a crystal or rock, a more concentrated form of the drug that is more dangerous since it can be smoked, producing a stronger effect than cocaine powder, which is used intranasally (Maisto et al., 1995).

Amphetamines

About the same time that use of cocaine declined in the 1920s, another group of stimulants with similar effects, **amphetamines**, became popular. These synthetic drugs were developed for medicinal purposes such as the treatment of asthma and colds or the induction of weight loss through appetite suppression (McKim, 2007). Their chemical structure is similar to that of ephedrine, the active ingredient in an ancient Chinese herb, *ma huang,* which stimulates the sympathetic nervous system. From the 1930s through the early 1960s, amphetamines were routinely prescribed for treating a variety of clinical problems, including childhood hyperactivity, obesity, depression, and narcolepsy, a sleep disorder.

However, the recreational use of amphetamines soon increased, especially since homemade versions can be made illegally. Amphetamines, as drugs of abuse, were commonly referred to by colorful street names such as "speed," "uppers," "dexies," and "bennies." Amphetamines began to be used illegally for the heightened experiences they produce. Intravenous injection produces stronger effects than does taking them in capsule form, but this method increases the likelihood of dependence on the drugs (Maisto et al., 1995).

Methamphetamine

Before long, stronger variants of amphetamines were developed. Methamphetamine, or "meth," the most potent form, is readily available with or without a prescription, and its effectiveness lasts several times longer than that of amphetamines. Users smoke, swallow, snort, or inject the drug.

A stronger, smokeable form of methamphetamine comes in a crystal rock and is commonly called "crank," "crystal," or "ice" because of its resemblance. The effects of ice resemble those of cocaine but are longer lasting, with highs that last from 2 to 24 hours. Following use, a crash or depression may occur and can last as long as 3 days, during which erratic, violent behavior may occur (Hart et al., 2006).

Until the late 1980s, the illicit use and manufacture of methamphetamine was concentrated in California, but increased use has since occurred, especially in the Midwest (Anglin, Burke, Perrochet, Stamper, & Dawud-Noursi, 2000). Homemade methamphetamine is easily "cooked up" using pseudoephedrine or ephedrine, the active ingredients in over-the-counter cold medicines.

MDMA

A synthetic or "designer" drug receiving much publicity in recent years, MDMA (methylenedioxymethamphetamine) acts simultaneously as a stimulant and a hallucinogen. "**Ecstasy**," its glamorous street name, is derived from both methamphetamine and amphetamine. Also called the "love drug," it is often used during "raves," all-night underground dance parties with techno music that involve extensive drug use. Ecstasy stimulates the central nervous system so that users experience hallucinogenic effects such as time and perceptual distortion and enhanced energy. Using Ecstasy at raves increases the risk of exhaustion and dehydration, and there have been reported cases of fatalities from heat stroke.

Barbiturates

Barbiturates, a class of synthetic drug used to relieve anxiety and facilitate sleep, were developed in Germany in 1864. Introduced into the United States around the early 1900s for medical purposes, they come in many different types that vary in duration of action. Phenobarbital is a long-acting form, which might calm but not induce sleep, whereas a shorter-acting form such as secobarbital would bring about sleep (Maisto et al., 1995). Unfortunately, the faster-acting forms are capable of inducing euphoria and became widely abused street drugs during the 1950s. Clinical use involves the dangers of eventual rebound effects, including impaired sleep, as well as carries the potential for fatal overdoses (McKim, 2007).

Benzodiazepines

Synthetic antianxiety drugs called benzodiazepines became available in the 1960s and are much safer than barbiturates, which fell into medical disfavor. The best known examples, chlordiazepoxide (Librium®) promoted in 1960 and diazepam (Valium®) introduced in 1963, were widely prescribed. Librium®, with a long duration and slow onset, was relatively safe, but Valium®, with a more rapid onset, had greater risk of users developing dependence (Maisto et al., 1995).

One benzodiazepine, flunitrazepam, which started to receive much attention in the 1990s, is commonly called "roofies." Marketed as **Rohypnol®**, it is available only by prescription for the short-term treatment of insomnia, as a sedative hypnotic, and as a preanesthetic medication. It is not manufactured or approved for medical use in the United States but is smuggled into the country because of its low cost and growing popularity among young people. The drug is often taken with alcohol or after cocaine ingestion, possibly to reduce the discomfort experienced after coming down from highs produced by cocaine. The drug has received much notoriety and been dubbed the "date-rape drug" because of cases in which men have provided beverages secretly spiked with this colorless, odorless drug to women to render them incapable of resisting sexual advances. Victims may experience anterograde amnesia, a state in which they cannot remember experiences while under the effects of the drug. It may lead to reduced blood pressure, drowsiness, visual disturbances, dizziness, confusion, gastrointestinal disturbances, and urinary retention. Some users experience an increase in excitability or aggressive behavior, although the drug is classified as a depressant. The Drug-Induced Rape Prevention and Punishment Act of 1996 was enacted to combat this misuse.

In the 1990s, increased abuse of GHB (gamma hydroxybutyrate), a central nervous system depressant known on the street as "liquid Ecstasy," "easy lay," "vita-G," and "Georgia home boy," occurred mainly among body builders for fat reduction and muscle building.

Sedative-Hypnotics

Cannabis

Marijuana is extracted from the dried flowers and leaves of hemp, *Cannabis sativa,* a plant found in about 2800 BC in ancient China, where it was used for medicinal as well as recreational purposes. From China, it spread to many parts of the world, but it was not until the 19th century that marijuana was introduced to Europe (Maisto et al., 1995). The plant also provided hemp, which was important as a source of rope for sailing ships but is no longer a major need in modern ships. The American colonists used the plant for its fiber and also found medicinal applications, but there were no social problems associated with its use during colonial days. During the 1920s, it received a bad reputation because its use by immigrant Mexican laborers in the Southwest was perceived to be associated with violence and crime (Musto, 1987).

Marijuana, colloquially referred to as "grass," "weed," and "pot," is usually smoked in cigarettes ("joints") or in pipes. Users seek the drug for its relaxing and euphoric effects at low levels. Perceptions of time and space can be altered, as with hallucinogens, but high doses can produce hallucinations, panic, and anxiety. The primary active ingredient in

marijuana is delta-9-tetrahydrocannabinol (Δ-9 THC), one of 60 cannabinoids found in the plant. Hashish, a related and much stronger drug, is made from the resin of the hemp plant (Maisto et al., 1995).

Hallucinogens

There are many drugs classified as **hallucinogens**, even though it is not clear what constitutes a "hallucination," the altered experience associated with use of these drugs. The best known example is lysergic acid diethylamide, more commonly known as LSD-25. This synthetic drug became popular during the drug atmosphere and hippie lifestyle of the 1960s, especially due to the publicity created by its chief proponent, Timothy Leary, a Harvard University professor who championed its use as a means of self-discovery and attainment of personal insight and growth (McKim, 2007).

LSD-25 comes in different forms that can be swallowed, as sugar cubes, as capsules, or in blotters. A variety of reactions to psychedelic drugs such as LSD-25 can occur, ranging from aesthetic and mystical journeys to frightening and anxiety-producing "bad trips." LSD-25 is made from alkaloids extracted from the ergot molds found on grains. When breads made from infected grains were eaten during famines in medieval France, violent illnesses involving burning sensations, convulsions, and thought disturbances occurred that have been likened to the psychoactive effects of LSD-25.

Mescaline is another hallucinogen that produces effects similar to those of LSD-25. It is derived from the peyote cactus of the Southwest that the Aztecs used in ceremonies for centuries. Sacramental use of mescaline in rituals is legal in the Native American Church. Psilocybin, a hallucinogen less potent than LSD-25, is obtained from some species of North American mushrooms long regarded as sacred by Aztecs in Mexico and Central America.

A synthetic drug, phencyclidine, commonly called PCP, is of recent origin. It was developed as an anesthetic for medical purposes but became a street drug that was popular during the 1970s because of its ability to create trancelike states. PCP gained notoriety because it was often used to lace marijuana cigarettes given to unsuspecting smokers, which reputedly led them into violent and criminal behaviors.

Anabolic Steroids

The term *steroids* refers to a class of drugs (Hart et al., 2006) available legally only by prescription to treat conditions that occur when the body produces abnormally low amounts of testosterone, such as delayed puberty and some types of impotence. Steroids are also prescribed to treat body wasting in patients with AIDS and other diseases that result in loss of lean muscle mass (McKim, 2007).

For decades, competitive athletes and others have secretly used anabolic steroids to enhance physical performance and improve physical appearance. Much attention is directed toward this form of "cheating," but one survey on the Internet of male users found most were not athletes (Cohen, Collins, Darkes, & Gwartney, 2007) and that the primary motivations of steroid use are to increase skeletal muscle mass, strength, and physical attractiveness. Anabolic steroids, whether taken orally or injected, are typically used in cycles of weeks or months (referred to as "cycling") rather than continuously—that is,

abusers take multiple doses of steroids over a period, stop for a period, and resume. Anabolic steroid abuse, however, can lead to serious health problems, some irreversible.

SOME CENTRAL QUESTIONS

In view of the widespread and significant harmful potential impact of drugs, both licit and illicit, on human behavior, the study of the causes and effects of alcohol and drug consumption is an important undertaking. Following is a preview of some of the broad issues and questions about the psychology of alcohol and drugs that will be raised in the rest of this book.

Why Do People Use Alcohol and Other Drugs?

Theories about the psychology of alcohol and drug use—those held by laypersons as well as those formulated by researchers—are examined in Chapter 2. Use norms and values differ widely across subpopulations and fluctuate over time within a given society. These social norms and values associated with the use of different drugs will be examined first since they provide a general context in which individual motives operate.

Different moods and motives precede and accompany the use of psychoactive substances. For example, people who drink alcohol, smoke cigarettes, or take illicit drugs do so when they feel sad, depressed, or lonely. But they also drink, smoke, or "do drugs" when they feel happy, elated, and sociable. Psychoactive drugs are typically used in group settings, but they are also used when people are alone. Social pressure to conform to norms may lead some individuals to engage in drug use to avoid appearing "unsociable." Social factors such as family and parental drug attitudes and behavior influence an individual's drug use. After gaining experience using a drug, some may continue to use while others may decide to stop using for many different reasons. Personality is a factor in whether or not an individual takes drugs, as well as their effects. Following the use of alcohol and other drugs, some people become aggressive and hostile, others show avoidance or detachment, and still others seem more relaxed and friendly.

Some drugs are illegal in a given society, although the status of a specific drug may change over time. Most people will avoid the use of drugs when they are illegal mainly because they are afraid of punishment such as fines and imprisonment. Others may avoid them because they fear their addictive reputation. Yet for others the illegal status or addictive properties of drugs may enhance their attraction. Being illegal, they are often expensive and also difficult to obtain readily. Despite these barriers, some may use drugs such as morphine or heroin to relieve pain. Other illicit drugs such as cocaine and amphetamines may be used to produce heightened sensations and stimulation.

How Is Alcohol and Other Drug Use Defined and Measured?

Before we can answer many questions about alcohol and other drug use, we must reach some agreement on the units of measurement in describing use. Chapter 3 deals with the conceptual and methodological issues involved in defining and measuring substance use. How is *use* distinguished from *abuse* or from *dependence?* What criteria distinguish abuse from dependence?

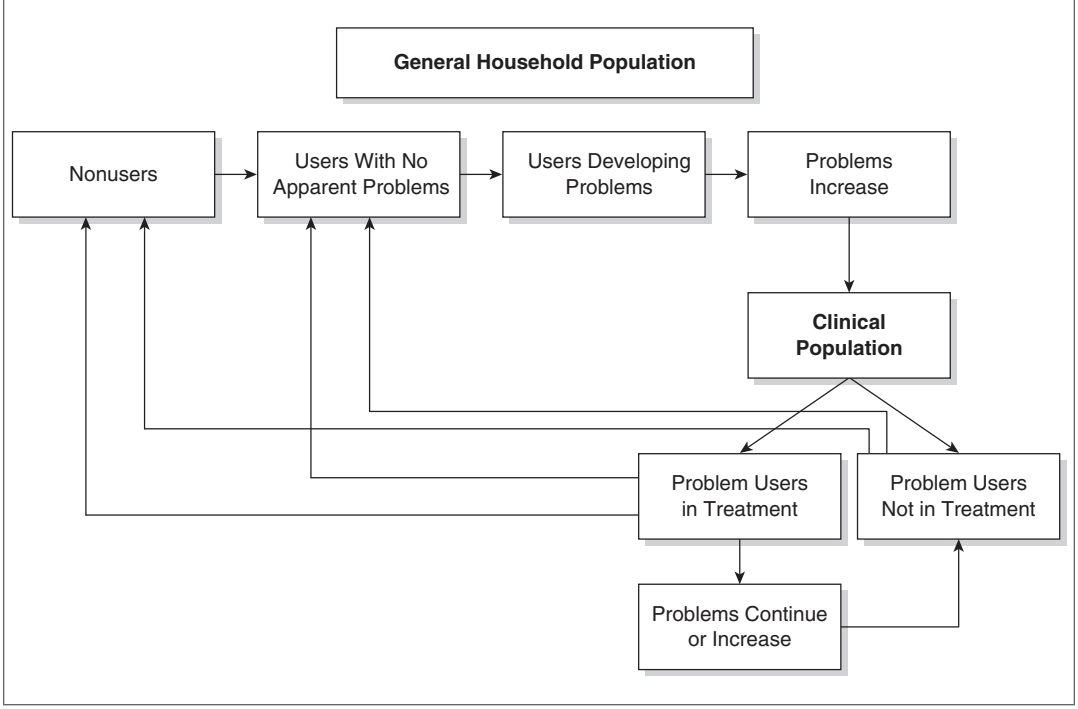
How Many Alcohol and Other Drug Users Are There?

Chapter 4 focuses on survey findings from general household populations that can identify nonusers and users, as shown in Figure 1.1. These surveys determine the relationship of demographic characteristics to the amounts and frequencies of use of different types of drugs for specific lengths of time.

Figure 1.1 also shows that, among users, a sizable minority has developed or will eventually develop major difficulties associated with use that often lead to adverse consequences, including loss of friends, family, jobs, and self-respect. These users may become dependent on these substances and possibly move on to more dangerous drugs.

Among those with such problems, some will become part of a clinical population (see Figure 1.1). They will seek—or be required to accept—some type of substance abuse treatment. In later chapters, we will see that this clinical population differs in many characteristics from the general population, and it is important not to assume that generalizations based on one population necessarily apply to the other. Additionally, there are those who might benefit from treatment but who do not seek or find it. The closing part of Chapter 4 presents evidence on the rates of substance-related abuse and dependency and associated problems.

FIGURE 1.1 Two different populations: General versus clinical populations of alcohol and other drug users.



How Do Alcohol and Other Drugs Affect the Body?

A basic understanding of the psychopharmacology and neurobiology of drugs is presented in Chapter 5. Alcohol and other drugs, to have any effect, must reach the brain centers that control our behavior. Depending on how they enter the body, many factors, including characteristics of the drug and of the user, affect the speed with which they circulate through the body and reach the brain and the rate and means by which they are removed from the body.

Alcohol and drugs affect neurophysiological processes that are the underlying basis of our affective feelings, moods, and emotions as well as our cognitive and motivational processes. Information about these processes is essential for the study of how drugs achieve their effects and helps explain why drugs are used.

What Is the Relative Role of Heredity and Environment?

Considerable debate occurs over the roles of heredity and environment in the development of alcohol and drug use. Chapter 6 examines evidence on the relative influence of genetic and environmental factors as well as their joint or interactive effects on drug use and consequences. Findings from this research have implications for developing strategies that may hold the best chances for successful intervention, treatment, and prevention of alcohol and drug problems.

What Are Major Psychological Effects of Alcohol and Other Drugs?

The next three chapters look at how alcohol and other drugs affect basic psychological processes such as mood, cognition, emotion, motivation, and sensory motor skills (Chapter 7); aggression, violence, and sexual behavior (Chapter 8); and family processes and social interaction (Chapter 9). These effects can also be viewed as determinants of subsequent drug use, acting to either sustain, increase, or reduce it.

What Individual Differences Exist in Alcohol and Other Drug Use?

The next three chapters examine theories about factors responsible for the relationship of important individual differences to alcohol and other drug use patterns as described in Chapter 4, specifically age (Chapter 10), gender (Chapter 11), and race/ethnic background (Chapter 12).

How Can Alcohol and Other Drug Use Disorders Be Treated?

Abuse of many drugs is a major threat to well-being, creating serious physical and mental health problems. Chapters 13–15 deal with recovery and treatment methods and issues. How effectively can individuals stop drinking, smoking, or using drugs on their own? How successful are mutual help groups such as AA in promoting recovery? How effective are different professional treatment methods for dealing with alcohol and drug dependence? Why do relapses occur in many cases, and how can they be prevented?

How Can Alcohol and Other Drug Use Disorders and Related Problems Be Prevented?

Chapter 16 describes psychological approaches to the primary prevention of alcohol and other drug abuse. What types of social policy and control of drug availability and consumption are effective in ameliorating the harmful effects of drugs in our society? How effective are education, taxation, and legislation in controlling drug use to acceptable levels and preventing and reducing harmful consequences?

For each of these broad questions and issues, there have been numerous approaches, theories, and explanations involving physiological, psychological, and sociological factors. In all likelihood, multiple factors act concurrently, sometimes with counteracting influences, to produce the observed differences in drug use behavior, its consequences, and the degree of success in treatment, recovery, and prevention. Theories that focus on single causes will probably not prove as successful as explanations that consider the interplay of multiple determinants ranging from the physiological to the psychological to the sociological.

Summary

Throughout history, humans have used a variety of psychoactive drugs, including depressants, opiates, stimulants, and hallucinogens. In this chapter, a review of the nature and origins of major psychoactive drugs was presented, with emphasis on the history of use in the United States. Political factors, economic conditions, religious movements, social activism, social policy, drug legislation, and urbanization have all influenced the extent and conditions of both licit and illicit drug use.

Alcohol is the drug most widely used by most American adults and in many cases may lead eventually to illicit drugs. We will use research, concepts, and theories developed from the study of alcohol use as a basis for comparison when examining conceptions and evidence about less frequently studied drugs. Use of this strategy is not to deny the seriousness of involvement with use of other drugs, especially those that are illegal. Many who drink alcohol without any reservations would never think of experimenting with illegal drugs. Use of alcohol is generally tolerated by all but the most moralistic members of society. Understanding the psychological causes, correlates, and effects of alcohol use may contribute to the study and analysis of illicit drug use.

Major questions about alcohol and other drugs for research investigation include the following: Who uses alcohol and other drugs, and in what patterns? What are the effects of these drugs on the body, behavior, and psychological processes? What motivates the use of alcohol and other drugs? What is the relative role of heredity and environment on drug use and its consequences? How do individual differences affect use? Which users develop use-related problems, and how can individuals afflicted with drug abuse, dependency, and use-related problems be treated? How can these problems be prevented in future generations?

Stimulus/Response

1. It is instructive to compare the history of social policies that regulate the use of alcohol and various drugs in the United States with those of other societies to get a broader perspective. For example, examine the history of drug policy on heroin in the United Kingdom versus in the United States. Or compare the drug policies on marijuana in the Netherlands with those in the United States. Based on your own views of human behavior, which drug policies in different countries do you think would be most effective or ineffective? Explain your rationale. Do you think adoption of policies from one country would work the same way in another country? Why or why not?

2. Attempts to prohibit alcohol in the United States as well as in many other countries have generally failed. What do you think are major reasons for this lack of success? What alternative approaches to reducing the problems of alcohol can you suggest that might be better accepted?

3. The U.S. social cost of alcohol abuse in 2000 was nearly $160 billion, according to a 1992 report from a federal agency (Office of National Drug Control Policy, 2001). How do you think this determination of the economic costs of alcohol abuse to society is calculated? What categories of outcomes do you think should be considered a "cost to society"? What problems do you see with the criteria used to define the costs of drugs to society? Do you think alcohol and drugs have any psychological benefits to society? What do you think are some of the economics benefits of alcohol and drug use to society? How would one quantify the benefits of alcohol and drug use?

4. Most alcohol and other drug research examines only the negative effects and consequences of their use. Do you feel this imbalance reflects the reality that the negatives exceed the positives, or do you think it reflects a bias of researchers? If you think there is this bias, what reasons can you offer to explain its existence?

5. Many assume that licit drugs are less harmful than illicit drugs to most individuals. However, because there are so many more users of licit than illicit drugs, the aggregate harm in the nation as a whole is much higher from the use of licit drugs. Do you think society should spend more effort on preventing and treating problems stemming from alcohol and cigarette addiction or in preventing the use of illicit drugs?