CHAPTER ONE

DRUG CONTROVERSIES AND DEMONIZATION

Drugs appeal to us because they deliver a variety of moods and states not immediately available from our surrounding realities. These may take in complete relaxation, ecstatic happiness, the negation of suffering, radically transformed perceptions, or just a sense of being alert and full of potential energy. (Walton, 2002)

Drug use is ubiquitous in American society and throughout the world. The US Substance Abuse and Mental Health Services Administration's (SAMHSA) National Survey on Drug Use and Health estimated that in 2017 (the most recent year for which data are available), 30.5 million Americans aged 12 years or older, or 11.2% of the population in that age group, used an illegal drug during the month prior to the survey (SAMHSA, 2018c). The same survey indicated that 140.6 million people aged 12 years or older were current (past month) users of alcohol, while 48.7 million were current cigarette smokers. The use of prescription drugs is also widespread—in 2016, an estimated 55% of the US population took at least one prescription medicine, and those who use a prescription drug take an average of four (Preidt, 2017). In 2016, more than 4.5 billion prescriptions were filled at retail pharmacies in the United States (this figure does not include mail, Internet, and other types of prescription purchases) (Preidt, 2017), and spending on medicines reached $450 billion in the same year (IQVIA, 2017).

The widespread use of drugs, both legal and illegal, is by no means restricted to the United States. The United Nations Office on Drugs and Crime (UNODC, 2018) estimates that approximately 275 million people (roughly 5.6% of the world's population aged 15–64 years) used illegal drugs at least once in 2016, and the retail value of the world trade in illicit drugs is estimated to be between $426 billion and $652 billion (US dollars) (Tharoor, 2017). Globally, an estimated 192 million people used cannabis in 2016, 34 million used amphetamines/prescription stimulants, 34 million used opioids, 18 million used cocaine, and more than 8 million injected drugs (UNODC, 2018). Data such as these have led some commentators on drug use to assert that intoxication is not unnatural or deviant; instead, absolute sobriety is not a natural or primary human state. As Andrew Weil (1986) suggests, "The ubiquity of drug use is so striking that it must represent a basic human appetite" (p. 17).

Elephants, like many of us, enjoy a good malted beverage when they can get it. At least twice in the past ten years, herds in India have stumbled upon barrels of rice beer, drained them with their trunks, and gone on drunken rampages.... Howler monkeys, too, have a taste for things fermented. In Panama, they've been seen consuming overripe palm fruit at the rate of ten stiff drinks in twenty minutes. Even flies have a nose for alcohol. They home in on its scent to lay their eggs in ripening fruit, ensuring their larvae a pleasant buzz. Fruitfly brains, much like ours, are wired for inebriation (Bilger, 2009).

While drugs—both those that are currently illegal in the United States and those that are legal—provide a number of benefits to those who use them, all drugs are also associated with certain harms. For example, globally, it is estimated that nearly 6 million deaths per year, including more than 480,000 in the United States, are related to tobacco (Centers for Disease Control, 2017), that 88,000 people die from alcohol-related causes annually in the United States (National Institute on Alcoholism and Alcohol Abuse, 2017), and in 2017, there were more than 17,000 deaths related to prescription opioids (National Institute on Drug Abuse, 2019). It is important to note that all of the drugs mentioned above are currently legal in the United States, and although as we discuss below, there have been recent increases, the number of deaths related to currently illegal drugs in the United States pales in comparison to the deaths associated with legal drugs. If we consider deaths associated with drugs to be at least one acceptable measure of their harmfulness, we may question why alcohol, tobacco, and many pharmaceutical drugs are legal substances, while drugs such as cocaine, **ecstasy**, heroin, **methamphetamine**, and marijuana (which has never been shown to cause an overdose death, although as of this writing, it is illegal in 39 US states and the overwhelming majority of countries in the world) are currently illegal.

We may also question why the most noteworthy response to the alleged *illegal* drug problem in the United States has been the incarceration of massive numbers of people. While the 28 countries of the European Union (with a collective population of about 200 million more than the United States) incarcerated a total of 574,469 people in 2015, in the United States, approximately 435,000 people were incarcerated for the commission of drug offenses alone (Wagner & Sawyer, 2018).

These paradoxes require us to consider the distinction between legal and illegal drugs, and, more directly, to examine how certain drugs have been demonized in order to justify their illegal status.

DEMONIZING (ILLEGAL) DRUGS: THE SOCIAL CONSTRUCTION OF DRUG "EPIDEMICS"

The data presented above indicate that the use of **psychoactive substances**—both legal and illegal—is widespread throughout the United States and the rest of the world. It appears that people need to ingest an increasingly diverse array of substances in order to alter their consciousness. But this need for psychoactive substances extends to other constituencies, including government and criminal justice system officials and the popular media. As O'Grady (2010) notes, "The drug warrior industry, which includes both the private sector and a massive government bureaucracy devoted to 'enforcement' has an enormous economic incentive to keep the war raging." Government officials need drugs in order to create heroes and villains and, in many cases, to divert attention from policies that have led to drug use in the first place. Criminal justice system officials need psychoactive substances in order to justify increases in financial and other resources devoted to their organizations, and the popular media need drugs in order to create moral panics and sell newspapers and advertising time.

As a result of these needs, throughout the 20th century and into the 21st century, government and criminal justice system officials in the United States, frequently assisted by the popular media, have engaged in a concerted campaign to demonize *certain* drugs in order to justify their prohibition. A number of tactics have been used in this endeavor. One strategy used in emphasizing the dangers of

(illegal) drugs is to claim, often without any sound empirical data, that the use of these substances is responsible for a significant proportion of the crime that occurs in society. For example, when President Nixon was attempting to justify his administration's war on drugs in the early 1970s, which he referred to as the United States' "second civil war," he claimed that heroin users were responsible for $2 billion in property crime annually. This was a rather strange calculation, given that the total amount of property crime in 1971 amounted to only $1.3 billion (Davenport-Hines, 2001).

A second frequently used strategy is to attribute unique powers to (illegal) drugs that allegedly induce users to commit bizarre acts (including sexually deviant acts) while under their influence. Sullum (2003a) refers to this tendency as "voodoo pharmacology"—the idea that (illegal) drugs are incredibly powerful substances that can take control of people's behavior, turning them into "chemical zombies." Zimring and Hawkins (1992) emphasize a similar theme in their discussion of the metaphysical notion of the unique psychoactive drug that leads to a situation whereby each new substance identified as being problematic is viewed as chemically, physiologically, and psychologically both novel and unique.

Government officials, the media, and other authorities have found that drug addiction, abuse, and even use can be blamed by almost anyone for long-standing problems and the worsening of almost anything. Theft, robbery, rape, malingering, fraud, corruption, physical violence, shoplifting, juvenile delinquency, sloth, sloppiness, sexual promiscuity, low productivity, and all-around irresponsibility—nearly any social problem can be said to be made worse by drugs (Levine, 2001).

The news media can always be relied upon to come up with somebody who had a six-day session on the stuff and ended up by killing and eating the neighbor's dog, later claiming that they remember nothing of what had happened, and another devastating crime wave. The last arises because each new substance has to be described as being more rapaciously, instantaneously addictive than anything else previously heard of (Walton, 2002, p. 171).

Illegal drugs have also been demonized over the past 100 years by claims that they are consumed primarily by members of underrepresented groups and that the substances are distributed primarily by evil foreign traffickers. As Musto (1999) suggests, "The projection of blame on foreign nations for domestic evils harmonized with the ascription of drug use to ethnic minorities. Both the external cause and the internal locus could be dismissed as un-American" (p. 298). A definitive example of the attribution of drug problems to foreigners appeared in the US Drug Enforcement Administration's (2018b) *National Drug Threat Assessment*:

> *Mexico remains the primary source of heroin available in the United States . . . Illicit fentanyl and other synthetic opioids, primarily from China and Mexico, are now the most lethal category of opioids used in the United States . . . Cocaine availability and use in the United States have rebounded in large part due to the significant increases in cocaine cultivation and production in Colombia . . . Methamphetamine remains prevalent and widely available, and most of the methamphetamine available in the US is being produced in Mexico . . . China remains the primary source for synthetic cannabinoids and synthetic cathinones that are trafficked into the United States.*

As we discuss in more detail in Chapter 11, President Trump has also blamed the United States' opioid crisis on Mexico and falsely claimed that the majority of drugs entering the United States come through unprotected ports of entry on the southern border (Rosenberg, 2019a). Trump has marshaled these claims to fulfill one of his major campaign promises—to build a wall on the southern border.

Government and criminal justice system officials and media sources have also demonized drugs through assertions that their use results in death and references to the threat they supposedly pose to children. Finally, government, criminal justice system officials, and media sources have demonized drugs through the misrepresentation, distortion, or, in some cases, suppression of scientific studies on the effects of these drugs.

In order to preface our discussion in later chapters on the effects of and policies to deal with both legal and illegal drugs, this chapter addresses the demonization of drugs and the social construction of drug epidemics in the United States over the last 100 years. It is important to state at the outset that in critically examining these issues, we are not suggesting that drug "epidemics" are constructed without any foundation whatsoever; obviously, at least some use of the substance in question has to occur in order for a particular drug to be a candidate for "epidemic" status. But in this context, it is important to consider the meaning of the term *epidemic*. In the 1300s, the bubonic plague claimed the lives of 25 million people, one-third of the world's population ("Past Pandemics," 2005); the Irish famine of 1846–1850 resulted in the death of as many as 1 million people out of a population of 8 million (Bloy, n.d.); in 1918–1919, a strain of H1N1 flu killed almost 100 million people—5% of the world's population (Yong, 2018); and since the beginning of the HIV/AIDS epidemic in the 1980s, approximately 35 million people have died of the disease, and an estimated 36.7 million people worldwide were HIV-positive as of 2016 (World Health Organization, 2018a). Most of us could agree that these are examples of epidemics. However, to use the term *epidemic* in the context of statistics that 1.6% of Americans report ever using heroin in their lifetime, 2.8% report ever using **crack cocaine**, 6.0% report ever using ecstasy, and 4.7% report ever using methamphetamine (Statista, 2018) is alarmist and misleading. This is not simply a matter of semantics, but rather it points to the misapplication of scientific terminology, which, in the context of drug use and with respect to its implications for policies, is inappropriate.

In addressing the demonization of drugs and the social construction of drug epidemics in this chapter, we are also not suggesting that the substances in question are harmless—as will be discussed in Chapters 3 and 4, no drugs are. However, as will be seen, government and media accounts have created myths about certain substances through the exaggeration of harms associated with them; it is necessary to deconstruct these myths.

We will provide several examples of the social construction of drug epidemics, focusing on different substances over different historical periods, including crack cocaine in the 1980s, ecstasy in the 1990s to 2000s, methamphetamine in the 1990s to 2000s, as well as "Spice/K2" and "**bath salts/**bath salts/flakka" in the 2000s to 2010s. We devote considerably more attention to marijuana, which, despite its legalization in several states, continues to dominate the United States' drug war in terms of number of arrests and larger criminal justice system activity. We conclude the chapter with a discussion of the current opioid epidemic in the United States, which, in contrast to the other examples covered, truly does qualify as an epidemic—this epidemic constitutes a prime example of the maxim "If you go back far enough, nearly every illicit drug market can trace its roots to the pharmaceutical

industry" (Frydl, 2017). In order to set the stage for the discussion of constructed drug epidemics, we begin with a discussion of the "glue-sniffing epidemic" that emerged in the United States in the late 1950s and early 1960s. The principles outlined by Brecher (1972) in his discussion of this particular epidemic are strikingly similar to those that have been applied in constructing drug epidemics in both earlier and later time periods and also for other substances.

GLUE-SNIFFING

Glue-sniffing, while likely engaged in (perhaps inadvertently) by a significant proportion of young people, was virtually unheard of in the United States before 1959. The media first mentioned this issue in that year after children were arrested in Tucson, Arizona, and Pueblo, Colorado, for glue-sniffing (Brecher, 1972). The phenomenon then apparently surfaced in Denver, where a juvenile court judge said he viewed glue-sniffing as "the number one problem in the metropolitan area" (p. 324). At least partially as a result of considerable media attention to the practice, 130 youth were arrested for glue-sniffing in Denver over a 2-year period, and in October 1961, the *New York Times* published an article describing a similar problem with glue-sniffing in New York City. Within 5 months, police in New York had arrested 778 individuals for glue-sniffing.

Similar to the pattern we will see for other substances addressed in this chapter, media sources began to recount bizarre acts and behaviors that were allegedly caused by glue inhalation. In a 1962 *Newsweek* article, for example, it was noted that "a 12-year-old boy, discovered sniffing airplane glue by his father, snatched up a knife and threatened to kill him." The same article quoted a Miami police officer who asserted, "It's common for boys who sniff glue to become belligerent. They are willing to take on policemen twice their size" (as cited in Brecher, 1972, p. 329). Federal government officials also began to weigh in on the problem, emphasizing another consistent theme used to demonize drugs: the idea that glue-sniffing led to involvement in sexual (and homosexual) activities (see box).

Brecher (1972) further notes that an additional strategy in constructing the glue-sniffing epidemic was to report on deaths allegedly caused by the activity; a number of popular magazines and newspapers contained reports that nine deaths had been caused by glue-sniffing. However, when these deaths were subject to further investigation, it turned out that at least six (and possibly seven) of them were the result of asphyxiation caused by the glue-sniffer's head being covered by an airtight plastic bag. Another of the deaths attributed to glue-sniffing involved a young person who was suffering from other ailments and had sniffed gasoline fumes, but not glue. Attributing the ninth death to glue-sniffing was also problematic because the individual in question had not even been sniffing glue before his death.

An FBI Bulletin (1965) on the topic of glue-sniffing noted, "Glue-sniffers have described how a number of children, boys and girls, meet in unoccupied houses where they will sniff glue together and later have sexual relations, both homosexual and heterosexual.... Recently, while conversing with deputy probation officers, I have been informed that several episodes of homosexual relations have occurred between adults and children under the influence of glue. Some of these sexual perverts are encouraging the children to sniff glue with the intentions of having homosexual relations with them" (as cited in Brecher, 1972, p. 330).

Brecher (1972) concludes that this glue-sniffing "epidemic" was constructed by the media and government, and that the distortions with respect to the dangers associated with glue-sniffing may have inadvertently contributed to an increase in drug use among youth.

> *It seems highly likely, in retrospect, that the exaggerated warnings against glue sniffing were among the factors desensitizing some young people to drug warnings in general. Most teenagers knew of others in their own neighborhoods who had sniffed glue repeatedly, and who did not drop dead or go to the hospital with brain damage, kidney damage, or liver damage. (p. 332)*

A related "epidemic" associated with the use of solvents emerged in 2001. Referring to alleged increases in the use of solvents by young people, Dr. Jo Ellen Dyer of the California Poison Control System commented, "I would say we're at epidemic proportions. This is the new major drug of abuse out there" (as quoted in Pena, 2001). Evidence for this particular epidemic was that there were six deaths nationwide associated with solvent use over a one-and-a-half-year period.

MARIJUANA

As discussed above, one of the prominent strategies used to justify prohibition of a particular substance is to emphasize a wide range of negative effects associated with its use. Although most would agree that marijuana is the most benign of drugs that are currently illegal in most states and countries, an examination of the history of its portrayal by government officials and in media sources reveals a number of recurrent themes that served to demonize the substance and rationalize its prohibition. At various points in history, marijuana has been portrayed as a substance that is primarily used by members of underrepresented groups, as a substance that causes violence and "aberrant" sexual behaviors, as a substance that causes **amotivational syndrome**, and as a substance that is a "gateway" to the use of harder drugs.

The Portrayal of Marijuana: 1800s to 1960

Marijuana has a long, rich, and fascinating history, both in the United States and globally. Hemp was used for shipbuilding around 470 BC, and the cannabis plant was cultivated for its psychoactive properties throughout Asia and the Far East as early as the 1st century BC (Davenport-Hines, 2001). Although the exact date when the substance was introduced to Western Europe is not known, an archeological investigation at two Bronze Age (roughly 6,000–2,500 BC) sites uncovered the remains of marijuana seeds and pipes that were apparently made specifically for smoking the substance (Walton, 2002). In Britain, a law passed in the 1500s required that farmers set aside part of their land for the cultivation of hemp (Walton, 2002)—the Pilgrims brought cannabis with them to New England in 1632, and in 1639, to meet the need for hemp in England, colonists in Virginia were required by law to cultivate and harvest a certain number of cannabis plants each year; those who did not comply with the law could be subject to imprisonment (Ventura, 2016). Hemp farming and processing of the plant played a significant role in American history—it is well known that President George Washington grew hemp for seed and fiber, as did Thomas Jefferson (Lee, 2012). There is also some evidence to suggest that President Washington personally consumed hemp preparations for medical purposes. Belville (2014) notes that other early US presidents who are believed to have consumed cannabis for

medicinal and/or recreational purposes include James Madison, James Monroe, Andrew Jackson, Zachary Taylor, and Franklin Pierce.

Medicinal use of cannabis in the 1800s also occurred in other countries—Queen Victoria used it for relief from menstrual cramps, and discussions of the substance began to appear in the scientific and medical literature in the 1800s. By the end of the century, more than 100 articles on hemp/cannabis had been published, with many of the commentators offering important insights regarding its benefits and effects (Mosher & Akins, 2019).

Early reports on the effects of marijuana indicated that it was a relatively benign substance, especially when compared with alcohol. For example, the 1893 Indian Hemp Drugs Commission, which had been appointed by the British government to examine cannabis use in India, concluded, "On the whole, the weight of the evidence is to the effect that the moderate use of hemp drugs produces no injurious effects on the mind. . . . The temptation to excess is not as great as with alcohol" (Indian Hemp Drugs Commission, 1893, pp. 264, 286).

Similarly, in an article published in the *Journal of Mental Science*, Walsh (1894) wrote,

> *It would seem that the moderate use of hemp drugs may be beneficial under certain conditions; at any rate such moderate use cannot be harmful. . . . [T]here is not, in my opinion, any specific property in hemp drugs which incites to violence or crime. (p. 27)*

An editorial in the same journal noted, "Apparently it is much less liable than alcohol to induce men to commit violent actions" ("Editorial," 1894, p. 107).

Despite a lack of scientific evidence identifying any significant deleterious effects of marijuana, when the US federal government decided to create marijuana legislation in the 1930s, the Federal Bureau of Narcotics (FBN) initiated a vigorous antimarijuana propaganda campaign. The Bureau and its director, Harry Anslinger, provided media sources with "information" on the effects of marijuana that was widely reported and served to demonize the substance. Mosher's (1985) content analysis of articles addressing the topic of marijuana published in popular magazines and newspapers identified a number of themes that were emphasized in order to justify legislation banning marijuana. From 1900 to 1934 (just prior to the passage of the Marijuana Tax Act in 1937), most articles on the topic asserted that the primary users of marijuana were members of underrepresented groups—in particular, Mexicans. For example, one commentator from Sacramento, California, noted, "Marijuana, perhaps now the most insidious of narcotics, is a direct by-product of Mexican immigration. . . . Mexican peddlers have been caught distributing sample marijuana cigarettes to schoolchildren" (as cited in Musto, 1999, p. 220). The purported effects of the drug ranged from "temporary elation" ("Facts and Fancies," 1936, p. 7) to "the most violent of all sexual stimulants . . . reason dethroning and causing its users to enter into criminal life" (Simon, 1921, p. 14).

An article published in the *St. Louis Dispatch* in 1934, titled "Drug Menace at the University of Kansas—How a Number of Students Became Addicts of the Strangely Intoxicating Weed," noted,

> *The physical attack upon the body is rapid and devastating. In the initial stages the skin turns a peculiar yellow color, the lips become discolored, dried, and cracked. Soon the mouth is affected, the gums are inflamed and softened. Then the teeth are loosened and eventually, if the habit is persisted in, they fall out. Like all other drugs, marijuana also has a serious effect on the moral character of the individual, destroying his will power and reducing his stamina. (as cited in J. Gray, 2001, p. 24)*

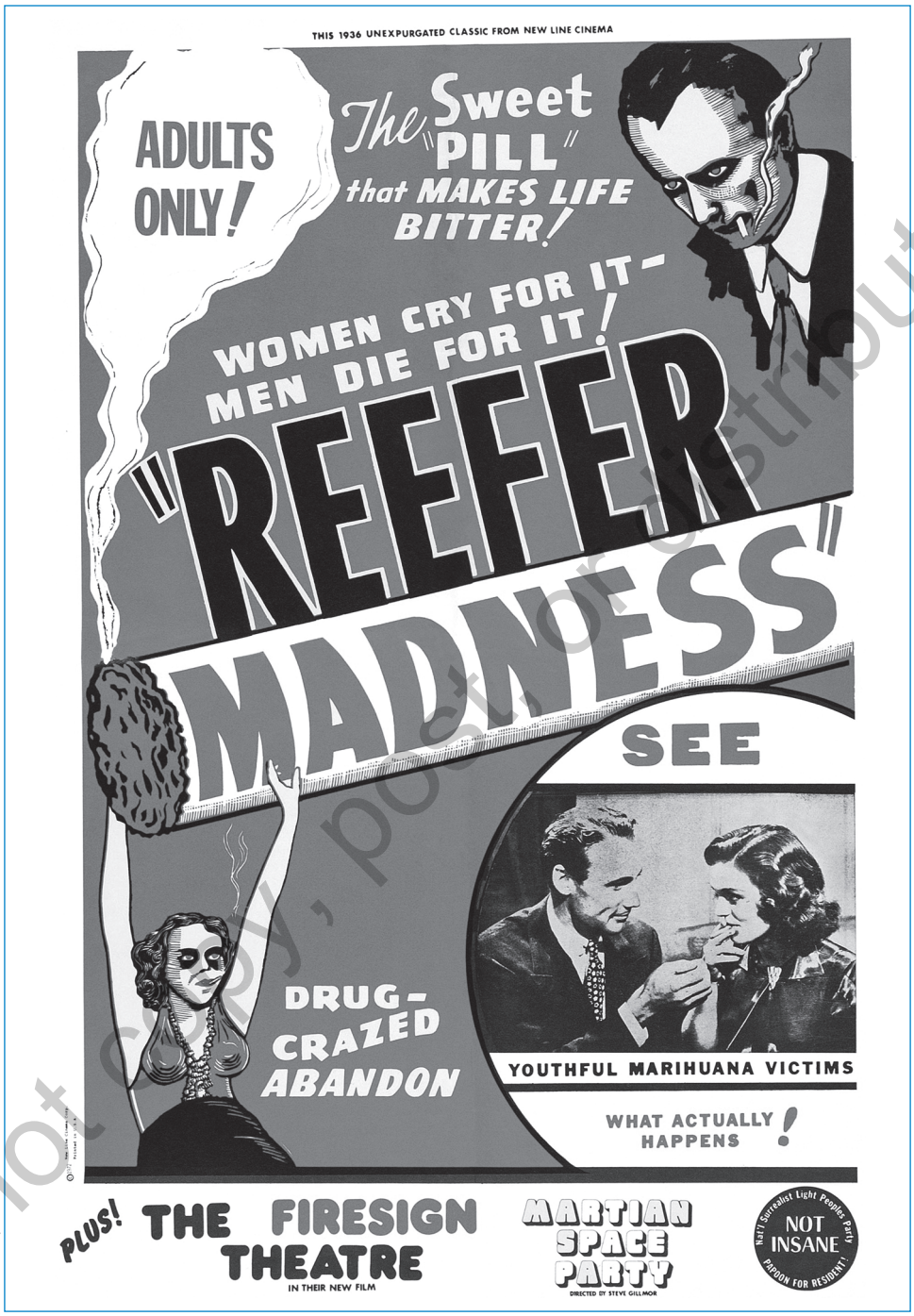
Between 1935 and 1939, a number of articles suggested that cannabis posed a specific threat to young people; for example, a *Scientific American* article referred to the substance as the "assassin of youth" ("Marijuana Menaces," 1936, p. 150). Other articles emphasized that the use of marijuana led to violent crime, sexual immorality, and a variety of adverse psychological effects. For example, an article appearing in the popular magazine *Survey Graphic* reported, "Victor Lacata, while under the influence of marijuana, murdered his mother, father, sister, and two brothers with an axe." The same article recounted the case of "Lewis Harris, 26, arrested for the rape of a nine-year-old girl while under the influence of marijuana" ("Danger," 1938, p. 221). At a meeting of the American Psychiatric Association in 1934, Dr. Walter Bromberg similarly emphasized marijuana's effect on involvement in sexual activity, albeit with a different focus: Marijuana "releases inhibitions and restraints imposed by society and allows individuals to act out their drives openly [and] acts as a sexual stimulant [particularly to] overt homosexuals" (as quoted in Musto, 1999, p. 220). With respect to the adverse psychological effects allegedly associated with marijuana, an article in *Scientific American* listed, among others, "the weakening of power to direct thoughts, emotional disturbances" and "irresistible impulses which may result in suicide" ("Marijuana More Dangerous," 1938, p. 293).

In addition to antimarijuana propaganda appearing in popular magazines and newspapers, there were a number of movies produced in the 1930s and 1940s that further served to demonize the substance. *Reefer Madness* (originally titled *Tell Your Children*, 1935), produced largely in collaboration with the FBN, was the best known of these movies. The film depicted marijuana as a "demon weed" that was capable of altering the personalities of young people who, after smoking the drug, went insane, immersed themselves in "evil" jazz music, and committed suicide or went on murder sprees (Talvi, 2003b). Perhaps less well known are other anti-marijuana films produced in this era, including *Weed With Roots in Hell* (1936), *The Devil's Harvest* (1942), and *She Shoulda Said No* (*Wild Weed*) (1948) (Schlosser, 2003).

In the 1940s, research conducted under the auspices of New York Mayor LaGuardia's Commission refuted some of the earlier reports of marijuana's allegedly negative effects. Allentuck and Bowman (1942) studied 77 marijuana users and concluded, "While exerting no permanent deleterious effects, marijuana gives rise to pleasurable sensations, calmness, and relaxation and increases the appetite" (p. 249). These authors also suggested that the substance had valuable therapeutic applications.

In response to this and another 1942 publication on the topic of marijuana that had stated "unqualifiedly that the use of marijuana does not lead to physical, mental, or moral degeneration and that no permanent deleterious effects from its continuous use were observed" (as cited in Davenport-Hines, 2001, p. 278), the head of the FBN, Harry Anslinger (1943), wrote an editorial in the *Journal of the American Medical Association* stating that "unsavory persons" who were engaged in the marijuana trade would "make use of the statement in pushing their dangerous traffic" (p. 212). The editorial also stated that a boy had read an account of the LaGuardia Commission report and that this had led him to initiate the use of marijuana.

In addition to attempting to discredit the findings of scientific studies indicating that marijuana was not as dangerous a substance as had previously been reported, the FBN and the popular media began to emphasize new themes in order to justify prohibition of the substance. The most prominent and enduring of these themes was the notion that marijuana was a stepping-stone or **gateway drug**. This theme was illustrated in an article in the *New Yorker*, which noted, "Most drug



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addicts begin on marijuana, which though rarely habit-forming, is very apt to lure users of it on to the deadlier drugs" ("Saw-toothed," 1951, p. 18). Similarly, an article in *Newsweek* asserted, "Marijuana may not be more habit-forming than alcohol, but it makes the switch to heroin easy" ("Reefers," 1954, p. 17).

Interestingly, despite FBN Commissioner Anslinger's efforts to demonize marijuana and to have legislation passed prohibiting use of the substance, he initially rejected the idea that marijuana was a gateway drug. In the course of legislative hearings on the substance in the 1930s, Anslinger was asked whether "the marijuana addict graduates into a heroin, an opium, or cocaine user." Anslinger responded, "No sir, I have not heard of a case of that kind. The marijuana addict does not go in that direction" (as quoted in Brecher, 1972, p. 416). Later, Anslinger would change his views on this issue, asserting, without providing any scientific evidence to support it, that "over 50% of heroin users started on marijuana smoking . . . and they graduated to heroin; they took to the needle when the thrill of marijuana was gone" (as quoted in Davenport-Hines, 2001, p. 285). Such assertions were, of course, useful in justifying federal legislation banning marijuana.

Popular conceptions of the dangers of marijuana use and the legitimacy of employing criminal sanctions against the substance did not really come into question again until the 1960s. In what Himmelstein (1983) refers to as the "embourgeoisement" of marijuana, the consensus over the dangers of the drug that had been established in the 1930s and largely survived into the 1950s began to disintegrate when use became associated with middle-class youth in the 1960s (p. 98). But it is also important to note that the identification of marijuana use with middle-class youth provides only a partial explanation of changes in portrayals of the substance and the relaxation of criminal penalties associated with it in the 1970s, and eventually the legalization of medical marijuana (in the 1990s) and recreational marijuana (in the 2010s) (see Chapter 11). Marijuana itself, regardless of propaganda to the contrary, is simply not an extremely dangerous substance. If marijuana was actually a significant contributor to violent crime, as several commentators have alleged, it is probable that there would have been calls for more severe penalties for users and traffickers in the drug rather than the reverse. In addition, a considerable number of scientific experts, primarily from the medical profession, were willing to argue that marijuana was a relatively safe substance.

The Portrayal of Marijuana: 1960s to 1980s

> *If an enemy nation were to plan to undermine America's fortune, they could not think of a more effective strategy of poisoning our youth. Marijuana is such a poison. ("Putting a Match," 1980, p. 12)*

This statement by Robert L. Dupont, the former director of the National Institute on Drug Abuse, is reflective of the fact that marijuana had still not received full social acceptability in the United States as of 1980. It is also reflective of the confusion and controversy surrounding the regulation of the substance. Only 4 years earlier, Dupont had recommended decriminalization of marijuana ("Marijuana: A Conversation," 1976).

As mentioned above, several portrayals of marijuana in popular magazines prior to the 1960s emphasized that it caused violence and crime; however, in the debate over the drug that occurred in the 1960s through the 1980s, these themes were largely ignored or denied. This is not to suggest, however, that popular literature and government sources universally portrayed the substance as benign. One of the most blatant examples of distortion and misinformation regarding the effects of

marijuana was published in the prestigious *Journal of the American Medical Association* in 1971. Psychiatrists Kolansky and Moore studied 38 individuals, most of whom smoked marijuana once or more per week, and reported that "these patients consistently showed very poor social judgment, poor attention span, poor concentration, confusion, anxiety, depression, apathy, indifference, and often slow and slurred speech." A 20-year-old male subject "developed delusions of grandeur six months after starting to smoke marijuana—[he] believed he was in charge of the Mafia." An 18-year-old boy who smoked marijuana and **hashish** for a 3-year period "became a vegetarian and practiced yoga. He had the delusion that he was a guru and eventually believed that he was the son of God who was placed on the earth to save all people from violence and destruction." A 19-year-old boy who smoked marijuana for 4 months "[believed] he had superhuman powers; he felt he was able to communicate with and control the minds and actions of animals, especially dogs and cats" (Kolansky & Moore, 1971, p. 489).

But perhaps most bizarre in the Kolansky and Moore (1971) article was their assertion that the use of marijuana led to involvement in aberrant sexual behaviors. They noted, for example, that 13 females aged 13 to 22 years exhibited

> *an unusual degree of sexual promiscuity, which ranged from sexual relations with individuals of the opposite sex to relations with individuals of both sexes, and sometimes, individuals of both sexes on the same evening. In the histories of these individuals, we were struck by the loss of sexual inhibitions after short periods of marijuana smoking. (pp. 490–491)*

Further,

> *A 17-year-old boy was seduced homosexually after an older man gradually introduced him to marijuana smoking over a period of one year. . . He continued to smoke marijuana and gradually withdrew from reality, developing an interest in occult matters which culminated in the delusion that he was to be the messiah returned to earth. (p. 488)*

Finally,

> *Shortly after a 14-year-old boy began to smoke marijuana, he began to demonstrate indolence, apathy, and depression. Over a period of eight months, his condition worsened until he began to develop paranoid ideas. Simultaneously, he became actively homosexual. (p. 488)*

While one hopes it is obvious that many of Kolansky and Moore's assertions regarding the effects of marijuana are inaccurate, it is also important to address some of the methodological problems with this study. It is notable that Kolansky and Moore only studied subjects who volunteered for the study, which may indicate that these individuals had prior psychological problems not directly attributable to their use of marijuana; unfortunately, the authors provided very little background information on their

The contention of a relationship between marijuana use and homosexuality was echoed at a political convention in Vancouver, British Columbia, in 1979. Delegates to this convention were informed that cannabis contained female estrogen that was affecting male users of the substance. "The growing gay population is largely due to cannabis.... Unless the data we have is soon transmitted to the public, we will probably witness the decline of Western civilization as we have known it" ("Socreds Told," 1979, p. 3).

research subjects. Furthermore, Kolansky and Moore made no effort to explain the specific mechanisms through which marijuana supposedly caused the effects they identified. Their definition of sexual promiscuity is also questionable because they did not delineate how many times a particular individual would need to engage in sexual relations to be labeled sexually promiscuous. One would expect single males and females of the age of the subjects in this study to be sexually active, so the attribution of this activity to marijuana use seems highly questionable.

Despite these methodological problems and the rather outlandish claims regarding the effects of marijuana, it is notable that Kolansky and Moore's findings were widely cited in popular magazines in the early 1970s (Mosher, 1985). Carlton Turner, who served as drug czar under President Ronald Reagan, linked the smoking of marijuana to antiauthority behavior, and, echoing Kolansky and Moore, argued that use of the drug could turn young men into homosexuals (Busse, 2003). And as late as 1999, the head of the United States Public Health Service suggested that marijuana should not be prescribed as medicine for AIDS patients because such individuals would become "crazed" by the high and would be more likely to practice unsafe sex as a result (Manderson, 1999).

A more common theme regarding the effects of marijuana that emerged in the 1960s and that continues to be emphasized in the current period is the notion that its use leads to indolence, or what is sometimes referred to as "amotivational syndrome." Thus, an article in *Life* magazine suggested, "Potheads tend to be irresponsible and uninterested in things like keeping a job or supporting a family" ("Marijuana: Millions," 1967, p. 18). Similarly, quoting the director of the Bureau of Narcotics and Dangerous Drugs, an article in *Time* magazine noted, "Pot can be psychologically habituating, often resulting in amotivational syndrome in which the user is more likely to contemplate a flower pot than try to solve his problem" ("New Views," 1971, p. 65). However, as Weil and Rosen (1998) suggest, the assertion that marijuana causes amotivational syndrome is also of questionable scientific validity. While it is true that some people who lack motivation tend to engage in marijuana smoking, it is unlikely that marijuana consumption is the cause of their lack of motivation. "Heavy pot smoking is more likely to be a symptom of amotivation than a cause of it, and those same young people would probably be wasting their time in other ways if pot were not available" (p. 119).

Considered in its totality, however, the portrayal of marijuana in popular media sources from 1960 to 1980 stressed that the earlier information on the substance had overemphasized its dangers (Mosher, 1985). As will be discussed in further detail in Chapter 11, this led to a general relaxation of penalties for marijuana possession in a number of states and decriminalization of marijuana in 11 states and ultimately, the legalization of medical and recreational marijuana in several states. However, between 1980 and 2017, several million people were arrested for marijuana offenses in the United States, the overwhelming majority for simple possession of the substance. For example, although the numbers of arrests have declined in recent years due to the legalization of recreational marijuana in 11 states (as of 2020), in 2016, of 653,249 arrests for marijuana offenses in the United States, 87.9% were for simple possession (FBI, 2017). And given that, in the same year, marijuana arrests accounted for 41.5% of the 1,572,579 drug arrests in the United States, statistically speaking, the war on drugs, in essence, remains a war on marijuana use and possession. As such, it is important to examine the official rationalizations for this continued war on marijuana in the context of scientific evidence on the effects of the drug.

The Portrayal of Marijuana: 1980–2010

It is ironic that Drug Czar John Walters cites the movie *Reefer Madness* in his opinion/editorial "The Myth of Harmless Marijuana." Indeed, many of Mr. Walters' more egregious claims about cannabis appear to have been lifted straight from the 1936 propaganda film (Stroup & Armentano, 2002, p. 223).

In the 2000s, the Office of National Drug Control Policy (ONDCP) and President George W. Bush's drug czar, John Walters, justified the continuing war on marijuana and the arrest of hundreds of thousands of people for possession of the substance by invoking a number of old, and some new, themes regarding the dangers associated with the substance. These themes were emphasized in both official ONDCP reports and in an opinion-editorial article written by Walters and published in the *Washington Post* titled "The Myth of Harmless Marijuana" (Walters, 2002).

The first of these themes is one we discussed earlier—the notion that marijuana leads to violence. A 2002 ONDCP report suggested, "The truth is that marijuana and violence are linked" (ONDCP, 2002a). Similar allegations have been made by local law enforcement officials in some jurisdictions. For instance, the commander of the Bronx, New York Narcotics Division claimed,

> *Some people may think the drug [marijuana] is benign, but the distribution network certainly is not. For some of our policy makers . . . sometimes their only connection to marijuana was watching the Grateful Dead at the Filmore East. Times have changed. None of the dealers in the Bronx are smoking joints and discussing Nietzsche. (Flynn, 2001)*

But as is typically the case, despite claims that police in New York were witnessing increasing violence among those involved in marijuana distribution, "it is unclear how much the number of violent incidents has grown . . . [because] New York City does not keep statistics on marijuana-related violence" (Flynn, 2001).

It is worth considering the alleged connection between marijuana and violence in the context of reports from non-US government agencies and scholarly research on the issue. The Canadian Senate's 2002 report on cannabis noted, "Cannabis does not induce users to commit other forms of crime. Cannabis use does not increase aggressiveness or anti-social behavior" (Government of Canada, 2002, p. 4). Similarly, the British Advisory Council on the Misuse of Drugs concluded in its 2002 report,

> *Cannabis differs from alcohol . . . in one major respect. It does not seem to increase risk-taking behavior. . . . This means that cannabis rarely contributes to violence either to others or to oneself, whereas alcohol is a major factor, in deliberate self-harm, domestic accidents, and violence. (Advisory Council on the Misuse of Drugs, 2002)*

The key difference between the claims in the ONDCP report and those of other sources appears to be related to the former's apparent confusion over the effects of marijuana versus the effects of marijuana's status as an illegal drug. While there is virtually no scientific evidence indicating that marijuana induces psychopharmacological changes causing an individual to be violent (Weil & Rosen, 1998), because in most states and countries the substance is still distributed in illegal markets where individuals and organizations may compete for domination, violence may ensue. If marijuana was a universally legal substance and only purchased in legal contexts, such potentially violent turf battles would not occur.

The 2002 ONDCP report also claimed that "60 percent of teenagers in [drug] treatment have a primary marijuana diagnosis. That means that **addiction** to marijuana by our youth exceeds their addiction rates for alcohol, cocaine, heroin, methamphetamine, ecstasy and all other drugs combined" (ONDCP, 2002a). Leaving aside the fact that marijuana is not a physically addicting substance (see Chapter 4), it is important to note that the increase in marijuana treatment admissions that occurred in the early 2000s was almost exclusively the result of an increase in teenagers referred to drug treatment by the criminal and juvenile justice systems. This, in turn, is at least partially the result of the tremendous increase in marijuana arrests of juveniles from the early 1990s to the early 2000s. According to the federal Drug and Alcohol Services Information System, 54% of all adolescent admissions for marijuana treatment were through the criminal justice system (as cited in National Organization for the Reform of Marijuana Laws [NORML], 2002).

In further emphasizing the alleged dangers of marijuana, the 2002 ONDCP report, referring to **Drug Abuse Warning Network** (DAWN) data, claimed that "as a factor in emergency room admissions, marijuana has risen 176% since 1994, and now surpasses heroin" (ONDCP, 2002a). This statement is also misleading, in that it implies that marijuana use is a *causal* factor in emergency room admissions. As will be discussed further in Chapter 5, for every emergency room visit related to drug use, hospital staff can list up to five drugs the individual reports having used recently, regardless of whether the particular drug was the cause of the visit. Because a far greater proportion of the population uses marijuana than uses other illegal drugs, it is far more likely to be reported by patients. Marijuana is infrequently mentioned independently of other drugs in these DAWN data; in fact, mentions of marijuana alone accounted for less than 4% of all drug-related emergency room visits (NORML, 2002).

A British study of 247 regular marijuana users found that individuals would adjust the size of the joints they rolled (and consumed) based on the marijuana product's THC content—users with higher-potency marijuana tended to roll smaller joints (as cited in Casarett, 2015). Interestingly, titration was recognized as far back as the LaGuardia (1944) report, where it was noted, "A confirmed marijuana user can readily distinguish the quality and potency of various brands, just as the habitual cigarette or cigar smoker is able to differentiate between the qualities of tobacco." Similarly, the 1972 (Canadian) Le Dain Commission report noted that hashish (which was becoming more popular in Canada in the early 1980s), while more potent than marijuana, was not necessarily more dangerous, because consumers "smoke to attain a certain effect or level of 'high' and adjust the dose according to the potency of substance used."

The ONDCP has also justified the continued prohibition of marijuana on the grounds that the **THC** (the main psychoactive ingredient) content of marijuana in circulation in the early 2000s was much higher than in the past, allegedly making it a more dangerous substance. In the 2002 ONDCP report, it was noted that the average THC levels of marijuana in samples seized by the Drug Enforcement Administration had increased from less than 1% in the late 1970s to more than 7% in 2001. It was also asserted that the potency of more powerful **sinsemilla** strains of the substance had increased from 6% to 13%, and reached as high as 33%. Based on these data, drug czar John Walters was widely quoted in the media

claiming that the potency of marijuana had increased as much as 30 times its previous potency, and commented, "It's not your father's marijuana" (as quoted in Forbes, 2002). As Forbes (2002) revealed, however, Walters's claims were tremendously misleading. First, the figures provided for "today's sinsemilla" were, in fact, based on data from 1999. Walters conveniently ignored data from 2000 and 2001, probably because the potency of sinsemilla strains of marijuana peaked at 13.38% THC content in 1999. In addition, high-grade marijuana such as sinsemilla tends to be prohibitively expensive for most users and constitutes only a small percentage of the overall marijuana market. It is thus highly unlikely that a majority or even a significant minority of users were consuming this high-THC-content marijuana.

The discussion above emphasizes how the ONDCP and drug czar Walters presented misleading information with respect to increases in the THC content of marijuana; however, we do not deny that marijuana at the high end of the THC continuum is probably more widely available than in previous years, particularly in states where marijuana is legal and sold in retail outlets. It does not necessarily follow, however, that marijuana is now more dangerous to users. Research suggests that consumers of hard liquor typically consume fewer drinks than those who drink beer and wine, which have a lower alcohol content, in order to experience the psychoactive effects of alcohol (Weil & Rosen, 1998). Similarly, consumers of high-potency marijuana will generally smoke less of the substance; studies have shown that most users smoke until they experience a high (Fox, Armentano, & Tvert, 2009; Wanjek, 2002). This is further confirmed from data derived from **Monitoring the Future** surveys on drug use, which indicated that the average size of marijuana cigarettes that users consume had declined over time (Forbes, 2002; Wanjek, 2002). This would imply that marijuana smokers are aware of the fact that they are consuming a higher-potency substance and are regulating their intake accordingly. In addition, marijuana poses no risk of fatal overdose, regardless of THC content; as noted earlier, there has never been a documented death from marijuana consumption (Zimmer & Morgan, 1997). In fact, one estimate suggests that a person would have to consume approximately 100 pounds of marijuana a minute for 15 minutes in order to induce a lethal response (Schlosser, 2003). Furthermore, since the substance's most serious potential hazard is related to consumers' intake of potentially carcinogenic smoke, it could be argued that higher-potency marijuana is actually less harmful because it permits users to achieve the desired psychoactive effects while inhaling less burning material (NORML, 2002; Sullum, 2003a).

Perhaps the most prominent argument used by the ONDCP in the early 2000s, and which continues to be emphasized to this day by those who are opposed to legalization of marijuana to justify the continued prohibition of the substance is one that, as noted above, first appeared in the 1950s: the notion that marijuana is a gateway drug.

> *The truth is that marijuana is a gateway drug. . . People who use marijuana are eight times more likely to have used cocaine, fifteen times more likely to have used heroin, and five times more likely to develop a need for treatment of abuse or dependence of any drug. (ONDCP, 2002a)*

Before examining the empirical support (or lack thereof) for the gateway drug hypothesis, it is important to examine its theoretical logic.

As Kandel (2003) explains, the gateway drug hypothesis is based on three interrelated propositions. First, the notion of "sequencing" implies that there is a fixed relationship between two drugs, such that the use of one substance is

regularly initiated before the other. Second, "association" implies that the initiation of one drug increases the probability that use of the second drug will be initiated. Finally, the notion of "causation" suggests that the use of one substance actually causes use of the second substance. These facts are generally marshaled in support of the gateway effect: (1) Marijuana users are more likely than nonusers to progress to the use of harder drugs such as cocaine and heroin; (2) more individuals who have used hard drugs tried marijuana first; and (3) the greater the frequency of marijuana use, the greater the likelihood of hard drug use.

A 1994 report by the Center on Addiction and Substance Abuse was one of the first to present statistical evidence in support of the gateway drug hypothesis (as cited in Zimmer & Morgan, 1997). This report claimed that marijuana users were 85 times more likely than nonmarijuana users to have used cocaine; this figure was derived from respondents' reports of lifetime use of marijuana and cocaine in the 1991 National Household Survey on Drug Abuse. However, in an interesting twist on mathematical logic, in order to obtain this factor of 85, the report divided the proportion of marijuana users who admitted they had ever tried cocaine (17%) by the percentage of cocaine users who had never tried marijuana (0.02%). In other words, the risk factor is large not because a substantial proportion of marijuana users try cocaine, but because very few people try cocaine without trying marijuana first. As Zimmer and Morgan (1997) point out, a similar relationship exists between other kinds of common and uncommon activities that tend to be related to one another. For example, most people who ride motorcycles, which is a relatively rare activity, have also ridden a bicycle, which is a fairly common activity. It is also likely that the prevalence of motorcycle riding among individuals who have never ridden a bicycle is quite low. Sullum (2003a) offers a similar analogy, noting that people who engage in bungee jumping are probably more likely to try parachuting than people who don't engage in bungee jumping. It would stretch logic, however, to claim that bicycle riding *causes* motorcycle riding or that bungee jumping *causes* skydiving. Similarly, it is misleading to suggest that marijuana use causes cocaine use.

Having said that it is necessary to question the logic of the gateway drug hypothesis, it is also important to review research on this issue. A longitudinal study based on a sample of 311 monozygotic (identical) twins in Australia found that individuals who had used marijuana by the age of 18 years had odds of other illegal drug use and/or clinical diagnoses of alcohol dependence and drug abuse that were 2.1–5.2 times higher than their twin who did not use marijuana before the age of 18 years (Lynskey et al., 2003). While this study would appear to provide evidence in support of the gateway drug hypothesis, the authors did not claim that they had presented incontrovertible proof. They noted that if the association between early use of cannabis and the use of other illegal drugs is causal, the particular mechanisms through which this association operates are not completely clear. Lynskey et al. outline three possible mechanisms that might explain the association: (1) Early experiences with marijuana, which often produce pleasurable psychoactive effects, may encourage the continued use of marijuana and experimentation with other drugs; (2) experiences with marijuana that do not result in short-term harm to the user may serve to reduce the perceived risks associated with the use of harder drugs; and/or (3) experience with and access to marijuana may provide users with access to other illegal drugs via contact with individuals who deal in such substances (pp. 430–431).

Research conducted by Morral, McCaffrey, and Paddock (2002) based on analyses of data from the US National Household Surveys on Drug Abuse found that associations between marijuana and hard drug use would be uncovered even

if marijuana has no gateway effect. Instead, the well-documented associations between marijuana and hard drug use likely result from differences in the age at which young people have opportunities to use marijuana and hard drugs and differences in individuals' willingness to try any type of drugs. In simple terms, marijuana is typically the first illegal drug used by young people because it is more widely available than other illicit substances. It is important to note that the Morral et al. study did not disprove the gateway theory; instead, it shows that an alternative explanation for the association between marijuana and hard drug use is possible.

A government report from the Netherlands noted, "If young adults wish to use soft drugs—and evidence has shown that they do—they should … not be exposed to the criminal subculture surrounding hard drugs. Tolerating relatively easy access to quantities of soft drugs for personal use is intended to keep the consumer markets for soft and hard drugs separate, thus creating a social barrier to the transition from soft to hard drugs" (as quoted in Zimmer & Morgan, 1997, p. 53).

Considering the scientific research assessing the gateway drug hypothesis as a whole, it is safe to say that there is no pharmacological basis for this theory. However, as noted above, there may be a relationship between marijuana use and the use of other drugs that is due to the fact that marijuana must be purchased in illicit markets. The Netherlands provides an example of a country that, through its de facto legalization of marijuana and sales of the substance in coffee shops, has (largely) successfully separated the markets for cannabis versus hard drugs.

Perhaps the most convincing evidence refuting the gateway drug hypothesis is that by the early 2000s, approximately 83 million people in the United States had tried marijuana at some point in their lives but had never used heroin. Data from the US National Household Survey on Drug Abuse reveal that if individuals had ever tried marijuana in their lifetime, their chance of using other illegal drugs in the previous month was 1 in 7 for marijuana, 1 in 12 for any other illegal drug, 1 in 50 for cocaine, and 1 in 677 for heroin (Earleywine, 2003). As NORML (2002) noted, given such statistics on the prevalence of marijuana use and the use of other illegal drugs, for the majority of marijuana users, the substance is a "terminus" rather than a gateway. A National Academy of Sciences (1999) report observed, "There is no evidence that marijuana serves as a stepping stone on the basis of its particular drug effect." A Canadian Senate Committee report similarly concluded, "Cannabis itself is not a cause of other drug use; in this sense, we reject the gateway theory" (Government of Canada, 2002). In short, the claims of the ONDCP, drug czar John Walters, and others that marijuana is a gateway drug and therefore should retain its status as a Schedule I drug in the United States are not based on sound scientific evidence.

Almost paradoxically, while claiming that marijuana is a dangerous substance, drug czar John Walters also tried to silence critics of laws against marijuana through assertions that it is a myth that large numbers of Americans have been incarcerated for marijuana offenses. However, calculations based on Bureau of Justice Statistics revealed that 59,300 prisoners (3.3% of the total incarcerated population) in 1999 were convicted of violations of marijuana laws. In the same year, offenders charged with crimes related to marijuana comprised close to 12% of the total federal prison population and approximately 2.7% of the state prison population (C. Thomas, 1999). Schlosser (2003) further notes that the number of marijuana offenders sent to federal prisons in 1999 was greater than the number of offenders sent to such prisons for methamphetamine, crack, or cocaine powder, which are supposedly more dangerous

drugs. Marijuana offenders were given life sentences under federal laws in 1992, 1993, and 1994, and over the 16-year period of 1984–1999, 16 people were sentenced to life in federal prison as a result of a conviction for a marijuana offense. Zimmer and Morgan (1997) note that 22% of those sentenced for the violation of marijuana statutes in Michigan in 1995 were sent to prison, as were 34% of those in Texas and New York. Similarly, under California's "Three Strikes and You're Out" law, more people had been sent to prison for marijuana than for all violent offenses combined. Schlosser (2003) also provides specific examples of the severe penalties imposed on individuals for marijuana offenses. In Oklahoma, a paraplegic who smoked marijuana to relieve muscle spasms was sentenced to life imprisonment plus 16 years for possession of marijuana with intent to distribute (two ounces) marijuana, possession of drug paraphernalia, unlawful possession of a weapon, and maintaining a place resorted to by users of controlled substances. Another individual in the same state was found in possession of 0.16 of an ounce of marijuana and was sentenced to life imprisonment.

"Tell Your Children" (On Second Thought, Don't)

"For 25 years, marijuana legalizers have trounced their opponents by endlessly repeating two myths, that cannabis is effective medicine and that American prisons are filled with Black people arrested for marijuana possession.... They've been so busy winning they haven't noticed the proof they're wrong piling up" (Berenson, 2019a, p. 78). "The newest strategy that advocates have used to promote their drug—calling marijuana a way to reduce opiate use, a theory breathtaking in its counterfactual audacity" (p. 107). "Cannabis's general uselessness as a medicine shouldn't surprise anyone who thinks through the issue" (p. 75). "The Black tide of psychosis and the red tide of violence are rising together on a green wave, slow and steady and certain" (p. 218). "The United States should not legalize cannabis nationally; it should move to discourage more states from legalizing it, and it should consider pressuring those that have already done so to reverse course" (p. 225).

In early 2019, former *New York Times* journalist Alex Berenson published a book titled *Tell Your Children* (interestingly this was the original title of the 1935 *Reefer Madness* film—apparently Berenson chose this title deliberately) (Berenson, 2019a) as well as an opinion editorial in the *New York Times* (Berenson, 2019b). The book, which German Lopez (2019b) refers to as "Reefer Madness 2.0," reiterates many of the major themes emphasized by marijuana demonizers discussed above, including that it is a gateway drug, that the THC content in the marijuana currently available in the United States is higher than in the past, and that legalization has led to increases in fatal car accidents, among other claims. Berenson dismisses the mounting evidence that marijuana has medicinal uses (National Academies of Sciences, Engineering, and Medicine, 2017; see also Chapter 4), and also the findings of several recent studies indicating that marijuana can be a substitute for opiates (Bachhuber et al., 2014; Bradford & Bradford, 2016, 2017; Bradford et al., 2018; Livingston et al., 2017; Piper et al., 2017; Reiman, 2009; Shi, 2017; Wen & Hockenberry, 2018). Space considerations prohibit a thorough deconstruction of all of the antimarijuana themes presented in Berenson's book—here, we focus on the two most prominent, and interrelated themes of the book—that marijuana causes serious mental illness, and results in the commission of violent acts by those who use it.

In response to Berenson's book, numerous media sources, including large-circulation newspapers such as the *New York Times*, the *Wall Street Journal*, the *Philadelphia Inquirer*, and popular magazines such as the *New Yorker* and *Mother Jones* published articles related to the book that painted "a dire and depressing picture of cannabis" (Black, 2019). *Tell Your Children* also received widespread, and largely favorable coverage on television news, including CNBC (Lopez, 2019b). As Hart and Ksir (2019) comment, Berenson's book and *New York Times* editorial are reflective of the fact that "the reefer madness rhetoric of the past has not just evaporated; it continued and has evolved, reinventing itself perhaps even more powerfully today."

In the introduction to *Tell Your Children*, Berenson informs the reader that "everything you are about to read is true" (p. xi) and later states, "Marijuana causes paranoia and psychosis. The fact is now beyond dispute. Paranoia and psychosis cause violence. Overwhelming evidence links psychotic disorders and violence, especially murder" (Berenson, 2019a, p. 171). As noted above, Berenson's book and article were widely cited in the popular media and his claims regarding the alleged dangers of marijuana have been marshalled by those opposed to marijuana law reform to argue against legalization, and even to repeal legalization in the 11 US states where (recreational) marijuana is currently legal. As such, it is important to deconstruct these arguments.

Berenson (2019a) acknowledges that "scientists like to say that the plural of anecdote is not data" (p. 179) and apparently views his book as one about "medicine and science" (as quoted in Mencimer, 2019), but he peppers the reader with an almost never-ending series of grisly anecdotes throughout the book in an attempt to provide evidence of marijuana's deadly effects. In an anecdote to support the claim of a relationship between cannabis use and mental illness, Berenson offers the case of *Saturday Night Live* comedian Pete Davidson, a "vocal cannabis supporter," who revealed that he had suffered "repeated mental breakdowns" after consuming marijuana for several years. After referring to himself as a "pothead" in an interview with *Rolling Stone* magazine in 2016, Davidson later revealed in a podcast interview that he had gone into treatment "after months of quasi-psychotic episodes related to his cannabis use" (Berenson, 2019a, p. 158). Berenson (2019a) similarly attributes Kayne West's mental health problems to marijuana use, recounting an episode where West "walked offstage during a show in Sacramento after ranting at the crowd for several minutes," and another incident where "West had given a similarly incoherent speech at a music award ceremony, during which he said he had smoked 'a little something' beforehand" (p. 160).

In order to provide further evidence for the link between marijuana and mental illness, Berenson devotes approximately seven pages of his book to discussion of the findings of a study by Swedish physician Sven Andreasson which was published in *The Lancet* more than 3 decades ago (Andreasson, Allebeck, Engstrom, & Rydberg, 1987) (this paper had been cited 1,270 times as of early May 2019). This study involved a 15-year follow-up of more than 45,000 individuals conscripted to the Swedish army in the early 1970s, and found that the relative risk of developing schizophrenia among those who had used cannabis on more than 50 occasions was six times higher than the risk among nonusers of the drug. Of the 752 conscripts who reported they had smoked cannabis 50 times or more, 21 later developed schizophrenia (Andreasson et al., 1987). Berenson (2019a) contacted Andreasson in preparation for writing *Tell Your Children*, and noted that "based on his data and later findings, Andreasson says he believes that cannabis is responsible for between 10 and 15 percent of schizophrenia cases" (p. 56), and that Andreasson received a letter from "an imprisoned child molester" who asked "if marijuana could have caused his behavior" (p. 56).

Although Berenson conveniently ignores them, a number of studies have questioned the methodology and conclusions of the Andreasson et al. (1987) study. For example, Radhakrishnan, Wilkinson, and D'Souza (2014) note that the relative risk of schizophrenia was significantly greater among subjects in the Andreasson et al. (1987) study who developed schizophrenia within 5 years of being conscripted, which raises questions regarding the direction of the relationship. "In other words, this preliminary analysis could not distinguish whether cannabis use led to schizophrenia or whether subjects used cannabis in an attempt to self-medicate incipient symptoms of schizophrenia." Additional criticisms of the Andreasson et al. (1987) study have noted that individuals in the cannabis-using group were also more likely to use other drugs (thus making it difficult to disentangle the mental health effects of cannabis versus other drugs) and that the association between marijuana use might be caused by a third, unknown factor (Radhakrishnan et al., 2014).

An additional source of Berenson's evidence for the purported relationship between marijuana and schizophrenia is a 2017 report by the National Academies of Science, Engineering, and Medicine (NASEM) which reviewed hundreds of studies on the effects of cannabis. The NASEM (2017) report stated, "Cannabis use is likely to increase the risk of schizophrenia and other psychoses; the higher the use, the greater the risk" (this is what is known as a dose–response relationship). However, and importantly, while Berenson describes the previous statement as a *conclusion* of the NASEM report, it actually appears in the "highlights" section of Chapter 12 of the report, and was by no means reflective of the report's conclusions. Instead, NASEM concluded that "there is substantial evidence of a *statistical association* between cannabis use and the development of schizophrenia and other psychoses, with the highest risk being among the most frequent users" (NASEM, 2017, emphasis ours). This suggests that there is a correlation between marijuana use and schizophrenia, but it does not necessarily mean that marijuana use *causes* schizophrenia. Perhaps not surprisingly, Berenson does not mention this, citing only quotes from the NASEM report that support his conclusions (Lopez, 2019b). And, contrary to the impression left by Berenson, there are at least three possible pathways that could explain the relationship between cannabis use and schizophrenia.

One possibility (which, not surprisingly, is the one preferred by Berenson) is that substance use in general, and marijuana use in particular, may be a potential risk factor for developing mental health disorders (Sullum, 2019a). A second possibility is that "mental illness may be a potential risk factor for developing a substance abuse disorder" (Sullum, 2019a). A third possibility, the most likely explanation, is that overlapping preexisting risk factors, such as genetic vulnerability, or an individual's environment, or some combination of these, may contribute to the development of both marijuana use and a mental health disorder (Sullum, 2019a). Research on this issue indicates that a person's familial risk of developing a psychotic disorder is more impactful than any effects added by cannabis. For example, in a 2014 study, researchers examined cannabis users with and without a family history of schizophrenia, and compared them to nonusers of the substance with and without such a family history (Proal, Fleming, Galvez-Buccollini, & Delisi, 2014; see also Carey, 2019a). The researchers found a higher risk of developing schizophrenia among subjects who had a family history of the disease, regardless of whether they used marijuana. In an interview with *New York Times* reporter Benedict Carey, the lead author of this article stated, "My study clearly shows that cannabis use does not cause schizophrenia by itself. Rather, a genetic predisposition is necessary" (as quoted in Carey, 2019a). Related, the NASEM (2017) report stated, "The relationship between cannabis use disorder and psychoses may be multidirectional and complex."

Further weakening Berenson's argument regarding a relationship between marijuana use and mental illness, as pointed out in a letter written by a group of academics and medical professionals in response to Berenson's book, the overwhelming majority of people who consume marijuana "do not develop scizhophrenia [nor other mental illnesses] nor do they engage in violence" (Drug Policy Alliance, 2019b).

Dr. Ziva Cooper of the University of California Los Angeles, one of the authors of the NASEM report, was frustrated, if not furious, that the findings from the report were misrepresented in Berenson's book. Regarding the relationship between marijuana use and psychoses/schizophrenia, she noted, "This was stated as an association, not causation. We do not yet have the supporting evidence to state the direction of the association. We as a committee concluded that a history of cannabis use is associated with *better cognitive outcomes* in people diagnosed with psychotic disorders. The blatant omission of this conclusion exemplifies the one-sided nature of some articles" (as quoted in Carroll, 2019, emphasis ours). Further, as a Drug Policy Alliance (2019a) report notes, even though the United States has among the highest rates of marijuana use in the world, it has lower rates of schizophrenia and related psychotic disorders than the global average.

Berenson, who smoked a bit in college, didn't have strong feelings about marijuana one way or another, but he was skeptical that it could bring about violent crime. Like most Americans, he thought stoners ate pizza and played video games—they didn't hack up family members. Yet his Harvard-trained wife [a psychiatrist who evaluates mentally-ill criminal defendants in New York] insisted that all the horrible cases she was seeing involved people who were heavily into weed (Mencimer, 2019, emphasis ours).

On the marijuana use–violence relationship, Berenson's case is even weaker than his contention that marijuana use leads to mental illness (Lopez, 2019b). In support of his assertion that marijuana causes violence, and noting that "the link between marijuana and mental illness is controversial. The link between marijuana and violence isn't" Berenson (2019a) refers to both aggregate-level data and (more frequently) anecdotes (apparently, many of these anecdotes were provided by his wife, who is a forensic psychiatrist—see box) (Drug Policy Alliance, 2019a).

In the preface to *Tell Your Children*, Berenson (2019a) cites the case of Jared Lee Loughner, who was "mentally ill and frequently smoked [marijuana]," who shot and wounded Congresswoman Gabrielle Giffords in Tucson in 2011, and killed six other people (p. xxvii)—according to Berenson, Loughner's marijuana consumption was the cause of these actions. Berenson also includes anecdotes from other countries and earlier historical periods to support his contention of a marijuana–violence relationship: "In one notorious case, the Governor of Mexico City claimed in 1913 that he had been high when he murdered a political rival; finally, in January 1920, the Mexican government found that marijuana was 'one of the most pernicious manias of our people'" (Berenson, 2019a, p. 5).

In introducing Chapter 12 of *Tell Your Children* (titled "Axes and Knives"), Berenson (2019a) comments, "So, the cases that follow are just a tiny and nonrandom sample of the marijuana-linked violence that occurs every day. Be warned though, they make for horrifying reading" (p. 181). Claiming that "corpse mutilation happens weirdly frequently in these cases" (p. 183), Berenson recounts the case of Blake Leibel, "a would-be movie producer whose Ukrainian girlfriend Iana Kasian complained to her mother that he smoked 'huge amounts' of marijuana scalped Kasian in their west Hollywood apartment in May 2016" (p. 184). This is followed by the case of Camille

Balla, "a Florida woman with a history of mental illness [who] gouged out her mother's eyes with a broken glass after killing her in March, 2018, according to prosecutors, Balla told an ambulance crew that she had just smoked marijuana" (p. 184). Also asserting that "marijuana is linked to child fatalities with extraordinary and disturbing frequency" (p. 205), Berenson offers the case of a Wyoming woman who left her 6-month-old son "in a car seat for more than a day while she smoked marijuana with friends. By the time she returned, he was dead, his corpse decomposing in its seat" (p. 206).

Berenson also interviewed Richard Kirk, a Colorado man who was in prison for killing his wife after he consumed a cannabis edible (the discussion of Kirk's case occupies five pages of Berenson's book). Kirk, a Mormon who did not use marijuana or drink alcohol (although he apparently had become dependent on opioid painkillers), "seemed to have an enviable life when he pulled into a Denver dispensary . . . looking for an edible to relieve his back pain." After returning home and consuming one of the edibles but experiencing no effects, Kirk "went into the bathroom to eat another piece and lost his mind" (Berenson, 2019a, p. 202). During his subsequent "psychotic episode" Kirk eventually put a pistol to his wife's head and "pulled the trigger, killing her instantly. Then he handed the pistol to his son and told the boy to shoot him. When the police arrived, he surrendered quietly" (p. 204). Attributing the cause of Kirk's actions to marijuana, Berenson comments, "He existed at the center of the Venn diagram of three great American maladies, opiate abuse, financial stress, and easy access to firearms. But he'd lived there for years and never been violent, not until he ate a bit of Kandy Karma Orange Ginger [the marijuana edible]" (p. 205). In yet another anecdote, Berenson (2019a) discusses a personal trainer in Tennessee who in June 2018 killed his former boss with a hatchet—Berenson's evidence that marijuana caused this act was a social media post in which the trainer discussed using cannabis.

Berenson's extensive anecdotes to support his claims of a connection between marijuana use and involvement in violent acts is eerily reminiscent of the claims made by Harry Anslinger and the FBN in the 1930s, discussed above. Interestingly, Berenson (2019a) notes that supporters of marijuana legalization view Anslinger "as a racist anti-cannabis fanatic who exaggerated the drug's dangers to convince Congress to prohibit it" (p. xxix). While acknowledging that the "marijuana lobby" are "partly right" in this characterization of Anslinger, Berenson comments that "advocates for legalization have been too busy mocking Anslinger to wonder if he may be right" (p. xxix) . . . "Harry Anslinger may have been a racist jerk, but 85 years ago he was right about marijuana" (p. 178).

Here, it is important to stress that the science on the issue does not support the existence of a relationship between cannabis consumption and involvement in violent behaviors. Yasmin Hurd, Director of the Addiction Institute at the Mount Sinai School of Medicine, commented to a writer for the *Atlantic* magazine, "There is nothing to support that marijuana legalization has increased murder rates," and further emphasized that people with schizophrenia are usually not the ones who are committing murder (as quoted in Hablin, 2019). Similarly, Dr. Carl Hart of Columbia University and his colleague Charles Ksir note that in their research, they have administered thousands of doses of marijuana to people, but "we have never seen a research participant become violent or aggressive while under the influence of marijuana" (Hart & Ksir, 2019).

Berenson (2019a) also provides (a very limited amount of) aggregate-level data to "prove" that a relationship between marijuana use (and more specifically in this case, marijuana legalization) exists. In the introduction to *Tell Your Children*, he notes, "All of the four states that legalized in 2014 and 2015—Alaska, Colorado,

Oregon, and Washington, have seen sharp increases in murder and aggravated assaults since legalization. Combined, the four states saw a 35% increase in murders and a 25% increase in assaults between 2013 and 2017, far outpacing the national trend" (p. xxxi). In the last chapter of the book (prior to the Epilogue), focusing more specifically on Washington State, Berenson (2019a) comments that, even though "comparing 2013 to 2017 seems like a fool's game," he used 2013 data "for the sake of simplicity" (p. 214). He notes that this comparison reveals an "ugly" trend—"in 2017, Washington State had 230 murders and 13,700 aggravated assaults an increase of about 44% for murders and 17% for aggravated assaults. That increase far outpaced the national rise in crime. Murders rose about 20% nationally from 2013–2017 and aggravated assaults about 10%" (p. 214). Berenson apparently chose 2013 as the starting year for comparison for simplicity, but it is notable that there was a 1-year decrease in aggravated assaults in 2012, so after 2013 the numbers of such crimes were just returning to where they were the year before. And as Ryan Blethen (2019), a reporter for the *Seattle Times* notes, in every year between 2007 and 2017, Washington State had less violent crime per capita than the United States as a whole—in 2017, for example, the state had 304.5 violent crimes per 100,000 people, which was approximately 28% lower than the national average of 394/100,000.

Even if we accept Berenson's claims of increases in violent crimes in states that have legalized marijuana, it is important to stress that he gives no consideration to other potential causes of these increases, and conveniently neglects data that do not coincide with his assertions. For example, as drug policy expert Mark Kleiman of New York University points out, "Cannabis consumption, and especially heavy cannabis consumption, has been on the rise since 1992. Over that period, national homicide rates have fallen more than 50%" (as quoted in Lopez, 2019b). Similarly, Sullum (2019b) notes that the alleged link between marijuana use and violent crime more generally is not supported by national data over the 2002–2017 period. Over that period, the percentage of Americans reporting current (past 30-day) use of marijuana in the National Survey on Drug Use and Health increased by 55%, while the national violent crime rate decreased by 23%.

In yet another example of shifting the goalposts to support the alleged marijuana–violence connect, Berenson also refers to data from Canada "which also has high and rising rates of cannabis use," where "homicides rose by almost 30% between 2014 and 2017" (Berenson, 2019a, p. 180). It is not entirely clear (or perhaps it is) why Berenson chose the year 2014 for the starting point (note that in his discussion of data from Washington State, he chose 2013), but in that year, Canada had 516 homicides (a rate of 1.5/100,000)—in 2017,

University of Oregon economist Benjamin Hansen reviewed Berenson's analysis of the violent crime data, using data over a longer period of time for comparison. Hansen commented, "While it is true that homicide rates went up in Colorado and Washington more than they rose in the nation as a whole, the homicide rates in Colorado and Washington were actually below what the data predicted they would be given the trends in homicides from 2000–2012. This suggests, at best, we can't conclude that marijuana legalization increases violence, and perhaps even there could be small negative effects.... It is also worth noting that the sky isn't falling in Colorado and Washington, at least any more than what we have predicted had they not legalized in the first place" (Hansen, 2019).

there were 660 homicides (a rate of 1.8/100,000) (Statistics Canada, 2018). Had Berenson instead chosen 2015 or 2016 for the starting point for comparison (in both years, Canada's homicide rate was 1.7/100,000), the reported increase would have been much less alarming. It is also worth noting that Canada's homicide rate peaked in the mid-1970s at 3.0/100,000, and declined to 1.8 in 2000 (the same rate as in 2017) (Statistics Canada, 2017). And, over the mid-1970s to 2017 period, cannabis use in Canada has been increasing (Mosher & Akins, 2019).

We could also consider a counterfactual here. If marijuana is responsible for increases in murders, Amsterdam (and the Netherlands more generally) would presumably be a much more dangerous place to live. As we discuss in Chapter 12, although marijuana is technically illegal in the Netherlands, police do not enforce the law against it, and there are hundreds of "coffee shops" in the country where people can purchase marijuana. However, in 2016, the homicide rate in the Netherlands was 0.55/100,000 compared to 5.35/100,000 in the United States (UNODC, 2018). We can also consider data from Oregon, a state which legalized marijuana in 2014, with sales commencing in October of 2016 (Mosher & Akins, 2019). In Oregon, the murder rate increased by 1% from 2015 to 2016 (compared to a national increase of 7.9%) but then declined by 11.6% between 2016 and 2017. So, as Singal (2019) points out, if cannabis is actually related to murder rates, one could just as easily assert that its legalization has caused *decreases* in homicide rates (although we are not making this argument).

In an article debunking several of the marijuana myths proffered by Berenson posted on the reason.com website, Jacob Sullum (2019b) reviews several of the most recent studies on the relationship between marijuana and violence. He notes that a 2013 ONDCP publication (with the research being conducted by the Rand Corporation) concluded, "Even though marijuana is commonly used by individuals arrested for crimes, there is little support for a contemporaneous, causal relationship between its use and either violent or property crime . . . marijuana does not induce violent crime" (ONDCP, 2013). Similarly, a study using data from 11 western US states examining the effects of medical marijuana laws (MMLs) on crime found "no evidence of negative spillover effects from MMLs on violent or property crime. Instead, we find significant drops in rates of violent crime associated with state MMLs" (Shepard & Blackley, 2016, p. 122). This finding was confirmed by Chu and Townsend (2019) who found "no causal effects of medical marijuana laws on violent or property crime at the national level . . . except in California, where the medical marijuana law reduced both violent and property crime by 20%" (p. 502). Another study using Uniform Crime Report data for all 50 states for the 2010–2014 period to examine the impact of marijuana decriminalization and medical and recreational legalization on property and violent crime concluded, "Even when controlling for factors that may lead to crime, the legal status of marijuana in states failed to significantly predict property or violent crime rates in 2014" (Maier, Mannes, & Koppenhoffer, 2017). Here, it is also worth noting that of 10 government-appointed commissions from various countries reporting on marijuana issues over the 1892–1977 period that addressed the issue of the relationship between marijuana and crime in general and violence in particular, all concluded that no such relationship existed (Mosher & Akins, 2019).

As noted above, several media sources devoted attention to *Tell Your Children*, with many supporting Berenson's arguments. For example, in the *New Yorker* magazine, award-winning author Malcolm Gladwell (2019a) published an article titled "Is marijuana as safe as we think?" (with the subtitle "Permitting pot is one

thing; Promoting its use is another") which was largely supportive of Berenson's arguments. Gladwell (2019a) correctly notes that Berenson "has collected bits and pieces of evidence," and, referring to Berenson's data on violent crime increases in Washington State, comments, "Berenson though, finds it strange that, at a time when Washington may have exposed its population to higher levels of what is widely considered to be a calming substance, its citizens are turning on one another with increased aggression." Gladwell was widely condemned for his uncritical assessment of Berenson's assertions—disparagingly comparing his critics to climate change deniers, he tweeted, "I'm puzzled why pot advocates would be hostile to learning more about the consequences of their habit. Haven't we been through this before with climate change deniers?" (Gladwell, 2019b).

Mother Jones, generally considered to be a politically liberal magazine, also published a lengthy article that was similarly favorably disposed to Berenson's arguments. In the article, Stephanie Mencimer (2019) uncritically parrots the same research as Berenson, and comments, "*Tell Your Children* is nonfiction that takes a sledgehammer to the promised benefits of marijuana legalization." Apparently reading Berenson's book spurred Mencimer's sensitivity and she "started seeing patterns too. In November, Jeffrey Clark, an alleged neo-Nazi, was arrested in D.C. for stockpiling weapons and making threats after the Pittsburgh synagogue mass shooting. His story fit the profile Berenson lays out in his book, so I checked: Indeed, court records suggested he was a pot addict" (Mencimer, 2019).

Interestingly, *Mother Jones* issued a "correction" to Mencimer's (2019) article, noting, "An earlier version of this article overstated the connection that NASEM researchers found between marijuana, bipolar disorder, and the risk of suicide, depression, and social anxiety disorders. It also overstated the connection between the increasing number of pot users and the number of people coming into the ER with psychoses. . . A handful of other facts and statements in the piece have been updated for accuracy." And, some two days after the Mencimer (2019) article appeared online, Kevin Drum (2019), a colleague at *Mother Jones*, expressed some skepticism about Mencimer's article, commenting in particular that "the notion that smoking marijuana significantly increases the risk of schizophrenia in the future is not really supported by the literature."

Alex Berenson's Stance on Marijuana Laws and the Implications of His Arguments

Not surprisingly, given the content of his book, Berenson (2019a) is a strong opponent of marijuana legalization, although he does support decriminalization of the substance—he comments, "I am not a prohibitionist. I don't believe we should jail people for possessing marijuana" (although, given his portrayal of the dangerous consequences of marijuana use, this stance may seem curious). Similar to other marijuana legalization opponents, Berenson downplays the negative consequences of prohibition. He cites a 2005 paper by the Sentencing Project that indicated that "fewer than 28,000 people in 2003 were incarcerated in state or federal prisons for marijuana offenses. Another 4,600 were held in county jails, for a total of 32,500 prisoners [his math is suspect here] out of almost 2.1 million nationally" (p. 65). To us, 32,500 people incarcerated is a nontrivial number, and in addition, Berenson is either unaware of, or conveniently neglects the collateral consequences of, marijuana arrests and criminalization (Drug Policy Alliance, 2019b).

Berenson's support of marijuana decriminalization as opposed to legalization seriously underestimates the persistence of racially disparate marijuana law enforcement. The Drug Policy Alliance (2019b) points out that New York City offers a prime example of how large numbers of marijuana arrests can continue even after the substance is decriminalized—the state of New York decriminalized marijuana possession in 1977, but over the 1977–2018 period, more than 650,000 people in New York City were arrested and incarcerated on marijuana possession charges, approximately 80% of whom were Black or Hispanic people (Mueller, 2018).

For the last several years, marijuana possession arrests have accounted for over 5% of *all* arrests in the United States and in 2017, there were 599,282 such arrests (Federal Bureau of Investigation, 2018). And even without a conviction, a marijuana arrest can show up in background checks and potentially impact an individual's prospects and future. Such arrests and/or convictions can create significant barriers to education (since those applying for federal student aid must reveal if they have been convicted of drug crimes—see also Chapter 11), employment, obtaining certain occupational licenses, accessing housing, and receiving public benefits. In addition, non-US citizens who are arrested for marijuana possession may be subject to detention, deportation, and inadmissibility to the United States (Drug Policy Alliance, 2019b).

Berenson (2019a) also minimizes the impact of marijuana prohibition on communities of color in stating, "Yes, marijuana arrests disproportionately fall on minorities, especially the Black community. But marijuana's harms also disproportionately fall on the Black community . . . Given marijuana's connections with mental illness and violence, it is reasonable to wonder whether the drug is partly responsible for those differentials" (Berenson, 2019a, pp. 221–222). Berenson seems to imply that the reason police arrest more Black people compared to white people (despite the fact that Black and white people use marijuana at similar rates) is because marijuana somehow makes Black people psychotic and hence more violent. Maria McFarland-Sanchez, Executive Director of the Drug Policy Alliance, refers to this as the "ugliest outcome" of Berenson's book (The Marshall Project, 2019)—"He is presenting a wholly unsupported biochemical justification for racially biased policing and marijuana prohibition" (Drug Policy Alliance, 2019a).

He [Berenson] blends a lack of perspective with lazy research interpretation and cherry-picked statistics to make several specious claims. Rather than contributing to thoughtful debate, his work is a polemic based on a deeply inaccurate misreading of science. Distorting the facts, like Berenson's book does, risks contributing to a continuation of US policies that have been deeply damaging to the health and wellbeing of millions of people in the US (Drug Policy Alliance, 2019a).

While our discussion above calls into question many of Berenson's claims, it is important to note that his arguments have real-world implications. As Dr. Hurd of the Mount Sinai School of Medicine notes, "Many people who are making the decisions about funding going to NIH [National Institutes of Health] and other organizations will now say we should have a moratorium on a drug that increases murder" (as quoted in Hablin, 2019). Carl Hart and Charles Ksir (2019) add, "As scientists with 70-plus years of drug education and research on psychoactive substances, we find Berenson's assertions to

be misinformed and reckless." And in February 2019, a group of 75 academics and medical professionals referred to *Tell Your Children* as "alarmism designed to stir up public fear based on a deeply inaccurate reading of science" (as quoted in Lartey, 2019). In a letter from "scholars and clinicians who oppose junk science about marijuana," the group commented, "We urge policymakers and the public to rely on scientific evidence, not flawed pop science and ideological polemics, in formulating their opinions about marijuana legalization" (Drug Policy Alliance, 2019b).

Our discussion of the flaws in Berenson's arguments regarding marijuana's dangers is not offered to make a claim that marijuana is a completely harmless substance. But as Jacob Sullum (2019a) suggests, "Whatever the hazards of marijuana use, prohibition surely does not reduce them or make them easier to deal with. To the contrary, prohibition tends to make drug use more dangerous and unpredictable, while a legal market featuring a wide variety of products that are tested for potency and come in labeled doses, accompanied by an open discussion of precautions aimed at minimizing unpleasant effects, tends to reduce risk."

To conclude this section, from the time marijuana was first prohibited at the federal level in the United States in 1937 to the present, the government, and at times certain media sources, have engaged in a concerted campaign to demonize it and thereby justify its continued prohibition. However, it is important to note that a number of government commissions, both in the United States and in other countries, have concluded that the possession and consumption of marijuana should not be subject to criminal penalties. The 1975 US Shafer Commission report recommended that possession of cannabis should not be a criminal offense (Trebach, 1988). The 1973 Canadian LeDain Commission report concluded that the prohibition of cannabis was an excessive, ineffective, and costly tool for controlling marijuana use (Government of Canada, 1973). These conclusions were consistent with the Wooton report in Britain (1968); reports in the Netherlands (1971–1972); and the Baume Commission in Australia (1977). And in 1995, the World Health Organization's (WHO) Program on Substance Abuse, commenting on the effects of cannabis, noted, "On existing patterns of use, cannabis poses a much less serious public health problem than is currently posed by alcohol and tobacco in Western societies" (as cited in Jelsma, 2003, p. 190). However, in the final WHO report, the comparison to alcohol was deleted, likely in response to US officials' concerns. In Chapter 11, we address recent developments in marijuana policies in the United States.

CRACK COCAINE

The crack cocaine "epidemic" was constructed by media, government, and law enforcement officials in the mid- to late-1980s (Brownstein, 1996). Reinarman and Levine (1997) note that in July 1986 alone, the three major television networks in the United States presented 74 evening news segments on drug-related topics, half of which focused on crack. Between October 1998 and October 1999, the *Washington Post* alone featured 1,563 stories about the drug crisis. Many of the stories on crack alleged that its use led to the commission of violent crime and that (smokeable) crack cocaine was more addictive than cocaine administered nasally; this constituted one of the justifications for treating the former substance more severely than the latter in drug legislation passed in the 1980s (see Chapter 11). However, as Alexander (1990) and others have noted, there is no difference in the

addictive liability between crack cocaine and cocaine hydrochloride. Furthermore, most people who try crack use it for a relatively short period of time.

The media also presented the image that crack was primarily a drug used by African Americans, which served to demonize it in the eyes of many white people. However, a study published in the *Journal of the American Medical Association* found that given similar social and environmental conditions, crack use was not strongly related to race-specific individual factors. Once respondents in this study were grouped into neighborhood clusters, the relative odds of crack use were not significantly different for African Americans or Hispanic people compared with white people (Lillie-Blanton, Anthony, & Schuster, 1993, p. 996).

More generally, several authors have noted that crack cocaine use never did constitute an epidemic in the United States (Akers, 1992; Reinarman & Levine, 1997). As Alexander (1990) comments, "One could argue that there is an epidemic of having used cocaine at least once, if about 10% of the American population . . . can be taken as constituting epidemic proportions" (p. 187). However, the crack cocaine "epidemic" allowed legislators to shift the blame for many of the social problems of the 1980s, including relatively high rates of unemployment and crime, from the actions (or nonactions) of government to the drug taking and trafficking of individuals. "Crack was a godsend to the Right. They used it and the drug issue as an ideological fig leaf to place over the unsightly urban ills that had increased markedly under the Reagan administration's social and economic policies" (Reinarman & Levine, 1997, p. 16). We address recent developments in the legislation dealing with crack cocaine in Chapter 11.

ECSTASY (MDMA)

Ecstasy is a drug invented by German psychiatrists in 1912. It was tested as a "truth drug" by the US Central Intelligence Agency in the 1940s (Davenport-Hines, 2001) and has also been used to facilitate psychotherapy (ONDCP, 2002a). In fact, in the 1950s and 1960s, treatment with hallucinogenic drugs such as ecstasy was seen to be the cutting edge of psychotherapy (Ehrman, 2003; Pollan, 2018).

As the use of ecstasy allegedly increased in the United States in the late 1990s and early 2000s, especially at dance parties ("raves") and similar events, government officials deemed it necessary to inform the public of the dangers associated with the substance. During this period, thousands of articles on the topic of ecstasy appeared in popular magazines, newspapers, and on the Internet. A police officer in Richmond, Virginia, told a reporter, "It appears that the ecstasy problem will eclipse the crack cocaine problem we experienced in the 1980s" (as quoted in Cloud, 2000). An editorial written by former drug czar William Bennett claimed, "While the crack cocaine epidemic of the 1990s has passed, methamphetamine and ecstasy are growing in popularity, especially among the young" (Bennett, 2001). Although Bennett did not provide statistics to support his assertion of an increase in ecstasy use, a survey conducted under the auspices of the Partnership for a Drug Free America found that the percentage of teenagers reporting use of ecstasy had doubled between 1995 and 2000, from 5% to 10% (PFDFA, 2000).

In order to provide evidence of an "alarming explosion" (Rashbaum, 2000) in ecstasy use, media sources relied on statistics on seizures of ecstasy tablets, reports of law enforcement officials, and emergency room admission (DAWN) data. The commissioner of the US Customs Service claimed that seizures of ecstasy by his agency had increased from 350,000 in 1997 to 3.5 million in 1999, then to

2.9 million in just the first 2 months of 2000. He also predicted that ecstasy seizures would increase to 7 or 8 million by the end of 2000 (Wedge, 2000). Hays (2000) indicated that "seizures of the tablets . . . have multiplied like rabbits." Gullo (2001) noted, "Ecstasy, a drug once used primarily at night clubs, has expanded beyond the club scene and is being sold at high schools, on the street, and even at coffee shops in some cities." The source of the claims that ecstasy was being used in contexts in which it had not previously been used was an informal survey of officials in 20 cities in the United States.

Although the popular press and government officials emphasized that ecstasy was a dangerous substance because of claims that it was the cause of several deaths, the causal relationship between ecstasy consumption and death has not been well established. For example, in New York, a study of 20 deaths that had been attributed to ecstasy found that only three were caused by ecstasy alone (Gill, Hayes, deSouza, Marker, & Stajic, 2002). This phenomenon also occurred in Britain, where it was found that 19 of 27 individuals whose death had originally been attributed to ecstasy had other drugs in their system (Boseley, 2002), and Canada, where an inquest into 13 deaths said to be caused by the drug revealed that seven of the individuals had also used heroin, cocaine, and/or methadone (Prittie, 2000).

A similar pattern of constructing an ecstasy epidemic through reference to seizures of the substance occurred in Canada. In May 2000, several Canadian newspapers announced that the largest seizure of ecstasy in the country's history had occurred at the Toronto airport. Police reported that they had seized 170,000 ecstasy tablets, valued at $5 million. However, it turned out that the police had made a mathematical error in their calculations, weighing the quantity of pills per pound instead of per kilogram. Thus, the actual seizure was 61,000 tablets, valued at $1.8 million. A spokesperson for the Royal Canadian Mounted Police noted, "It's one of those unfortunate situations. It was an error that we made and we're only human. So I apologize for that" (as quoted in Alphonso, 2000).

Consistent with the theme of demonizing drugs by attributing their distribution to foreigners, several media and government sources indicated that the main traffickers in ecstasy were Israelis. One report on ecstasy asserted that "Hasidic Jews" were couriers and that "Israeli organized crime dominates the global trade [in ecstasy]" (Cloud, 2000). This connection was confirmed in another article: "For the most part, Israeli-organized crime syndicates have been implicated as the main source of distribution of the drug in the United States" (Hernandez, 2000). Further, Leinwand and Fields (2000) noted, "The international crime agency Interpol, the US Customs Service, and the Drug Enforcement Administration have tracked Israeli crime groups and Russian mobsters trading in ecstasy." Even the "official" federal government source of information on ecstasy, an ONDCP (2002a) Fact Sheet, noted, "The majority of **MDMA** comes from Europe and is thought to be trafficked by Israeli organized crime syndicates."

One of the most prominent themes in government and popular media sources on the topic of ecstasy was assertions that use of the substance causes brain damage. As we have discussed already, and as will be discussed in more detail later in this book, there have been numerous instances of "scientific" studies on the effects of drugs that present misleading and, in some cases, fraudulent information that is then used to justify stringent drug policies. A particularly disturbing example of this phenomenon is seen in research on the effects of ecstasy by George Ricaurte

and his colleagues at Johns Hopkins University. One of Ricaurte's studies, sponsored by the National Institute on Drug Abuse and published in the prestigious journal *Science*, claimed that ecstasy could cause permanent brain damage in human users of the substance: "Even one night's indulgence [in ecstasy] may increase the odds of contracting Parkinson's disease" (Ricaurte et al., 2002).

In this study, Ricaurte et al. administered three consecutive doses of what they claimed to be ecstasy to monkeys at 3-hour intervals. When these monkeys were tested after 6 weeks, their **dopamine** levels had decreased by approximately 65%. Ricaurte et al. (2002) concluded,

> *These findings suggest that humans who use repeated doses of MDMA over several hours are at risk of incurring severe dopaminergic neural injury. . . This injury, together with a decline in dopaminergic function known to occur with age, may put these individuals at increased risk for developing Parkinsonism and other neuropsychiatric diseases involving brain dopaminergic/serotonin deficiency, either as young adults or later in life. (p. 2263)*

The Ricaurte et al. (2002) study was widely reported in the popular media and led to calls for tougher laws to deal with ecstasy. Dr. Alan Leshner, former director of the Drug Abuse Institute, claimed that using the substance "is like playing Russian roulette with your brain" (as quoted in Ehrman, 2003). Perhaps coincidentally, the Ricaurte et al. study was published around the same time that Congress was considering a bill designed to control ecstasy (the RAVE Act; see Chapter 11).

However, it turned out that rather than administering MDMA to the monkeys in his lab, Ricaurte et al., apparently unbeknownst to them, had been administering methamphetamine. The mistake was blamed on a labeling problem; apparently the labels attached to drug containers supplied to Ricaurte's lab were incorrect. Ricaurte claims he realized his mistake when he could not replicate his own results by administering MDMA to the monkeys orally (McNeil, 2003). Ricaurte further asserted that his laboratory had made a "simple human error. We're scientists, not politicians." When asked why the vials of drugs were not checked by those conducting the research, he responded, "We're not chemists. We've got hundreds of chemicals here. It's not customary to check them" (as quoted in McNeil, 2003). This response seems rather bizarre when we consider that Ricaurte's research laboratory's primary activity is to examine the effects of chemical substances on animals (see box).

As one critic noted in response to Ricaurte's comments, "OK. Slow down. Read that again. We get hundreds of chemicals in here, in this scientific laboratory where we analyze the effects of chemicals on primate subjects, and we do not bother to check the chemicals. Nope, we just read the labels, get out the syringe, and hello monkey want some whatever-it-is?" (McNeil, 2003).

Once this mistake was revealed, a retraction of the article was published in *Science* (Ricaurte, Yuan, Hatzidmitriou, Cord, & McCann, 2003). However, in issuing this retraction, Ricaurte et al. added, "The apparent labeling error does not call into question multiple previous studies demonstrating the **serotonin** neurotoxic potential of MDMA in various animal species" (p. 1479). Although Ricaurte et al. thus claimed that the wrong chemical (methamphetamine instead of MDMA) had been used only in the study published in *Science*, of the other journals that published research on the effects of ecstasy written by Ricaurte et al., including the

European Journal of Pharmacology, the *Journal of Pharmacology*, and *Experimental Therapeutics*, the only other article retracted was the one appearing in the *Journal of Pharmacology*. However, Ricaurte was only able to account for 2.25 g of the 10 g of methamphetamine that were in the original container that had been labeled as MDMA, suggesting the possibility that other published studies by his research team should also be retracted (Doblin, 2003).

While Ricaurte et al. should be commended for issuing the retraction of the *Science* article, it is important to keep in mind that their findings of a relationship between ecstasy use and brain damage had already been widely cited in print and other forms of media as evidence of the dangers of ecstasy. It is also possible that scientists and/or journalists conducting research on the effects of ecstasy will continue to cite this study.

Even before the revelations that Ricaurte and his research team had been administering methamphetamine rather than MDMA to the monkeys, other researchers had criticized the study. One commentator noted, "The multiple-dose regimen of injected MDMA administered by Dr. Ricaurte does not simulate human exposure, does not cause cell death, and does not predict anything as a result of MDMA" (as quoted in Drug Policy Alliance, 2002d). Similarly, Colin Blakemore, chair of the British Association for the Advancement of Science, and Leslie Iversen, a British pharmacologist, had communicated with the editor of *Science* and suggested that Ricaurte's article should not have been published due to several methodological problems. Interestingly, the very title of Ricaurte's (2002) article published in *Science* was misleading, in that it used the phrase *common recreational dose regimen*. As Blakemore and Iversen pointed out, Ricaurte had administered the drug to monkeys subcutaneously, which would deliver a much higher dose to the brain than the normal amount of ecstasy consumed by humans (Walgate, 2003). An additional issue was the extreme effect on the dopamine system reported by Ricaurte; such effects had not been previously associated with MDMA but were known to occur with methamphetamine (Walgate, 2003). In fact, well before Ricaurte discovered the mistake, Iversen had suggested that the reported results appeared to be more characteristic of amphetamine than of MDMA ("Retracted Ecstasy Paper," 2003). This possibility had also been raised in another *Science* article published some 9 months after the Ricaurte et al. (2002) publication. Mithofer, Jerome, and Doblin (2003) had noted, "The dopamine changes produced by MDMA [in the Ricaurte et al. study] have long been known as potential effects of d-amphetamine and d-methamphetamine" (p. 1504).

Ricaurte's laboratory received millions of dollars in funding from the National Institute on Drug Abuse and produced several studies concluding that ecstasy is a dangerous substance (McNeil, 2003). His earlier studies were cited as evidence of the dangers of ecstasy in the previously mentioned ONDCP (2002a) Fact Sheet on MDMA, which noted, "A recent study sponsored by the National

In addition to the alarmist media reports emanating from the findings of the Ricaurte et al. (2002) study, the claim that ecstasy causes brain damage was reinforced through disturbing images showing holes in the brain of an alleged MDMA user—these images were shown on a MTV special documentary about the substance, as well as on the popular *Oprah Winfrey* show. However, these brain images had in fact been graphically manipulated to represent areas of lower brain blood flow as holes and were completely fraudulent (Doblin, 2003).

Institute on Drug Abuse showed that monkeys that were given doses of MDMA for four days suffered damage to the brain six or seven years later." Although, as we will discuss in Chapter 7, federal government agencies that provide financial support for drug research have discontinued the funding of researchers who produce results that do not support the continuation of the drug war, apparently this does not apply to researchers who produce findings such as those of Ricaurte. Despite the documented problems associated with Ricaurte's research, to the best of our knowledge, the National Institute on Drug Abuse did not discontinue funding his research. As the British pharmacologist Iversen suggested,

> *It's another example of a certain breed of scientist who appear to do research on illegal drugs mainly to show what the government wants them to show. They extract large amounts of money from the government to do this sort of biased work. ("Retracted Ecstasy Paper," 2003)*

The above discussion is not intended to suggest that there are no harms associated with the use of ecstasy. As will be discussed in Chapter 3, ecstasy exerts its effects by stimulating the brain to produce serotonin. Given that the brain can only produce a finite amount of serotonin over a lifetime, long-term heavy use of ecstasy could lead to the depletion of the brain's serotonin supply, possibly resulting in a higher risk for depression among long-term users (Richburg, 2001). But the most serious short-term risks associated with ecstasy are related to the fact that many pills are adulterated with other chemicals (Stafford, 2012), several of which are more dangerous to users than pure ecstasy. A study of the composition of seized ecstasy pills conducted by the Royal Canadian Mounted Police found that many contained methamphetamine, ketamine, and PCP (Leinwand, 2002). Other adulterants included caffeine, cocaine, and a number of over-the-counter drugs. One of the most dangerous adulterants is dextromethorphan (**DXM**), a cough suppressant that can produce hallucinations if it is taken in concentrated form (McColl, 2001). And because DXM also inhibits sweating, it can easily cause heatstroke (Cloud, 2000). The problems resulting from unknown and often dangerous adulterants in ecstasy could be alleviated under a system of government regulation of the substance, although we are not necessarily advocating regulation here. But it is also important to note that recent studies indicate that MDMA does not impair cognitive functioning (Halpern et al., 2011), and the Multi-disciplinary Association for Psychedelic Studies has administered the drug to at least 500 people in various clinical trials, with no reports of any adverse events associated with its use (Stafford, 2012).

Its initial popularity was in nightclubs, because it made people want to dance the night away, but now an even more dangerous knock off may be giving young teens more than what they bargained for. The old party drug ecstasy has a new knock off, with a sweet-sounding name. Molly (Virgin, 2018).

Like other substances covered in this chapter, ecstasy of course never really went away, but appeared in somewhat different forms, once again raising alarms. It was reported that Molly, "a drug dealer's synthetic attempt at reproducing the most pure form of MDMA," was leading to what the Drug Enforcement Administration referred to as the "Molly revolution" (Virgin, 2018). In 2013 it was reported that 31 Molly users were arrested on drug charges, four were hospitalized, and two died from overdoses at a 3-day "Electric Zoo" music festival on Randall Island in New York (Anderson, 2014).

And in early 2015 at Wesleyan University in Connecticut, 12 people were hospitalized after allegedly taking Molly, with two of them reported to be in critical condition (Lupkin, 2015).

Because some users believe Molly is pure MDMA they assume that it is safer than ecstasy, but it is often cut with other drugs—in fact, in some cases, Molly contains no MDMA. As Ingraham (2015a) points out (and similar to the situation with deaths allegedly related to ecstasy discussed above), "Reporting that the Wesleyan students have 'overdosed' on the drug, as many news outlets have done, is almost certainly not correct. In cases like this, people are usually getting sick not because they're taking too much MDMA, but because they're taking MDMA adulterated with any number of far more dangerous drugs" (Ingraham, 2015a). Studies have found that pure forms of MDMA are rare in the United States—ecstasy and Molly tablets have been found to contain caffeine, ketamine, methamphetamine, PCP, cocaine, and heroin (Elkin, 2018), as well as other dangerous chemicals such as pesticides, chlorine, and toxic household cleaners (Veeravagu & Azad, 2014).

METHAMPHETAMINE

After the crack cocaine "epidemic" subsided, arguably the most prominent candidate for the "drug of the 1990s" was methamphetamine. Brecher's (1972) comments in the context of declining rates of methamphetamine use in the late 1960s and early 1970s seem especially prescient in the context of recent developments with respect to the substance:

> *If these trends continue, the speed freak may in the not too distant future be merely a historical oddity. Unless, of course, a new wave of anti-speed propaganda campaigns serve to encourage a shift from less dangerous to more dangerous drugs. (p. 3)*

Once again, it is important to emphasize that in our discussion of methamphetamine, we are by no means trying to minimize its often devastating effects. Our purpose, instead, is to critically examine the extant information on this drug and to focus on how, as has been the case with other illegal drugs, official government, criminal justice system, and media sources have grossly exaggerated the extent of the methamphetamine problem.

Numerous government, media, and Internet sources in the late 1990s claimed that methamphetamine use in the United States constituted an "epidemic" (a Google Internet search using the words *methamphetamine epidemic* on December 29, 2005, resulted in more than 246,000 hits). President Clinton referred to methamphetamine as "the crack of the 90s," and in February 1998, drug czar Barry McCaffrey asserted, "Methamphetamine has exploded from a west coast biker drug into America's heartland and could replace cocaine as the nation's primary drug threat" (as quoted in Pennell, Ellett, Rienick, & Grimes, 1999).

McCaffrey also referred to methamphetamine as "the worst drug that has ever hit America" (as quoted in Nieves, 2001). Some years later, Representative Tom Osborne of

The title "crack of the 90s" had earlier been given to gambling and heroin. As Sullum (2003a) notes, "Since heroin was perceived as the chief drug menace in the 1970s, crack could be described as the heroin of the 80s. Then meth was the crack of the 90s, and it looked like heroin could become the meth of the next decade" (p. 238).

Nebraska called methamphetamine "the biggest threat to the United States, maybe even including Al Qaida" (as quoted in "My Mistress Methamphetamine," 2005). In a 1996 publication, the National Institute of Justice asserted that statistics from the Drug Use Forecasting (DUF) program (a program that administers drug tests to jail inmates; see Chapter 5) "may signal an impending methamphetamine pandemic." The publication noted that approximately 6% of all adult and juvenile arrestees at DUF sites tested positive for methamphetamine in 1996. And while it is certainly true that rates of methamphetamine-positive drug tests for arrestees were significantly higher in cities such as San Diego and Phoenix, the DUF system was developed to examine drug use trends among arrestees and variations in these trends across cities; it was not designed to be a measure of drug use in the general population. We should thus treat these statistics alleging an emerging methamphetamine "pandemic" with skepticism.

In addition to government claims of a methamphetamine "epidemic," a number of popular media sources made similar assertions. Thus a 1996 article in the Spokane, Washington, *Spokesman-Review* with the headline "Meth Turning Kids Into Monsters" claimed that methamphetamine was "exploding through the Inland Northwest and the nation." An official from the city of Spokane claimed that half of the young people booked into the juvenile detention center in the city had used the drug (Sitamariah, 1996). Methamphetamine was also said to have "ravaged the state [of Missouri] for more than a decade, ensnaring young and old, businessmen, housewives, and entire families" (Pierre, 2003). A detective in Franklin County, Missouri, argued, "It used to be big news to find a meth cook. Now *everybody* is cooking meth" (as quoted in Pierre, 2003; italics added). An official from the Bureau of Alcohol, Tobacco, and Firearms stated, "[Meth] has literally spread like dermatitis. . . It's like trying to fight a water balloon. You fight it and it goes somewhere else" (as quoted in Pierre, 2003).

A 2005 *Newsweek* article ("America's Most Dangerous Drug") made questionable use of the US National Household Survey on Drug Use and Health statistics to bolster claims of a methamphetamine epidemic. The article claimed that in 2004, there were 1.5 million "regular users" (equivalent to approximately 0.6% of the population aged 12 years and older) of meth in the United States (Jefferson, 2005); however, it is important to note that this figure was based on survey respondents who reported that they had used methamphetamine at least once in the previous year. Gillespie (2005) questions whether use of methamphetamine in the past year is equivalent to "regular use"; "Are you a regular user of liquor if you've had one drink in the past year?"

The same 2005 *Newsweek* article also included data from a July 2005 telephone survey of 500 law enforcement agencies conducted by the National Association of Counties; 58% of those responding to the survey said methamphetamine was their "biggest drug problem." However, as Gillespie (2005) notes, the law enforcement officials' responses to the survey may have been influenced by the preface to the survey, which stated, "As you may know, methamphetamine use has risen dramatically in counties across the nation." In addition, there are questions surrounding the methodology of the National Association of Counties' survey because it provided no information regarding response rates or how representative the sample of 500 counties was of all counties in the United States (Gillespie, 2005; see also Shafer, 2006).

Newspaper reports documenting the methamphetamine phenomenon often made rather questionable statistical comparisons in order to underline the extent of the alleged problem. An article in the *Spokesman-Review* noted that the number of

methamphetamine addicts in Spokane County treated in publicly funded clinics rose "nearly 2,200%" between 1993 and 1999 (Martin, Rourke, & Gaddy, 2002). While this may appear to be an alarming increase, it is perhaps less so when we realize that in terms of actual numbers, there was an increase from 22 individuals being treated for methamphetamine in 1993 to 503 in 2000 (the population of Spokane County in the year 2000 was 417,939). A related media strategy is to report on large percentage increases in methamphetamine cases and/or methamphetamine-related crime without providing the raw figures on which the percentage increases were calculated. For example, an article on the topic of methamphetamine in *Newsweek* magazine noted, "In North Dakota, where meth cases have quadrupled since 1994, a Northeastern University study estimates that the teen murder rate jumped by 320 percent. Across the river, in Clay County, Minnesota, crime is up 500 percent over five years" (Bai, 1997). However, the actual numbers of murders and crimes were not provided in this article. A *USA Today* article reported that there was a "144 percent rise in meth-related deaths from 1992–1994—deaths were up 222 percent in Los Angeles and 510 percent in Phoenix" (Davis, 1995). Again, no raw data were provided.

There have also been allegations that in comparison to other substances, methamphetamine has properties that make users more susceptible to addiction. Several sources emphasized that the "high" from methamphetamine lasts longer than the psychoactive effects of other drugs, although the actual length of time the high is alleged to last varies widely depending on which source is consulted. Thus Durbin (2003a) asserts that a methamphetamine high can last 14 hours or more; Brandon (2001) suggests that it lasts 12 hours, while a National Institute of Justice Report claimed that "the high can last up to 24 hours" (Pennell et al., 1999). Apparently, these longer highs are partial contributors to meth users being more susceptible to addiction. A sheriff's lieutenant in Spokane, Washington, claimed that "nearly 95% of all meth users are addicted to the drug six months after using it" (as quoted in Blocker, 2001a), and an *Associated Press* article asserted, "Smoking it provides a high so intense and long-lasting that addiction can be instant, **withdrawal** is excruciating, and brain damage is often permanent" ("Meth Threatens Hawaii's," 2003). Another article suggested "Just one hit, and meth can take over a life" and that "even two binges scorch the pleasure center of the brain, causing lifelong depression" (Martin et al., 2002).

The Drug Enforcement Administration's website (www.justthinktwice.com) included a link to "Meth is Death," a site sponsored by the Tennessee District Attorneys General Conference, which claimed that "one in seven high school students will try meth"; "99 percent of first-time users are hooked after the first try"; "only five percent of meth addicts are able to kick it and stay away"; and "the life expectancy of a habitual meth user is only five years." Sullum (2005) encourages a critical consideration of these statistics:

> *Do the math . . . and you will see that 13.4% of Americans die as a result of methamphetamine abuse within five years of graduating from high school. According to the US Census Bureau, there are more than 20 million 15- to 19-year olds in the US, so we are talking about hundreds of thousands of deaths a year, and that's not even counting people who start using meth* after *high school.*

Clearly, there have been nowhere close to this number of deaths caused by methamphetamine, which underlines the absurdity of the "information" contained on the Tennessee District Attorneys General website.

Even "environmental crime" has been attributed to methamphetamine addicts. For example, in the Olympic National Forest in Washington State, it was alleged that methamphetamine addicts were funding their daily drug habits by chopping down trees and selling the wood ("Addicts Blamed," 2001).

Media sources discussing methamphetamine also claimed that the substance was related to increases in the commission of property and other crimes. An attorney in Butler County, Missouri, claimed that criminal cases accounted for 75% of his practice, and that 75% of those cases were meth related. The same attorney also claimed that one in four of the divorce cases he handled involved situations in which the husband or wife used methamphetamine (Pierre, 2003). Similarly, a prosecutor in Spokane, Washington, claimed that "most property crimes are committed by people addicted to meth" (as quoted in Blocker, 2001b). Going even further, a detective in the Spokane County Sheriff's office asserted, "In *all* the stolen property cases, meth has been at the center" (as quoted in Martin et al., 2002; italics added). In Oregon, the Governor's Public Safety Advisor asserted that methamphetamine was the "driving force in 80 to 90 percent of the property crimes committed" (as quoted in Esteve, 2003).

An analysis of the Portland *Oregonian*'s coverage of methamphetamine noted that the newspaper had published at least 261 stories on methamphetamine over the one-and-a-half-year period ending in March 2006, and that the statistic that the drug "fuels" 85% of the property crime in Oregon had appeared in at least 14 articles between 2002 and 2006, without any attribution (Valdez, 2006). However, as Scott Moore (2006) pointed out, if methamphetamine was responsible for 85% of the crimes, one would expect that the property crime rate in Oregon in the early 2000s would be close to double the rates in the "pre-epidemic" years. However, in 1990, the property crime rate in Oregon was 521 per 10,000 population; it decreased to 478 per 10,000 population in 2003. Further evidence that estimates of the relationship between methamphetamine use and involvement in crime are inflated is provided by data from the Arrestee Drug Abuse Monitoring (ADAM) Program. In 2003, 25.4% of arrestees subject to drug tests in Portland, Oregon, tested positive for methamphetamine use (ADAM, 2003). While this is by no means an insignificant figure, it is a far cry from the 85% figure cited by law enforcement and government officials. In short, while scientific research generally confirms that users of some illicit drugs are more likely to be involved in property crimes than those who do not use drugs, we need to ask if methamphetamine (or any other illegal drug, for that matter) were eliminated, would all property crime also be eliminated?

As discussed above with respect to other drugs, a useful rhetorical device used to demonize a substance is to report anecdotal cases of bizarre acts committed by individuals allegedly under its influence. Several media sources recounted the story of a man (Eric Smith) in New Mexico who was high on methamphetamine and beheaded his 14-year-old son and "tossed the head from his van window onto a busy highway" (D. Johnson, 1996). This particular incident was also recounted in a *USA Today* article, which added, "Smith's grisly act last July was just another bizarre outburst blamed on methamphetamine, a powerful stimulant known on the street as 'crank' or 'ice' that's fast becoming the top choice of Americans buzzing in life's fast lane" (Davis, 1995). Quoting UCLA pharmacologist Ron Siegel, the article further noted, "[The Smith case] is pretty mild compared to the kind of case we're seeing in California. . . We're seeing everything from serial killing to

necrophilia." This article also noted that abusers of methamphetamine included Adolf Hitler and recounted another incident to emphasize the dangers associated with the substance:

> *A California woman, who fueled her long days cleaning houses with meth, sat down to watch the* Ten Commandments *[movie] with her kids after work. By the end of the movie, she'd killed her first born child in a ritual way that was a copycat of the movie. (Davis, 1995)*

In Oregon, it was reported that

> *Jeffrey Cooper was high on meth when he helped kidnap Elizabeth Gumm at an ATM machine and then watched as his friends beat her and threw her down a hill to die. How did he go so wrong? The answer is methamphetamine, a highly addictive powder with a jolt more powerful and longer-lasting than cocaine. (N. McCarthy, 1995)*

This article also quoted a drug treatment center caseworker, who said,

> *I guess the thing that alarms me about this drug is that it literally turns people into animals. They don't eat, they don't bathe. They don't take care of their children. They live in filth, and they just become subhuman. (N. McCarthy, 1995)*

In Fargo, North Dakota, a "meth addict who burned his house down while hallucinating, killing his own mother, pleaded guilty to manslaughter" (Bai, 1997). A report on methamphetamine use in Washington State even went so far as to attribute animal abuse to the effects of the drug, noting "there were tweakers [methamphetamine users] who clubbed to death 17 newborn calves" (Solotaroff, 2003). Apparently, the connection between methamphetamine use and killing animals is not a uniquely American phenomenon. When a 37-year-old businessman in Sydney, Australia, killed 17 rabbits and a guinea pig in 2005, he claimed to be in a "drug-induced psychosis caused by ice." A forensic scientist's report on this individual noted that meth use caused him to have hallucinations and to "communicate" with rabbits (C. Munro, 2006). While we are not denying that the incidents described above occurred, does it make sense to attribute them to methamphetamine alone, or could other factors be involved?

Accounts of bizarre acts engaged in by individuals allegedly under the influence of methamphetamine have not been restricted to the popular media. A 1999 National Institute of Justice report on methamphetamine recounted the case of "[an individual] in San Diego who commandeered an army tank and wreaked havoc on people before being shot down by the police. . . . The individual was an acknowledged meth user." The same report noted, "In Riverside, California, a 40-year-old mother killed her children, ages one, two, and three, when she was using her kitchen to cook meth, and an explosion occurred" (Pennell et al., 1999).

In the previous example, we also see another consistent theme in drug demonization: an emphasis on how drugs threaten children. In an example of this theme, Swetlow (2003) noted,

> *Hazardous living conditions and filth are common in meth lab homes. Loaded guns and other weapons are usually present and often found in easy-to-reach locations. Living and play areas may be infested with rodents and insects, including cockroaches,*

Hungry children sat quietly in a darkened room, terrified of their abusive father. In the kitchen, maggots and rotting food filled the fridge. With the electricity out, cooking was done on a propane stove. The furniture was repossessed. The welfare check was already spent. The family was being evicted. None of this mattered to Wayne and Dina Tamura. As long as the couple from the tiny town of Kau was high on crystal methamphetamine, they were happy ("Meth Threatens Hawaii's," 2003).

A deputy sheriff in Scott County, Tennessee, attributed an increase in methamphetamine lab arrests in his county to prayers by residents. "We have seen a 600% increase in drug arrests, specifically with meth, since we have had the prayer vigil.... We have used every tool that we could to slow down the drug problem that we have here and prayers have been the answer" (as quoted in Lake, 2011).

> *fleas, ticks, and lice. Ashtrays and drug paraphernalia are often scattered within a child's reach, sometimes even in cribs.*

Swetlow (2003) further commented,

> *Dangerous animals trained to protect illegal meth labs pose added physical hazards, and their feces contribute to filth in areas where children play, sleep, and eat. Many children who live in meth homes are also exposed to pornographic materials or overt sexual activity.*

While all of these assertions may, in fact, be true, is it logical to imply that the *drug* is the *cause* of the children's exposure to danger in general, and pornography and sexual activity in particular?

In an opinion/editorial published in the *Los Angeles Times*, Kleiman and Satel (1996) make the important point that "in the case of methamphetamine, there is no need for the exaggeration that has created a credibility problem for other drug campaigns." It is certainly important that we not underestimate the very real problems substance abuse in general, and the use of methamphetamine in particular, cause in society. At the same time, our ability to effectively deal with these problems is not helped through overstatement and misrepresentation of facts.

It is important to note that, while much of the recent focus on drug epidemics has been related to opioids, methamphetamine has not disappeared. A Drug Enforcement Administration tracking system indicated that there were 347,807 meth seizures submitted to labs in 2017, representing a 118% increase in such seizures since 2010 (The Crime Report, 2019). And according to the Centers for Disease Control there were 6,762 methamphetamine-related deaths in 2016, almost 3.5 times higher than in 2011.

DRUG "EPIDEMICS" OF THE 2000S AND 2010S

Not surprisingly, several socially constructed drug "epidemics" have emerged in recent years. Although we focus on Spice/K2, bath salts, and flakka below, several other drug scares, focusing on a variety of consciousness-altering substances (some of which we typically would not think to have such effects), have emerged. In 2010, for example, newspapers and television broadcasters reported that youth were consuming nutmeg to achieve highs, that the substance was (obviously) cheap and readily available, and "hence the end of the world has come" (Shafer, 2010; see also Curtis, 2012). In 2012, Americans were warned about the "cinnamon challenge,"

which "went viral . . . as over 50,000 video clips of people attempting to swallow a tablespoon of cinnamon popped up on YouTube." The American Poison Control Centers reported receiving 139 calls related to cinnamon abuse in the first 3 months of 2012 (Sifferlin, 2013). But in 2014, it was reported that "teens are no longer sniffing glue or huffing cinnamon, they're apparently slathering their eyelids with Burt's Bees lip balm to experience a tingly, stingy high" (Stebner, 2014).

Spice/K2

Concerns surrounding Spice/K2 (synthetic cannabis) emerged in the 2000s and the substance was similarly connected to the commission of deviant and/or bizarre acts by its users. This drug, whose active ingredients are synthetic cannabinoids, was developed by Clemson University chemist John Hoffman (Gay, 2010) and, up until 2011, could be purchased in head shops in several jurisdictions in the United States. "Synthetic cannabinoids are human-made mind altering chemicals that are either sprayed or dried, shredded plant material so they can be smoked or sold as liquids to be vaporized and inhaled in e-cigarettes and other devices" (NIDA, 2018b). Although synthetic cannabinoids are sometimes marketed as safe, legal alternatives to marijuana, "they are not safe and may affect the brain much more powerfully than marijuana; their effects can be unpredictable and, in some cases, more dangerous or even life-threatening" (NIDA, 2018b).

Similar to the construction of other drug epidemics, one strategy is to present data on adverse events connected to the use of a substance. Thus it was noted that, in 2009, Poison Control Centers in the United States had received 13 reports of K2/Spice poisonings, but in the first 6 months of 2010, there were 766 such reports (Havrelly, 2010). K2 was also demonized through reports of the commission of deviant acts by users of the substance: For example, 18-year-old "athlete and band standout" David Rozga "got high on fake pot" and "though he had never suffered from depression . . . went home, found a shotgun, and killed himself" (Salter & Suhr, 2011). Detective Sergeant Brian Sher of the Indianola police department, who led the investigation into Rozga's death, commented, "I've seen it all. I don't know what else to attribute it [Rozga's suicide] to. It has to be K2" (as quoted in Gay, 2010). Similarly, "Charlie Davel, 19, was killed after he fled police and went the wrong way on a highway in Mukwonago, Wisconsin. Friends told authorities he had smoked K2 several hours before the crash" (Blum, 2011). In Seattle, it was reported that an individual who crashed his vehicle into several pedestrians had been smoking K2 before driving (Sullivan, 2010). This substance was also apparently being widely used by individuals in the Armed Forces (largely because it cannot be detected in routine drug tests) with 113 members of the Navy and 260 Air Force personnel being disciplined for use or possession of the substance in 2011 (deVise, 2011). K2 is also apparently popular with individuals who must submit to drug tests, such as firefighters, police officers, and individuals on probation (Zagier, 2010), again, because it cannot be detected in routine drug tests.

Of course, as anecdotal accounts of the use of Spice proliferated, it was alleged that this drug too was a candidate for epidemic status. Ward Franz, the state representative who sponsored legislation in Missouri to ban Spice, stated, "It's like a tidal wave. It's almost an epidemic. We're seeing middle school kids walking into stores and buying it" (as quoted in Gay, 2010). In 2010, bans on Spice were implemented by legislators or public health officials in Alabama, Arkansas, Georgia, Hawaii, Iowa, Illinois, Kansas, Kentucky, Louisiana, Mississippi, Missouri,

"Because spice is just a chemical sprayed on something smokable, its ingredients can be easily and quickly changed. Like a molecular shape-shifter, spice is able to stay one step ahead of authorities. As soon as a state or country outlaws one particular cannabinoid, chemists from China to Birmingham cook up another, slightly different drug" (Miller, 2015). Reflecting this principle, the types of synthetic cannabinoid formulas increased from 2 in 2009 to more than 80 in 2015 (Malagon, 2018).

North Dakota, and Tennessee (Leinwand, 2010; Zagier, 2010). Several other states followed suit, and in 2012, the Drug Enforcement Administration placed K2/Spice under a Schedule I classification (Cohen, Morrison, Greenberg, & Saidinejad, 2012). However, in the proverbial game of the dog chasing its tail, such bans have little effect, as manufacturers of psychoactive substances circumvent the bans by making slight changes to the chemical formula. Dr. Nora Volkow, director of the National Institute on Drug Abuse, commented, "The moment you start to regulate one of them, they'll come out with a variant that is even more potent" (as quoted in "Bath Salts Ban," 2012). Similarly, an owner of a shop who sold K2 commented, "You can't prohibit something that hasn't been invented yet" (as quoted in Zagier, 2010). Interestingly, some have argued that laws criminalizing cannabis have been partially responsible for driving people to the use of Spice/K2 (Savage, 2010).

Concerns over Spice have re-emerged in recent years—in Alabama, it was reported that Spice "isn't just back. It's more prevalent and dangerous than ever" (Miller, 2015). There were 462 hospital visits related to Spice in a 1-month period in Alabama in 2015, 96 of these individuals were hospitalized, and 2 died (Miller, 2015). In Anniston, Alabama, it was reported that "*all* the kids in town" were trying Spice, and that several of them were committing suicide (Miller, 2015, emphasis ours). One youth who was "normally happy and polite," began "acting erratically, and was suddenly sullen and rude." His mother stated, "We lost our child due to spice, spice is the monster, not my son" (as quoted in Miller, 2015). In his book *Tell Your Children*, Alex Berenson cites the 2015 case of a Carolina man who "strangled four of his children and beat the 5th to death while under the influence of synthetic [cannabinoids], then put their bodies in his car and drove around with them for days. According to his arrest warrant, he told the police he'd killed the children—aged 8, 7, 6, 2, and 1—out of self defense" (Berenson, 2019a, p. 125).

Similarly, in New York State in 2015, poison control centers received close to 1,000 reports of adverse reactions to Spice, quadruple the number received in 2014—individuals using the substance experienced "extreme anxiety, violent behavior and delusions, with some of the cases resulting in death" (Schwarz, 2015). In another article, East Harlem in New York City was referred to as a "street of zombies" (Casey, 2015), and New York City police chief Bill Bratton, referring to Spice as "weaponized marijuana" noted that "these individuals, many of them under the influence of this drug, are totally crazy" (as quoted in Chasan & Moore, 2015). Spice was also linked to 56 overdoses in New York City in May of 2018—the city's health commissioner commented, "The surge in K2 overdoses is a reminder that the effects of K2 are unpredictable and dangerous. We want all New Yorkers to be aware of the serious side effects of K2, which include severe anxiety, confusion, fainting, vomiting, rapid heart rate, and in rare cases, death" (as quoted in Southall & Piccoli, 2018). And in the Chicago and Central Illinois area in 2018, it was reported that at least 2 people died and dozens were sickened after ingesting Spice that had been spiked with rat poison (Malagon, 2018).

Bath Salts and Flakka

One of the more prominent emerging drug "epidemics" of the 2010s was related to "bath salts." "These are not the Epsom salts that aunt Ethel used to sprinkle in a warm tub, nor are they soothing, fragrant bottles you pick up at the aromatherapy store" (T. Wilson, 2011). Instead, this is a stimulant drug whose active ingredient is methylenedioxpyrovalerone (MDPV), which, similar to K2/Spice, could be purchased at smoke and head shops and even some convenience stores. Users of this substance (which also goes by the names ivory wave, red dove, vanilla sky, super coke, cloud 9, pevee, ivory snow, ocean magic, white dove, white knight, and white lightning, among others), typically snort it, similar to cocaine, but it can also be injected, smoked, or even eaten. It was reported that during the January to June 2011 period Poison Control Centers in the United States received 3,470 calls about bath salts, compared to 303 such calls in all of 2010 (Goodnough & Zezima, 2011a). An emergency room physician in Virginia, in reference to the "epidemic" surrounding this drug commented, "If cocaine and methamphetamine were tropical storms, bath salts was a hurricane" (as quoted in Fischer, 2012).

Despite widespread coverage of bath salts drugs in the media, apparently there is still some confusion in the general public regarding the nature of these drugs. For example, in Toronto, Ontario, it was reported that a teenage boy attempted to purchase bath salt drugs at a beauty/bath shop. When the proprietor showed him a section of Epsom and dead sea bath salts, the youth indicated that he didn't want these, but instead wanted "the kind that can get you high" (Donkin, 2012). It was also reported that "truckloads" of (actual) products such as bubble bath and shower gel were being intercepted at the border after investigations found boxes that were labeled as bath salts.

As is typical of the characterization of almost all emerging drug "epidemics," the popular media are fed stories from law enforcement officials regarding the bizarre behaviors of individuals consuming these drugs. For example, Indiana state police claimed that a 42-year-old woman who was high on bath salts

> *trashed a hotel room. Police said when they arrived . . . Tammy Winter was sitting on a bed, rambling about evil spirits and needing to write on the walls of the room to protect her from the spirits. A relative who was present told police that Winter was an abuser of bath salts. (T. Wilson, 2011)*

In Kentucky, a young woman driving on a highway after consuming bath salts "became convinced her 2-year-old was a demon. She allegedly stopped the car and dropped the child on his head" (Salter & Suhr, 2011). In Mississippi, "a man who hallucinated after taking bath salts used a hunting knife to slit his face and stomach" (Salter & Suhr, 2011). A sheriff in Mississippi reported, "we had a deputy injured a week ago. They were fighting with a guy who thought they were two devils. That's what makes this drug so dangerous" (as quoted in Byrd, 2011). In Washington State, the drug was linked to the death of an army sergeant, his 5-year-old son, and the boy's mother. "[Stewart] raced past a trooper on I-5, refused to pull over, shot his wife, and then shot himself. Bath salts were found on his person, in one of his pockets, inside the interior of his car, and in his house" (Estaban, 2011). One of the most widely recounted cases involving

this drug was that of a man in Florida who chewed off the face of another man in May of 2012 in a "zombie-like cannibal attack" (Martinez, 2012) and was initially alleged to have tested positive for bath salts. However, subsequent drug tests revealed that this individual had used marijuana, not bath salts—in one of the most comprehensive reviews of baths salts' effects on the human body "the evidence seems stronger than ever that bath salts aren't likely to cause a craving for human flesh" (Elfrink, 2014).

Given the anecdotal cases surrounding the use of bath salts recounted above, it is perhaps not surprising that this drug was nominated as the worst drug ever. For example, a spokesperson for the Carolinas Poison Control Center described bath salts as "like being on cocaine, but ten times worse" (as quoted in Salter & Suhr, 2011). Similarly, Mark Ryan, Director of the Louisiana Poison Control Center, commented, "If you take the worst characteristics of LSD, PCP, ecstasy, cocaine, and methamphetamine and put all those together, you've got one big, bad thing" (as quoted in Halladay, 2011; see also Goodnough & Zezima, 2011b). And, in further revealing displacement effects, a sheriff from a county in Northern Mississippi noted that the problem with bath salts in his rural area grew after a law restricting sales of **pseudoephedrine** was passed in Mississippi (Byrd, 2011).

As Thompson (2014b) comments, "Bath salts illustrate a larger all-too-common cycle in the war on drugs: Authorities pick up on a new designer drug and ban it, only to encounter a chemical analogue appearing months later."

Like bath salts, flakka (the pharmaceutical name for the drug is α-PVP or alpha-PVP) is a synthetic cathinone, primarily manufactured in China, that "soared in popularity" in 2013, beginning in the state of Florida. According to the National Institute on Drug Abuse (2015), flakka "takes the form of a white or pink, foul-smelling crystal that can be eaten, snorted, injected, or vaporized in an e-cigarette or similar device. Vaporizing, which sends the drug very quickly into the bloodstream, may make it particularly easy to overdose." Also similar to bath salts, flakka produces effects that mimic the effects of cocaine and methamphetamine, and users of the substance can experience significant increases in their body temperature, as well as "excited delirium," a condition that involves hallucinations, paranoia, hyperstimulation, and increased strength (NIDA, 2015)—"Probably what has brought flakka the most attention is that it gives users what feels like the strength and fury of the Incredible Hulk" (Storrs, 2015). It was reported that police "regularly needed four and five officers to subdue a single agitated person [under the influence of flakka]" (Frankel, 2016).

Earlier this week, reports surfaced that Austin Harrouff, a 19-year-old Florida State University student, stabbed a married couple to death in their Jupiter, Florida, home, and then gnawed at the male victim's face. The FSU fraternity brother grunted like an animal as police tried to subdue him during the Monday night attack, officials said. Authorities believe Harrouff was high on flakka, a highly addictive designer drug that causes paranoia and psychosis (Scaccia, 2016).

Partially due to the fact that it is cheap (a dose can sell for $3 to $5, compared to the cost of a gram of cocaine, estimated to be from $62 to $80) (Scaccia, 2016), flakka apparently became a particularly serious problem in southern Florida—one man who admitted to being on flakka "broke down the hurricane-proof doors of a police department," and a girl in "Melbourne, Florida, ran through the streets screaming that she was Satan while on a flakka trip" (Storrs, 2015). During 2015,

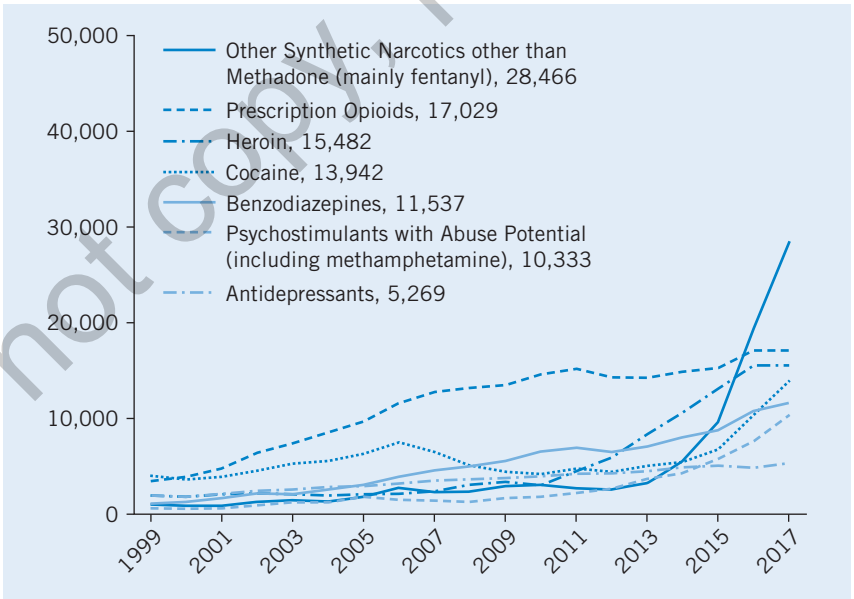
officials in Broward County, Florida reported that there were three or four flakka-related hospitalizations per day, and a drug treatment counselor noted that "at the height of the flakka craze, you were almost praying for crack cocaine to come back" (as quoted in Frankel, 2016).

Interestingly, however, while "flakka addicts were everywhere" in Broward County in 2015, in April 2016, a Broward County lieutenant told a *Washington Post* reporter, "This is incredible. I can't even find one person" (using flakka). "In just a few months, and with little attention, flakka has disappeared from South Florida" (Frankel, 2016). The sudden disappearance of flakka was attributed to the coordinated response of local groups to address demand for the substance through the efforts of a "Flakka Action Team" (consisting of representatives from law enforcement, substance abuse counselors, and other professionals), and perhaps more importantly, to convince the Chinese government to cease production of flakka (Frankel, 2016). But, as an addiction medicine expert commented, "You wait for a couple of weeks and then you get something else. A cheaper substitute" (as quoted in Scaccia, 2016).

THE OPIOID EPIDEMIC

While the drug epidemics discussed above have largely been socially constructed, the United States opioid epidemic, which has been developing since the late 1990s, is unquestionably serious. Although as we discuss in more detail below and in Chapter 10, the opioid epidemic is related to a combination of social and economic factors, it has been less subject to social constructionism (Figure 1.1).

Figure 1.1 National Drug Overdose Deaths



Source: Centers for Disease Control and Prevention.

In 2017, there were an estimated 72,306 drug overdose deaths in the United States, with approximately 68% of these involving opioids (National Institute on Drug Abuse, 2018). Of these overdose deaths, 19,354 involved opioid pain relievers, 15,958 involved heroin, and 29,406 involved synthetic opioids, primarily fentanyl (a drug that is similar to morphine but is 50–100 times more potent). Opioid overdose is now the leading cause of death for Americans under the age of 50 years, higher than the rate of deaths from firearms or automobile accidents, and the rate of death from opioids in the United States is higher than what was seen in the HIV epidemic at its peak (Macy, 2018).

In 2017, there were more than 72,000 overdose deaths in the US. If the US overdose death rate were on par with Portugal's [a country that decriminalized all drugs in 2001, largely in an attempt to reduce harms associated with heroin and other hard drugs], there would have been fewer than 800 overdose deaths that year (Drug Policy Alliance, 2018a).

Over the 1999–2017 period, close to 400,000 people in the United States died from opioid overdoses, with more than half of these (218,000) involving prescription opioids—and on average in 2017, 130 Americans died every day from an opioid overdose (Centers for Disease Control, 2018b). For the second time in 3 years (in 2017), life expectancy in the United States declined, a decline that has been partially attributed to the opioid crisis (McCardle, 2018). Although such estimates should be treated with caution, it has been reported that the economic costs of the opioid crisis in the United States, including healthcare costs, premature deaths, and lost productivity were $1 trillion over the 2002–2018 period (Walters, 2018b).

A report issued by the Centers for Disease Control in March of 2019 focused specifically on fentanyl overdose deaths (fentanyl is extremely potent—it takes only about 2 mg to overdose on) (Routley, 2018), and reported that more than 36,000 Americans died with fentanyl in their systems over the 2011–2016 period, including 18,335 in 2016 (Spencer et al., 2019). There are also growing concerns over another synthetic opioid—carfentanil—a drug that is sometimes used to sedate elephants, and is estimated to be 10,000 times more potent than morphine and 100 times more potent than fentanyl (Drug Enforcement Administration, 2016).

While the number of opioid-related deaths in the United States is alarming, a study published in February 2019 in the *Journal of the American Medical Association Open Network* projected that opioid overdose deaths would continue to increase, and estimated that there would be 81,700 such deaths in the United States in 2025 (Chen et al., 2019). The authors of this article also provided what they referred to as a "pessimistic scenario"—under this scenario, Chen et al. (2019) projected that the annual number of opioid deaths could reach 198,700 by 2025.

There have also been deaths of several high-profile individuals associated with opioids, including the actors Heath Ledger in 2008; Phillip Seymour Hoffman in 2014; pop star Prince, who died of an accidental overdose related to fentanyl in 2016; Tom Petty in 2017 (Scott, 2018); and the rap musician Mac Miller, who died from a mix of cocaine, alcohol, and fentanyl in November 2018 (Izadi, 2018).

Placing the US opioid epidemic in context, it is notable that while there have been recent increases in the number of opioid-related deaths in Europe, with 8,441 overdose deaths in 2015, 79% of them involving opioids (EMCDDA, 2018b; Toich, 2017), the opioid problem has not been nearly as severe in Europe as it is in the United States (Europe has a population of about 741 million, more than twice the population of the United States). However, in Canada as of 2018, it was

estimated that more than 11 people were dying each day from opioid overdoses, and between January 2016 and June 2018, more than 9,000 people died from such causes (Government of Canada, 2018). Similar to the situation in the United States, drugs are now responsible for more than twice as many deaths as traffic accidents in Canada, and more than 70% of overdose deaths involve fentanyl (Wente, 2018).

So, how do we explain the genesis of the US opioid epidemic? The Centers for Disease Control (2018b) notes that there were three distinct waves of the epidemic: the first began with the increased prescribing of opioids for pain relief in the 1990s, with most of the overdose deaths in this period involving prescription opioids such as OxyContin; the second wave began in 2010, with large increases in overdose deaths involving heroin—in this period, as prescription painkillers became more difficult to obtain, people addicted to painkillers turned to the black market for heroin, which was significantly cheaper, and ultimately easier to obtain; the third wave began in 2013, with significant increases in deaths involving synthetic opioids, especially fentanyl, which drug dealers were spiking heroin with. Others have referred to the opioid epidemic as a "syndemic—a set of linked health problems involving two or more afflictions, interacting synergistically, and contributing to the excess burden of a disease in a population" (Medicinenet.com, n.d.). In other words, the opioid epidemic is "composed of multiple, concurrent epidemics, driven both by prescription pain medicines and illicit heroin and fentanyl" (Frankt, 2019).

Examining the three waves of the opioid epidemic in more detail, after the approval of the prescription painkiller OxyContin (manufactured by Purdue Pharma) by the Food and Drug Administration in 1995, doctors, many of whom were financially incentivized by Purdue Pharma and other pharmaceutical companies, began to prescribe huge amounts of opioids to their patients. To meet the growing demand for these drugs, drug manufacturers and distributors "flooded" communities across the United States with opioid pills—in the same period, opioid users and dealers began diverting these drugs to the streets (Higham et al., 2019b). Here, it is worth noting that people in the United States consume prescription opioids at a greater rate than any other country in the world (Humphreys, 2018)—in 2015, for example, close to 100 million Americans were prescribed painkillers by their physicians (Routley, 2018). Data from the International Narcotics Board for the 2012–2014 period indicate that standard daily doses of opioids consumed per capita were at 50,142 in the United States, compared to 6,246 in Italy and 8,706 in France (International Narcotics Control Board, 2017)—two countries that are estimated to be similar to the United States in terms of the prevalence of people experiencing chronic pain (Humphreys, 2018). Even more strikingly, while the United States has approximately 4.3% of the world's population, Americans consume more than 99% of the world's supply of hydrocodone (Humphreys, 2017). In light of these data, Humphreys (2018)

In April 2019, China indicated it would implement a complete ban on the production of variants of fentanyl-related substances (China is alleged to be the source of much of the fentanyl in the United States). But Liu Yuejin, a deputy commissioner of the China National Narcotics Control Commission, commented that it was the United States' drug culture and overprescription by doctors—not his country—that was responsible for synthetic opioid abuse. "If the United States truly wants to resolve its fentanyl abuse problem, it needs to strengthen its domestic work" (as quoted in Shih, 2019).

comments, "The reason that Americans consume so many opioids is therefore not because they suffer more pain than people in other countries. A more likely explanation is that the United States regulates opioid manufacturers and distributors far less rigorously than do Italy, France, and indeed, virtually all other developed countries."

As the supply of prescription opioids was reduced as a result of federal government restrictions on pharmaceutical companies and the second wave of the crisis began (around 2010), "America's pill addicts became desperate. Street prices soared," and Mexican drug cartels, who were well positioned to do so, began producing more heroin and transporting it to the United States—heroin soon became a cheaper way for addicts to get high (Higham et al., 2019). Then (most commentators put the date at 2013), fentanyl began to emerge on the streets. Higham et al. (2019) note that fentanyl produced in laboratories (most of which were in China) was a lucrative opportunity for drug traffickers because it allowed them to avoid having to rely on poppy fields that produced heroin (which were somewhat unpredictable with respect to crop yields)—fentanyl could be obtained directly from labs in China and over the Internet. "By lacing a little of the white powdery drugs into their heroin, dealers could make the product more potent and more compelling to users" (Higham et al., 2019).

IN FOCUS 1.1 EARLIER OPIOID CRISIS IN THE UNITED STATES

In discussing the current opioid crisis, it is important to stress that it is not without historical precedent. In 1900, there were an estimated 300,000 opiate addicts in the United States, many of whom were Civil War veterans who had become addicted to the substance while being treated for war-related injuries or illnesses (Meier, 2018c). In her book *Dopesick: Dealers, Doctors, and the Drug Company that Addicted America*, Beth Macy notes that in marketing heroin in the late 1890s, the Director of the Bayer Company (makers of heroin) commented, "I have treated many patients for weeks with heroin, without one observation that it may lead to dependency" (as quoted in Macy, 2018, p. 24).

Also similar to the genesis of the current opioid crisis (discussed in more detail in Chapter 10), Bayer mailed out free samples of heroin to thousands of American and European doctors, and by 1899, the company was producing a ton of heroin per year and selling the drug in at least 23 countries (Macy, 2018). During the same period, people in the United States could place an order through a Sears Roebuck catalog and receive a syringe, two needles, and two vials of Bayer heroin, for $1.50 (Atlantic, 2019).

The opioid epidemic of the late 1800s to early 1900s prompted President Theodore Roosevelt to appoint the first Opium Commissioner, Dr. Hamilton Wright, who in 1908 described Americans as "the greatest drug fiends in the world," and who referred to opium and morphine as a "national curse" (as quoted in McGreal, 2018a). These concerns led to the passage of the *Harrison Narcotics Act* in 1914. Although this act was essentially a tax and record-keeping law, 5 years after it was passed, the US Supreme Court issued a decision that interpreted the legislation as also prohibiting the prescribing of opiate drugs to individuals addicted to them. By the late 1930s, more than 25,000 doctors had been charged with violations of the Harrison Act (Meier, 2018c).

The Demonization of Fentanyl

There is no question that fentanyl is a dangerous drug that has contributed to thousands of overdose deaths and caused tremendous damage. But as bad as fentanyl is, it has also become something of a scapegoat in the opioid crisis (Bistoli, 2018). Recent news stories about fentanyl "commonly engage in hyperbole, with wildly inaccurate tales of police officers overdosing from touching fentanyl, funeral directors unable to handle the bodies of fentanyl overdose victims, and warnings to anyone who cares that they should wear gloves when using shopping carts in areas where fentanyl use is prevalent" (Collins, 2018).

Although it is difficult to precisely identify the origins of the spread of misinformation about fentanyl, it is notable that a 2015 Nationwide Alert on Fentanyl issued by the Drug Enforcement Administration stated, "Fentanyl can be absorbed through the skin and accidental inhalation of airborne powder can also occur. [The] DEA is concerned about law enforcement coming into contact with fentanyl on the streets during the course of enforcement" (DEA, 2015). The DEA issued an even stronger fentanyl alert in 2017, after a report of two police detectives in New Jersey who were exposed to a "very small amount" of the drug. One of the detectives reported, "I thought that was it. I thought I was dying. It felt like my body was shutting down" (as quoted in DEA, 2017a). Acting DEA Administrator Chuck Rosenberg commented, "Fentanyl is deadly. Exposure to an amount equivalent to a few grains of sand can kill you . . . and fentanyl exposure can kill innocent law enforcement, first responders, and the public" (DEA, 2017a). Also in 2017, a police officer in Liverpool, Ohio, reported that he had apprehended two suspected drug dealers and found fentanyl inside their vehicle. When the officer returned to the police station, he had white powder on his shirt (alleged to be fentanyl) and used his fingers to wipe it off—he reported that he "started talking weird. I slowly felt my body shutting down. No way, I'm overdosing, I thought" (as quoted in Hamilton, 2017). This incident was widely reported in the media, but when Dr. Jeremy Faust, an emergency room physician in Massachusetts heard about it, he was skeptical. "My first glance at it was, well, that's just a silly story. That's not possible and someone will correct it" (as quoted in Hamilton, 2017).

Recent fentanyl overdose scenes have crossed an invisible line into absurdity, in some instances resembling chemical war zones. Hazmat suits and all, where gloves and maybe a mouth cover would have sufficed…. While bogeymanism may effectively discourage some people from abusing these substances in the first place, it would be horrible if it were to dissuade emergency medical workers, medical professionals, and other civilians from performing their noble and lifesaving acts, such as delivering safe doses of naloxone. If law enforcement, medical professionals, and the public begin to harbor irrational fears about these drugs, countless more of our fellow citizens who need emergency medical attention will needlessly die. A little powder on our hands is nothing compared to a whole lot of blood (Faust & Boyer, 2018).

Additional reports of severe consequences from exposure to fentanyl on the part of law enforcement officials have recently occurred in California, Iowa, Missouri, Massachusetts, and Vermont—police officers in these states have been hospitalized or reported feeling severely ill from such exposure (*New York Times*, 2019c). However, many of their symptoms were more consistent with a panic attack than those of an overdose, and scientists studying the issue attribute this to

the "nocebo" effect, a "phenomenon whereby people who believe they have encountered a toxic substance experience the expected symptoms of that exposure" (*New York Times*, 2019c; see also Colloca, 2017).

As a result of claims that exposure to fentanyl was dangerous, in 2018, the state of Massachusetts actually banned fentanyl and carfentanil from being brought into courthouses as exhibits. Responding to this development, Dr. Faust and his colleague Edward Boyer wrote an opinion-editorial in the *New York Times* noting that the claim that being exposed to even miniscule amounts of these drugs could be life-threatening was "patently false," and added "we fear that it will worsen what is already a public health crisis" (Faust & Boyer, 2018). Faust and Boyer expressed concerns that emergency medical workers and other first-responders might be reluctant to assist people experiencing opioid overdoses, and noted a parallel with the AIDS epidemic where, even after it was proven that HIV could only be spread through sexual contact or blood-to-blood exposure, there were still medical personnel who refused to see AIDS patients due to "lingering fears about its [HIV] contagion" (Faust & Boyer, 2018).

Further exploding the myth that mere exposure to fentanyl could result in overdose, Chad Sabora, the Executive Director of the Missouri Network for Opiate Reform and Advocacy posted a video on facebook in which he took a bag of street heroin which was confirmed to contain fentanyl and poured the powder on his hand and waited—nothing happened to him (Franciotti, 2018). Another drug expert, Andrew Stolback of the Johns Hopkins School of Medicine commented, "If it [fentanyl] was so well-absorbed through the skin, people wouldn't inject it. They'd rub it into their skin. If it was so well-absorbed, you'd see lots of reports of dealers dropping dead [from touching fentanyl]. We're just not observing that" (as quoted in Hamilton, 2017).

In 2017, the American College of Medical Toxicology and the American Academy of Clinical Toxicology issued a statement on fentanyl exposure which noted: "Fentanyl and its analogues are potent opioid receptor agonists, but the risk of clinically significant exposure to emergency responders is extremely low. To date, we have not seen reports of emergency responders developing signs or symptoms consistent with opioid *toxicity* from incidental contact with opioids" (Moss et al., 2017, p. 347). The statement further noted that for routine handling of fentanyl, nitrile gloves would provide sufficient protection (Moss et al., 2017). It is thus important to stress that simply touching fentanyl is not dangerous—opioids have to enter the bloodstream in order to exert an effect—as a *New York Times* (2019c) editorial suggested with respect to the myths surrounding fentanyl exposure, "Misinformation is a hazardous substance."

In addition to false claims that mere exposure to fentanyl could result in overdose, there have also been reports that marijuana laced with fentanyl was appearing in illegal drug markets (which, of course, also contributes to the demonization of marijuana)—Vergano (2019) refers to this as "the hardiest urban legend of the US overdose crisis." During a March 2019 panel at the Conservative Political Action Conference, White House Press Secretary Kellyanne Conway (who President Trump had placed in charge of his administration's response to the opioid crisis [see Chapter 11]) stated, "Fentanyl is an instant killer and a tiny little grain of it can wipe us out—a little, little grain—and it is being laced into marijuana, heroin, meth, cocaine and street drugs" (as quoted in Hager, 2019). Apparently, Conway was echoing claims of National Institute of Drug Abuse Director Nora Volkow, who at a 2018 conference stated, "Fentanyl is being used to lace a wide variety of drugs, including marijuana" (as quoted in Jardine, 2019).

The source of these claims appears to be a 2015 news release from the Vancouver, British Columbia Police Department (VPD) following a large fentanyl bust—the press release stated "fentanyl-laced marijuana, heroin, oxycodone and other party drugs have resulted in the deaths of many occasional drug users" (VPD, 2015). However, the VPD subsequently issued an "edit" to this statement, noting, "The VPD has not come across marijuana laced with fentanyl—there was an inaccuracy in this news release, which we corrected" (VPD, 2015). This "inaccuracy" in the report was confirmed in March 2019, when a spokesperson for the VPD told *Globe and Mail* columnist Mike Hager that the original news release was inaccurate (Hager, 2019).

Dr. M.-J. Milloy, an epidemiologist at the British Columbia Center on Substance Abuse, noted that it would not make sense for marijuana dealers to add fentanyl to their products because "cutting cannabis and fentanyl would reduce the [profit for] cannabis: it would make it more expensive for them to produce" (as quoted in Hager, 2019). It is also important to note that fentanyl has not been found in marijuana seized by the US Drug Enforcement Administration (Jardine, 2019; Vergano, 2019). Dr. Milloy added, "What we should be doing is trying to investigate and promote the use of cannabis as harm reduction rather than allow people to think cannabis might be contaminated with fentanyl" (as quoted in Hager, 2019). Or, as Northeastern University drug policy expert Leo Beletsky commented, "The danger in a moral panic is that we see this overreaction that leads to a replay of the mistakes of the crack cocaine crisis. . . . We need to move beyond the universe of alternative facts" (as quoted in Vergano, 2019).

CONCLUSION

This chapter has addressed how, over the past 100 years, government and criminal justice system officials, with the assistance of media sources, have used a number of tactics to demonize certain drugs and to socially construct drug epidemics. While we have not claimed that drug problems do not exist in the United States, socially constructed epidemics tend to exaggerate and distort the nature and magnitude of drug problems, making appropriate prevention, treatment, and drug control responses more difficult.

Psychoactive drug use is ubiquitous across time and cultures/societies, and this has led some to assert that intoxication is not unnatural or deviant, but, rather, that absolute sobriety is not a natural or primary human state (Davenport-Hines, 2001; Weil, 1986). Drug use remains widespread in society despite the fact that the use of *all* forms of drugs—legal and illegal—involves some level of risk. As we will discuss in more detail in Chapters 3 and 4, the risks associated with drug use are diverse, but fatalities associated with use are one important measure of harm. Data on drug-related mortality indicate that the number of deaths annually caused by the use of alcohol, tobacco, and prescription drugs is roughly 30 times the number of deaths attributed to all illegal drugs combined (Mokdad, Marks, Stroup, & Gerberding, 2004). Given the substantial level of harm posed by the use of legal drugs, we find it interesting that psychoactive drugs are typically dichotomized into those that are considered to be "good" and those that are considered to be "bad."

REVIEW QUESTIONS

1. In terms of the annual number of deaths in the United States related to drug use, how do legal and illegal drugs compare?
2. How does the United States compare to other Western countries in terms of incarcerations for drug violations?
3. What techniques have been employed to demonize particular drugs? What themes have been emphasized in this demonization?
4. What are the propositions of the "gateway drug" theory as it applies to marijuana? Of those who have ever tried marijuana, what is the probability that they will become regular users of heroin or cocaine?
5. What alternative explanations have been provided to account for the fact that hard drug users are likely to have tried marijuana?
6. What are the "causes" of the United States' opioid epidemic?

INTERNET EXERCISES

1. Every year, the United States Bureau of Justice Statistics and Federal Bureau of Investigation provide information on the number of arrests for a variety of offenses (see https://ucr.fbi.gov/crime-in-the-u.s/2017/crime-in-the-u.s.-2017/topic-pages/persons-arrested). Access data on drug arrests for the current year and discuss the reasons for regional variation and differences in arrests for various substances.
2. Using an Internet search engine, type in one of the following terms: *methamphetamine epidemic*, *ecstasy epidemic*, *opioid epidemic*, *bath salts epidemic*. Note how many "hits" are obtained, and examine the content of five of the sources you identify. What themes are emphasized in referring to the issue as an epidemic?