CHAPTER 1

Drug Problems: An Overview

TRUTH OR FICTION QUIZ

After reading this chapter, you should be able to answer the following questions:

1. People can recover from drug problems on their own. True or False?
2. Drug problems always get worse over time. True or False?
3. Adolescent drug problems are essentially the same as adult drug problems. True or False?
4. Relapse is a sign that treatment did not work. True or False?
5. Scaring drug users is a highly effective way to motivate change. True or False?
6. Virtual reality may be used in the treatment centers of the future. True or False?
7. Cravings are always biological in nature. True or False?

Answers on p. 47.

Not too many issues in the United States can elicit as many emotions as discussing drug-related problems. It seems that almost everyone in American society has an opinion about drug use, drug policy, and drug treatment. This is likely the result of how drug use in this country has touched so many of us in personal ways. Many people know of someone who has (or has had) a drug problem: a family member, a friend, or a friend of a friend. Drug problems also affect those who have been victimized by drug-related accidents or crime, and many others who care for those harmed by substance abuse. Drug problems can affect all of us by contributing to higher health care and insurance costs, and through higher tax burdens to support services. The abuse of drugs constitutes a major health problem in the United States, with widespread consequences that affect us all in some form or fashion.

Unfortunately, since drug problems have created strong opinions in this country, many opinions are slow to change even when they are inconsistent with the most recent scientific research. As a result, there is a wide array of new research that remains unknown by people who develop drug policies, who treat people

with drug problems, and who may know or live with a person who has problems with drugs. Every day we learn more about what we should be doing to help people with drug problems, but unfortunately it takes time for the latest research to trickle down to the people who would benefit from this knowledge.

Partly at fault are scientists, who may find it difficult to talk about the research in ways that are understandable to nonscientists, or who have difficulties communicating the relevance of the research findings for treatment or for policymaking decisions. Partly at fault are policymakers, who often make important decisions for reasons that are more political than scientific. And finally, partly at fault are clinicians, who are suspicious of science or uncomfortable with new techniques, or who may be overly burdened by heavy clinical loads that limit their ability to stay current with the latest in research. Because of these problems in communicating new research findings and translating them into new policies and treatments that will help people with drug problems, progress toward reducing drug problems in the United States has been unnecessarily slowed. It is hoped that this book will be able to bridge this gap by bringing new information about treating drug problems to a wide variety of Americans, particularly those clinicians in the trenches who deserve to know.

Prevalence of Drug Abuse

Epidemiological research suggests that probably 10 to 20% of the population of the United States may have problems related to substance use, with approximately 5% of the population having problems with drugs other than alcohol (Substance Abuse and Mental Health Services Administration [SAMHSA], 2003). The most widely abused substances in the United States are alcohol, tobacco, and marijuana, but the typical pattern is for a person to abuse more than one substance at a time. An example might be that a person may smoke both cigarettes and marijuana, or may use both cocaine and heroin.

Tables 1.1 and 1.2 show the extent to which U.S. citizens report illegal drug use. As can be seen from the Table 1.1, many Americans have used drugs at least once, with marijuana being the most commonly reported substance used either during one's lifetime or during the past year. Perhaps surprisingly, prescribed pain medications are the second most commonly reported drug used by Americans within the last month. The abuse of prescribed drugs is often poorly recognized and does not get the same press as the abuse of street drugs like heroin or cocaine, but it represents a serious health threat to many Americans. Table 1.2 illustrates that men are more likely to use drugs than women, and that there may be some differences across racial and ethnic groups in drug use patterns, which will be discussed in greater detail later in this chapter. Tables 1.1 and 1.2 suggest that drug misuse and experimentation are not uncommon behaviors. Furthermore, a comparison of the lifetime usage numbers to the statistics presented earlier about drug abuse problems indicates that drug misuse does not always mean a drug problem.

Table 1.1: Most Frequently Used Drugs for Nonmedical Purposes (Excluding Alcohol and Tobacco) in the United States in 2001

Drug	Percentage Who Have Used at Least Once in Lifetime	Percentage Who Have Used at Least Once in Past Year	Percentage Who Have Used at Least Once in Past Month
Marijuana/hashish	28.6	7.2	4.0
Pain medications	7.6	2.9	1.2
Cocaine/crack	9.7	1.4	0.5
Tranquilizers	4.8	1.2	0.4
Amphetamines/methamphetamines	5.5	0.8	0.3
Ecstasy	2.8	1.1	0.2
Inhalants	6.2	0.6	0.1
LSD	6.9	0.5	0.1
Sedatives	2.6	0.2	0.1
Heroin	1.0	0.1	0.03

Source: SAMHSA (2001). State Estimates of Substance Abuse. Available at http://www.oas.samhsa.gov/

Note: Percentages are approximate and represent an extrapolation from SAMHSA data and census figures. SAMHSA data do not include drug use among people under the age of 12 years, so these are rough population estimates. Reported drug use does not necessarily mean drug problems.

Table 1.2: Nonmedical Drug Use (Excluding Alcohol and Tobacco) in the United States in 2001, by Gender and Racial/Ethnic Group

Population Group	Percentage Who Have Used at Least Once in Lifetime	Percentage Who Have Used at Least Once in Past Year	Percentage Who Have Used at Least Once in Past Month
Men/boys	35.7	11.4	6.7
Women/girls	30.3	8.6	4.5
African Americans	27.0	8.5	5.2
Asian Americans	15.3	4.4	2.0

(continued)

Population Group	Percentage Who Have Used at Least Once in Lifetime	Percentage Who Have Used at Least Once in Past Year	Percentage Who Have Used at Least Once in Past Month
Hispanics/Latinos	21.2	7.9	4.2
American Indians/Alaska Natives	23.6	9.4	4.3
Native Hawaiians/Pacific Islanders	Unknown	16.0	10.3
White non-Hispanic Americans	31.6	9.1	5.1

Source: SAMHSA (2001). State Estimates of Substance Abuse. Available at http://www.oas.samhsa.gov/

Note: Percentages are approximate and represent an extrapolation from SAMHSA data and census figures. SAMHSA data do not include drug use among people under the age of 12 years, so these are rough population estimates. Reported drug use does not necessarily mean drug problems.

Problems related to substance misuse cost Americans around $140 billion in 1998 (Office of National Drug Control Policy [ONDCP], 2001). Drug problems have been linked to a variety of health problems, including accidental deaths, suicides, homicides, hepatitis and other liver diseases, heart and kidney diseases, cancers, and HIV. Many of these health problems are among the top 10 causes of death in the United States for different age and ethnic groups. For instance, liver diseases associated with substance abuse were the 10th leading cause of death for adults aged 25–34 in the year 2000 (mostly caused by alcohol use, but some caused by drug-related hepatitis), the 6th leading cause of death for adults aged 35–44, the 4th leading cause of death among adults aged 45–54, and the 7th leading cause of death for adults aged 55–64. Infection with HIV, which is highly associated with drug usage, was the 10th leading cause of death in 2000 for

Drug-Use Costs to American Society

- Drug abuse costs American society approximately $140 billion in providing treatment and prevention services, lost earnings or productivity at work, other health care costs, costs associated with crime, and social welfare.
- More than one-half of these costs are directly related to crime.
- Between 1988 and 1995, the White House Office of National Drug Control Policy (ONDCP) estimates that Americans spent $57.3 billion on drugs for nonmedical purposes.

Sources: National Institute on Drug Awareness (NIDA) InfoFacts and ONDCP.

adults aged 15–24, 6th for those aged 25–34, 5th for those aged 35–44, and 8th for those aged 45–54. In addition, the top five killers in the United States *for all age groups* during 2000 (heart disease, cancer, strokes, chronic obstructive pulmonary disease, and unintentional injuries) all have been found to have some direct or indirect association with substance abuse (National Center for Injury Prevention and Control [NCIPC], 2003). Finally, drug problems have been identified as a cause of traumatic brain and spinal cord injuries, cognitive impairment, hypertension, malnutrition, severe burns, and drownings.

What Exactly Is a Drug Problem?

There are many different ways to define having a drug problem, but ultimately it is up to the individual to decide whether she or he has one. Historically, two different angles have been used to define a drug problem. The first looks at how many drugs the person consumes and when, or at what some researchers and therapists call *consumption rates and patterns*. The advantage to considering consumption rates and patterns is that heavy drug use often can lead to health-threatening and other negative consequences for the person using the drugs. However, consumption rates and patterns can be misleading in some instances because of differences in body size, gender differences, and other between-person differences. Because of this, the second angle of defining a drug problem, which has to do with examining the *consequences* of drug use, is also quite useful to consider.

Not surprisingly, consumption and consequences have been found by scientists to be related. However, the relationship is not always as strong as one would think. Some people who use just a very little amount of a drug can have significant difficulties; alternatively, some people can use a substantial amount of drugs with relatively few consequences. Because of these wide variations between individuals, it is a good idea to consider both consumption and consequences when determining whether a person has a drug problem. The next section of this chapter discusses key factors that researchers and clinicians look at when determining whether a diagnosis of a drug problem is appropriate.

> **"When solving problems, dig at the roots instead of just hacking at the leaves."**
>
> — ANTHONY J. D'ANGELO

The Three C's

Drug problems are often typified by what has been called the *three C's* (*c*ompulsive use, loss of *c*ontrol, and *c*ontinued use despite adverse consequences). Although some people who have drug problems experience all of the C's, there are many who do not. However, a person with a drug problem will likely have experienced at least one of them, so assessing for them is quite useful when evaluating for a drug problem. The three C's are described in detail in the following sections.

The Three C's and What May Contribute to Them

1. **Compulsive** use, and it may be related to . . .
   - Reinforcement
   - Cravings
   - Habit
2. Loss of **control**, and it may be related to . . .
   - Drug-induced myopia
   - Cravings
   - Beliefs that the person will lose control
3. **Consequences**
   - Types of consequences can vary from person to person.
   - Consequences can vary in importance from person to person.
   - Consumption *and* personal beliefs can contribute to consequences.

Compulsive Use

First, drug problems often are linked to what is called *compulsive drug use*. Compulsive use of drugs generally means that a person uses drugs automatically and habitually without thinking about the consequences of the behavior. Three important aspects related to compulsive drug use include *reinforcement* for substance use, *cravings* for the substance, and *habit*. To begin with, compulsive use of drugs is reinforced because the early stages of drug use reward the person either by stimulating the pleasure centers of the brain (e.g., the nucleus accumbens) or by taking away withdrawal or psychiatric symptoms, pain, or negative emotional states. Reinforcement is quite potent, making it likely that the person will use the drug again.

However, as the person increasingly uses the substances, tolerance develops. The euphoria of drug use may diminish or become more unpredictable, with highs or symptom relief occurring less frequently over time. The person may find that the pleasurable rewards come only intermittently. Many behavioral researchers, beginning with B. F. Skinner, have studied the powerful effects of intermittent or variable reinforcement in maintaining a particular behavior. *Variable reinforcement,* which means that the reinforcement happens randomly and becomes unpredictable to the person engaging in the behavior, contributes to keeping a person hooked on a behavior (reinforcement is discussed in greater detail later in this chapter).

Second, compulsive users of drugs often report they experience *cravings* for the substances that they prefer. Cravings have been described to me as gripping urges to use substances that will sometimes seem to come "out of the blue." Cravings seem to have both physical and psychological components. Physical cravings seem to occur as a direct result of withdrawal symptoms. When the drug

is not being administered after a period of continuous use, the body experiences neurochemical imbalance; aversive symptoms, ranging from shakes to seizures, can occur. Cravings may be the result of the person's interpreting bodily signals that trigger the desire to ingest the substance in order to avoid physical withdrawal symptoms.

In addition, chronic or heavy drug abuse can sometimes alter a person's physiology, so that a chronic neurochemical imbalance may result. Such an imbalance can contribute to chronic symptoms of anxiety or depression. It is unclear whether these imbalances can be completely reversed over time with abstinence, but we do know that these symptoms and the underlying neurochemical changes that contribute to them may continue for months or even years after the drug was last used. Former clients of mine have told me about experiencing what they thought were physical cravings — some after months of abstinence — that in reality were being cued by their symptoms of anxiety or depression. The good news is that newer pharmacological agents can be very helpful in moderating physical withdrawal symptoms, and in reducing or alleviating depression and anxiety that can trigger a craving for drugs.

The other kind of craving a person may experience is psychological. Psychological cravings are triggered by the context of the drug experience rather than by the drugs themselves, and the user often misinterprets these cravings as a desire for drugs when what they actually want is a drug-related experience. A very common psychological craving occurs when a person misses experiences associated with using situations, such as socialization or recreational activities. The person will initially believe that the craving is physical but when you investigate further using behavioral analysis (explained in greater detail in Chapter 4), the craving is not physical at all, but related to missing an experience associated with using substances. The use of drugs has been paired so closely to an experience of socialization that the craving may be misattributed to needing the drug when in reality the person is craving an experience given up to avoid drug-using situations. Even though psychological cravings are not physiologically triggered, they can be extremely powerful experiences and often place a person at high risk for *relapse* (discussed later in this chapter and in Chapter 7). Treatment for psychological cravings focuses on exposure to emotional triggers, and changing behavioral responses and beliefs related to expectancies about substance use (see discussions about therapies in Chapter 5).

Psychological cravings also can be linked to a user's *expectancies,* or beliefs about what substance use will do for him or her. Positive expectancies about substance use can be related to what is termed *euphoric recall* of substance use experiences, which simply means that a person remembers the good times of using while perhaps forgetting or minimizing the memory of bad times. Positive expectancies often glamorize the drug use experiences by selectively remembering the pleasant using experiences while ignoring the not-so-good experiences. Expectancies will be discussed in greater detail later in this chapter.

Third, compulsive drug use also is related to *habit*. Habitual behavior is deeply ingrained in our memory processes and often leads to automatic responses without a moment of pause for the person to consider the actions before they occur. Habitual memory is part of *implicit memory,* which is the type of memory related to automatic behaviors such as driving a car or riding a bike. Can you imagine unlearning how to drive a car? But in a sense, that is exactly what a person who has abused drugs must do in order to break a compulsive behavior that may have lasted for many years. Behavioral scientists often will say that "the best prediction of behavior in the future is what has been done in the past," and with good reason, since habits, bad or good, are very difficult to change.

Habitual behavior tends to operate on autopilot, too. An example of how the automatic processes of habitual memory operate would be an instance in which you are cleaning house on autopilot, and then you stop for a moment and have no memory of having dusted the table even though it looks clean. Habitual behavior often means acting without thinking, so that you often have no awareness of what you are doing at a particular moment (or why). The same is true for compulsive drug use, when a person may use a drug without even being aware of what he or she is doing. Habit can place the person in a high-risk situation before he or she even knows it.

Loss of Control

Loss of control also is typical among people who abuse drugs, and some drug users will describe their habits as being out of control. Loss of control has been described as an inability to predict when or how many drugs will be consumed. Some drug users describe loss of control as *powerlessness,* meaning that the desire for substances controls their behavior.

Researchers have not clearly determined what may cause loss of control. However, we do know from alcohol research that intoxication can lead to what has been called *drug myopia:* impaired perceptual abilities caused by intoxication, causing a person to become more nearsighted, so to speak, to what is happening around him or her in the environment. Furthermore, drug-induced myopia limits a person's awareness at the exact moment when he or she is at greatest risk for being out of control, thus increasing the person's risk for experiencing a variety of problems. Drugs often impair higher brain functions associated with judgment, decision making, planning, and awareness. The impairment of these important brain functions makes it more likely that the person will be unable to regulate drug use, and he or she may overindulge in drugs without even realizing it. Loss of control is likely related to the diminished awareness of how many drugs have been used while the person was intoxicated. Myopia during intoxication also can adversely affect interpersonal relationships, since the person may misinterpret social interactions. Many fights occur while a person has impaired judgment while under the influence of drugs. Intoxicated drug users are vulnerable to risky behavior not only because of impaired physiological capabilities but also because of impaired thought and perceptual processes.

CLIENT HANDOUT

Do You Have a Drug Problem?

1. Have you found it difficult to predict when you will use too many drugs?
2. Do you find yourself trying to control or cut down on your drug use from time to time?
3. Do you have cravings in which you want to use a certain drug or use drugs in general?
4. Have drugs caused you some problems or hardships recently, such as being short on money or contributing to family and relationship stress?
5. Have you used drugs even when you thought it was a bad idea or after they had caused you some major problems or hardships?
6. Do you have regrets, guilt, shame, or other negative feelings about your recent drug use?
7. Have you used drugs in situations that were very risky for you?

If you answered yes to more than one of these questions, and you are currently using drugs, then you may want to consider getting a professional evaluation, just to be on the safe side.

Another possible contributor to loss of control may be the experience of cravings, discussed previously. Many of my clients have reported that their cravings contribute to deviation from their treatment goals or to a lapse or relapse. However, when conducting an analysis of a person's behavior, therapists often discover that the craving may have been only the first step toward a feeling of loss of control, rather than the direct cause of it. This will be discussed in greater detail in Chapter 7 concerning relapse research; however, to describe it briefly here, cravings may have been a first step, but the research on relapse suggests that negative emotions rather than the physical cravings themselves may be the ultimate trigger for loss of control (Marlatt, 1985; also see section on emotional factors later in this chapter).

Loss of control also has been linked in some research to expectations. In a famous study, alcohol-dependent subjects were studied to see whether they lost control because of tasting alcohol or because of *believing* they were tasting alcohol. At the time of the study, it was believed that loss of control in alcohol-dependent people was triggered by actually ingesting alcohol. In this study, however, people who were alcohol dependent and drinking alcohol (but thought they were drinking tonic water) did not lose control, whereas people who were alcohol dependent and were *not* drinking alcohol (but were told that they were) did report loss of control (Marlatt, Demming, & Reid, 1973).

What is being described is a *placebo effect,* and placebos have been used effectively for years to treat people medically even though placebos have no active

medical properties. Some people, including some drug users, are highly suggestible, so that their beliefs about what is being used may be more powerful than the actual chemical properties of the substance. We do not know how powerful the placebo effect is under all conditions, but beliefs about substance use probably do play a part in loss of control.

Other research has found that people who expect to lose control while using drugs often do so, which provides additional support for the power of beliefs to affect behavior. Cognitive researchers often refer to this as a *self-fulfilling prophecy*. However, in some cases, what appears to be a self-fulfilling prophecy actually represents an accurate perception by the person of his or her capabilities. In fact, personal confidence in one's ability to negotiate a difficult situation without losing control is a potent predictor of drug use. Researchers found that people who have low confidence in their ability to control their using-behavior in certain situations often show greater loss of control in those situations. In many cases, when beliefs predict outcomes, it often is difficult to sort out whether the person's beliefs make something happen or the person is making a realistic appraisal of how well he or she will cope with the challenging circumstances. Regardless of cause, the research does suggest that beliefs may play an integral role in the experience that drug users describe as losing control (see the discussion of cognitive risk factors later in this chapter).

The experience of losing control often described by people with drug problems must be taken seriously. Assessing those situations in which people report a loss of control may provide clues to whether overuse is related to perceptual impairment, to cravings, or to a person's belief system. Interventions to prevent loss of control will described more fully in Chapter 5.

Continued Use in Spite of Consequences

Drug problems often have associated negative consequences. However, the consequences cannot be assumed to be important to the person experiencing them. Even though the consequences appear to us to be harmful, there are many times when the drug user may not have that awareness, or may not even interpret the consequences in the same way that you or I might. Some of the gulf between what others see as a problem and what a drug user may see as a problem is likely due to myopia. The drug user simply may not have awareness because of impairment. However, the drug user also may not consider the consequences to be important or related to his or her drug use. When this occurs, the drug user may not be motivated to change, or may even be unaware that behavior change is desirable. Furthermore, awareness of negative drug use consequences often is confounded by simultaneous awareness of pleasurable consequences, and the research suggests that the pleasurable consequences are more likely to be remembered than the negative ones (remember euphoric recall?). The net effect would be that a person may selectively filter out negative experiences in favor of recalling the positive experiences of using drugs.

Because consequences are different things for different people, researchers have been busy studying how to use consequences to encourage motivation to change drug use. For example, some research suggests that motivation may be enhanced if the person believes consequences are directly attributable to substance abuse and that the consequences are in personally important domains (Blume & Marlatt, 2000). However, there does not seem to be any silver-bullet type of consequence that will motivate change in all people. In addition, a person with a drug problem must believe that the adverse consequences outweigh the pleasurable effects in order to be motivated to change (see Chapter 3 for greater detail on motivating change).

To complicate matters, consequences seem to be perceived differently by young adults than they are among older adults. Because consequences are perceived differently, their ability to motivate change is different among young drug users than it is for older ones. For example, some research suggests that tactics that use fear to motivate change among young adults are not very effective, simply because young adults do not believe those types of consequences can happen to them. In addition, young drug users often do not experience immediate health consequences and sometimes are spared other types of nasty consequences by the safety nets of families and other social institutions.

So, even though negative consequences often are associated with drug problems, they often are not experienced the same way from person to person. Discussing consequences can help encourage behavior change if the therapist knows which ones to highlight. This kind of clinical judgment usually comes from the therapist's seeing a drug problem through the eyes of the client with whom he or she is working (see Chapter 3 for ideas on how to do this).

Myths Versus Facts Concerning Drug Problems

In addition to common elements that may identify a drug problem, such as the three C's, there are also common misperceptions related to drug problems. Many of these misperceptions have taken on lives of their own, such that people thoroughly believe these myths about drug problems are true even though science has plenty of evidence that they are not. Some of these misperceptions result from the chasm that exists between science and the treatment of drug problems, and still others are perpetuated because the media or other public sources speak with authority on that about which they know little. This section is meant to set the record straight, because these myths only hurt the people we are attempting to help. A very interesting article was written more than 10 years ago, entitled "Taboo Topics in Addiction Treatment: An Empirical Review of Clinical Folklore" (Chiauzzi & Liljegren, 1993). In this article, the authors attempt to set the record straight on several critical issues related to substance abuse. I highly recommend reading this article if you have an opportunity and are interested in learning more about myths that have been perpetuated in the treatment of drug and alcohol problems. In the remainder of this section, I will discuss 10 common

myths about drug problems. Some of these myths are mentioned in the "Taboo Topics" article.

Myth Number 1: People must get treatment in order to get better. In several research studies, investigators have tracked people with substance-related problems over time to see what happens. The results from these studies suggest that some people who get treatment get better; some people do not get treatment and get worse; and, less obviously perhaps, some people who get treatment do not get better. But what is most interesting is that a sizeable minority of people with drug problems receive no treatment but get better anyway, and many stop using drugs all together. Even though the prevailing wisdom among some in the field is that you have to get treatment in order to get better, the science does not support that assertion. This is good news because there are not enough treatment resources to serve everyone, and it means some people have the resources to solve their own drug problems. Spontaneous or natural recovery is described in greater detail later in the chapter.

Myth Number 2: People with drug problems must identify themselves (some feel publicly) as addicts in order to get better. It may be helpful for some people with drug problems to label themselves as addicts, but it is clearly not helpful for everyone. In fact, for a sizeable number of people with drug problems labeling seems to be harmful and may harm their chances for recovery. The general rule of thumb in psychotherapy about labeling is that it must be useful to the person. To be useful to a client, the label must be consistent with the client's worldview and must provide for a direct solution to overcome the problem being labeled. For some clients, being labeled as addicts or as powerless over drugs is contrary to their worldviews and does not provide a solution within their way of thinking for overcoming their drug problems. My solution is to let the client decide whether he or she wants to label himself or herself, and whether that label will be helpful as the client finds solutions to a drug problem. For some people, labeling will not be helpful.

Myth Number 3: You cannot trust a person with a drug problem to tell you the truth about drug use. Actually, telling the truth about drug use is probably related more to the level of trust the user has toward others rather than to the drug problem itself. If the drug user trusts you, then he or she may be forthcoming about drug use. However, discussing drug use openly is complicated by the fact that many substances are against the law to use. Because of this, the drug user (from his or her perspective) has to be very careful what to say to another person. Yes, a drug user may lie about the drug use if he or she does not trust you. But the research suggests that if the drug user trusts you, then what is said is likely to be much more accurate than what you can find out from a loved one or a friend. After all, a loved one or a friend does not have the constant contact necessary to know exactly what drugs the client has used.

Myth Number 4: There is a certain type of personality that leads people to addictions. An addictive personality is something that scientists have sought for many

years with very little success. The belief has been that if such a personality is identified, then this knowledge might be useful for finding a cure. However, even though some people clearly have compulsive tendencies, researchers have found a wide variety of personality types who have problems with drugs. What contributes to the belief that a specific personality type may be at risk for a drug problem is the high co-occurrence of particular disorders (e.g., Antisocial Personality Disorder) or the high incidence of particular behavior patterns (e.g., impulsiveness) with drug problems. On the other hand, researchers have found that opposing personality types, such as introverts and extroverts, can have drug problems and may even use drugs under similar circumstances (e.g., social situations), but for different reasons. Perhaps more useful than seeking an addictive personality would be identifying the function of drug use for the person (which will be discussed in greater detail later in this chapter and in Chapter 4).

Myth Number 5: Exposing a drug user to a drug-using cue is risky during treatment or in early recovery. Although it may seem intuitively to be true that a person may be tempted when confronted with a drug-using cue, such as a bong or a razor blade, and that exposure to these cues should be avoided, it is absolutely the wrong way to think about the problem. How likely is it that clients will be able to avoid all cues related to their drug use for the rest of their lives (or even in early recovery)? And, if you do not prepare the client for exposure to a particular cue during therapy, then how can you expect him or her to cope with exposure to the cue later, when a therapist is not around? Cue exposure (Chapter 5) has been found by research to be incredibly helpful to clients trying to overcome drug problems. The truth is that we should try to expose our clients to these drug-using cues while they are in therapy (in a safe environment) so that they have the necessary skills and confidence to cope with those cues later when they are not in a safe environment.

Myth Number 6: Therapists are the most important conveyers of behavior change in treatment. Actually, this is true only in a negative sense, such as when therapists generate resistance in their clients. Research has shown that therapist behavior can increase and decrease client resistance. If therapists are directly confrontational in therapy, then client resistance rises, and when therapists reduce confrontation resistance falls (even in the same session!). However, clients ultimately make decisions regarding behavior change, and therapists can only encourage (or discourage) that process. Therapists can grease the wheels for improvement, but the client ultimately moves toward change, sometimes in spite of a therapist. This should be a relief to a therapist or counselor because the responsibility for change is on the client.

Myth Number 7: All people with drug problems are in denial, and that denial should be challenged. Related to our discussion under Myth Number 6, we know that challenging a client in an adversarial way actually decreases the likelihood of successful treatment, and often leaves a client feeling hostile toward seeking treatment in the future. Therefore, confronting denial is generally not a good

idea. Furthermore, what has traditionally been labeled as denial may not be denial at all. If a person is not aware of the consequences of drug use, there are other possibilities besides denial, such as cognitive impairment or myopia — or perhaps the person simply has not experienced major consequences associated with drug use. Furthermore, I have worked with many people with drug problems who were very aware of the consequences and of the desirability for change, but felt discouraged. Discouragement often can be misinterpreted as denial when in fact it is a problem with confidence and not motivation. Confronting discouragement will not instill hope. And finally, I have worked with some clients who were perceived as being in denial by other therapists, but who later admitted they simply hadn't trusted those therapists enough to open up. Many times the mistrust was driven by therapist confrontation, personality mismatch, or the circumstances of treatment (court-ordered). However, what may be perceived as denial by a therapist or counselor is often nondisclosure related to distrust.

As you can see, the appearance of denial may be a sign of other impediments. I personally do not find the word *denial* helpful because I have seen the label used in therapeutic settings to denigrate a particular client. Denial has become a nasty and overused word in treatment, and I have witnessed its being used in anger by some therapists and counselors as a weapon against their clients. I would suggest avoiding the term all together in treatment since there is no research to support that it needs to be identified or confronted in order for a person to get better.

Myth Number 8: Illegal drugs are generally more addictive than non-illegal drugs. Research has not found this to be true categorically. Part of the difficulties with legislating drugs is that political and economic forces often pressure policymaking decisions. For instance, we know that alcohol is arguably more dangerous than some of the drugs that are illegal, such as marijuana. Certainly tobacco is an incredibly destructive drug to millions of Americans, too. In some cases, the legality or illegality of drugs makes little sense when considering the relative addictive properties of the chemical and the relative costs to society related to the misuse of the substance.

The federal government developed a schedule of controlled substances in order to determine the level of control necessary to protect the well-being of the populace. This schedule was designed to take into account the relative potential for harm of a given substance, as well as its relative potential for medical benefit. In theory, as the numbers increase on the schedule (see Table 1.3), these substances are meant to represent decreasing amounts of risk to a user and increasing possibilities for medical benefits (a Schedule-1 substance having the highest risk for addiction and no medical value, a Schedule-5 substance having the lowest risk for addiction and greater medical value). In reality, the schedules do not necessarily reflect what the research has found concerning potential risks for addiction and potential medical benefits. The schedules do not always make scientific sense because politics have a played a part in their development.

Table 1.3: Schedule of Controlled Substances

Schedule Number	Description of Level of Threat/ Value From Substances	Examples of Substances in This Schedule
1	High abuse potential with no medical value in U.S.	Heroin, LSD, marijuana
2	High abuse potential with possible medical value in U.S.	Cocaine, amphetamines, strong opioid medications
3	Medium abuse potential with possible medical value in U.S.	Acetaminophen (Tylenol) with codeine, some barbiturates
4	Medium to low abuse potential with possible medical value in U.S.	Tranquilizers, phenobarbital, propoxyphene hydrochloride (Darvon)
5	Modest abuse potential with possible medical value in U.S.	Mild opioid analgesics, some cough syrups, etc.

Source: U.S. Drug Enforcement Agency (2001). Information available at http://www.usdoj.gov/dea/.

Myth Number 9: All drug problems are the same and should be treated the same; and *Myth Number 10: Drug problems are progressive and chronic.* I have saved these two myths until last because the next few sections will discuss the science related to these in great detail. To answer briefly, drug problems are not the same across all people, and therapy should not be developed with a one-size-fits-all philosophy.

Patterns to Drug Problems

Transient Versus Chronic Problems

Drug problems are not necessarily consistent across all people who use drugs. There are some people I have worked with as a therapist who reported to me that they were hooked pretty much from the start, but in all honesty, the majority of my clients had different stories. The more common story is that some people begin by using drugs recreationally, then somewhere along the way get into trouble with that use. Furthermore, there are some people whom therapists never see who can and do use drugs recreationally without problems. So using drugs does not automatically mean that addiction is around the corner, nor does having a drug problem necessarily mean it will always get worse.

With those people who develop drug problems, they do not necessarily experience consistent problems over time. Some clients do have continuous problems, a situation often called *chronic* drug dependence by therapists. However, some

clients move in and out of problems, so that sometimes they seem addicted and other times they do not. Therapists often refer to this as an *episodic* or *transient* pattern. Continuous or chronic drug problems often are described as *dependence* by treatment professionals, whereas the more transient or episodic problems are often referred to as *abuse,* although even this distinction is not always clear-cut (see next section). The Institute of Medicine (IOM; 1990) did an investigation of alcohol abuse as an example, and found that drinking problems changed drastically over time, and that most people had transient problems whereas only a very small percentage of people who drank alcohol had severe problems.

Figure 1.1 provides some perspective (using the IOM model) in terms of how many people who use drugs have severe drug problems. As you can see in this figure, many people do not use drugs at all, followed by a sizeable minority who are recreational users, some who may have mild or occasional problems or none at all, and then a very small minority who have drug problems and who may require help. Drug use does not necessarily translate into drug problems, nor does drug use mean a person needs treatment.

Dependence Versus Abuse

The *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (*DSM-IV-TR;* American Psychiatric Association, 2000) specifies that the symptoms of substance-related disorders may include tolerance; withdrawal; loss of control; unsuccessful efforts to cut down or quit; a great deal of time committed to finding, using, or recovering from using substances; impairment in specific areas of one's life; and continued use in spite of negative consequences. To meet criteria for *dependence,* the individual must have three or more of these

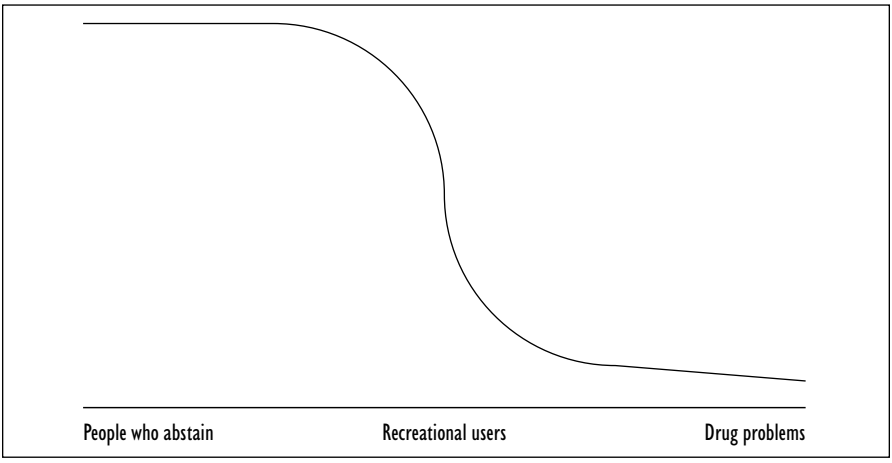

Figure 1.1: Continuum of drug problems.

Note: The slope of this graph is merely to show the relative number of people who abstain, use drugs, or have drug problems, in order to provide some perspective.

symptoms. To meet the criteria for *abuse,* the individual must experience negative consequences of drug use to such a degree that it impairs at least one area of life function (e.g., work, family, social life).

A person can meet criteria for abuse or dependence for one drug and not others, although there is concern about what has been referred to as *cross-addiction*. Cross-addiction means that a person who is dependent upon one substance may be dependent upon another, very similar one. An example might be a person who is diagnosed as dependent upon tranquilizers and who, you may fear, is also addicted to a similar substance such as alcohol. However, the research is not entirely clear on whether cross-addiction occurs, and I have known clients who had very specific problems with one substance who did not generalize into problems with other, similar substances. A person also may meet criteria for abuse or dependence for multiple substances; generally, this is referred to more simply as *substance abuse* or *substance dependence*.

Theoretically, drug "abuse" does not need to involve any evidence of physical dependence, according to the *DSM-IV-TR,* although we know that even social users can experience tolerance and withdrawal. More typically, *abuse* means that a person is experiencing negative consequences related to drug use in a specific life domain, such as impairment in a relationship or problems at school or work. Drug dependence, on the other hand, often involves physical tolerance and/or withdrawal (but does not have to, according to the *DSM-IV-TR* definition), and/or impairment in multiple areas of one's life. The odd thing about the *DSM-IV-TR* definition is that a person can be diagnosed with drug dependence even if he or she is not experiencing symptoms of physical addiction. In addition, since the diagnosis can be made by meeting three criteria out of a possible seven, two people can be diagnosed as dependent on the same substance and have entirely different presentations.

The *DSM-IV-TR* presumes that these diagnoses are linear in that there can be *progression* from abuse to dependence, but not vice versa. One criterion for a diagnosis of substance abuse is that a person has *never* been diagnosed with dependence on that substance. This definition suggests that a person who is abusing drugs can get worse (i.e., become dependent), but once dependent remains diagnosed as drug dependent (although the dependency can be "in remission"). This is much different than the way other psychiatric problems are generally conceptualized. For instance, people who experience Major Depression are not thought of as depressed even when they are not exhibiting depressive symptoms. Major Depression is described as an *episode* rather than a condition, but drug problems often are considered to be a *condition*. As you'll see later in this chapter, research on the natural course of drug abuse and dependence has found that people generally oscillate between experiencing multiple problems to sometimes experiencing fewer or no problems at all, *even while still using drugs.* This body of research, referred to as *naturalistic studies* on the course of substance problems, calls into question the assumption that drug dependence is a life sentence for all people.

As you can tell, there are some problems and inconsistencies with how we currently diagnose drug problems. One size does not fit all when describing or treating drug problems. Although determining a diagnosis may be important for determining the type of treatment and for obtaining third-party reimbursement, the more important issue for treating a drug problem is determining whether the person has risk factors that would predict more problems in the future, and then to intervene upon those risk factors. Later in this chapter we will examine the predictors of worsening problems and who may be at risk.

Psychological Versus Physical Dependence

Another way to conceptualize drug problems is to examine psychological versus physical dependence on a substance. *Psychological dependence* is defined by beliefs: A person thinks he or she needs the substance in order to cope. *Physical dependence,* on the other hand, is defined by actual physical changes related to drug use that may result in withdrawal symptoms and tolerance. However, to confuse matters, recreational users also may experience tolerance and withdrawal, so it is important to be careful when using these distinctions to define whether a person has a drug problem.

Conceptualizing dependence as both psychological and physical acknowledges that drug problems can have psychological, environmental/social, and biological roots (more follows on these roots in this chapter). Some researchers have suggested that some drugs, such as cocaine, may not be physically addictive but can be psychologically addictive since they may be highly reinforcing and very pleasurable. Personally, I find the distinctions between psychological and physiological dependence irrelevant, since both processes seem interrelated. However, conceptualizing drug dependence in this way does suggest the importance of both psychological and medical models to treat people who have drug problems, which will discussed more fully in Chapter 5.

Spontaneous Remission and Maturing Out

Some people who have drug problems are able to help themselves out of those problems without treatment. Researchers have studied people with substance-related problems over decades of their lives to determine what is the natural course of problems among different people. The results of these naturalistic studies have been quite interesting and challenge the view that all drug problems are chronic and progressive. Many untreated people with substance-related problems in these studies were found to have a more cyclical course in their addictions, rather than a linear and progressive course. Some people were able to successfully abstain without treatment even after a period of what would have been described as severe dependence. The research has found that many people with drug problems move through cycles of severe abuse followed by periods of control, sometimes followed by relapse, so that the trajectory may be cyclical rather than strictly linear. If anything, the natural course of addictions research

CASE STUDY

Edison the Experimenter

Edison is a newly married, 23-year-old civil engineer with a brand new career. He has a great future in front of him — but it didn't always seem that way. When Edison was in high school, he was busted once for smoking marijuana at school and was suspended for a few days. His principal put him on an "at-risk students" list. In college, Edison made mediocre grades his first two years, majoring in partying and minoring in missed classes. However, in his junior year, he found his passion in an engineering class, and began to spend more time on his studies and less time smoking marijuana. As a senior, he met Kate, whom he loved dearly. After a while, the partying just did not seem as important. When he graduated, he left his partying days behind him, as many youthful drug users do!

suggests that there are individual differences among people with drug problems and that not everyone follows a traditional trajectory with regard to progression of symptoms.

In addition, the trajectory of drug problems also can differ according to a person's age. Young adults diagnosed with drug-related problems in adolescence or early adulthood have shown the ability to mature out of those problems. *Maturing out* is a phrase coined to describe why so many adolescents often naturally outgrow drug problems. Many of these adolescents could easily be diagnosed by *DSM-IV* criteria as having drug abuse or dependence during adolescence or young adulthood or while in college, but ultimately go on to lead productive and healthy lives without abusing substances. The research shows that maturing out typically occurs among young adults after they have graduated, gone to work, or entered into long-term love relationships. The common denominator for maturing out, we think, is that increased responsibilities usually lead to decreased drug-related problems. Many young adults show the capacity to move beyond youthful drug experimentation and abuse when challenged with increased life responsibilities.

Clinical Versus Nonclinical Populations: Why Some Do Not Mature Out

There are, however, subgroups of young adults who may not mature out of drug problems as easily as others. Those who seem to have problems maturing out usually have other problems that preceded the onset of drug use. For instance, researchers have found that young adults who have a history of Conduct Disorder or who have other psychiatric disorders (such as schizophrenia, Bipolar Disorder, depression, Anxiety Disorder, or a major personality disorder) mature out of drug problems at much lower rates than those who do not have these additional problems.

POINTS OF CONTROVERSY

Moderate Use After a Problem?

One of the hottest debates in substance abuse research for decades has been whether people with drug and alcohol problems can ultimately return to moderate use. At least in the alcohol research literature, the evidence is clear that some people who meet criteria for alcohol dependence early in life eventually no longer meet that diagnosis in spite of still drinking. Research also has found that many adolescents with alcohol and drug problems are able to mature out of those problems over time as life responsibilities increase. Although not as much research has been concerned with the use of substances other than alcohol, I certainly have met people who had problems with "harder" drugs earlier in life who were using nothing stronger than marijuana recreationally later in life. If nothing else, this controversy has taught researchers and clinicians alike that not all drug problems are the same, and therefore that not all drug problems should be treated in the same way.

Progression

Some people who do not mature out of their drug problems may eventually use drugs continuously with progressively worsening problems. In the 1940s, Jellinek developed a model for this continuous and progressive disease trajectory based on personal observations and self-reports from severely alcohol-dependent clients. The trajectory showed a steady and steep slide from prodromal or early stages of addiction to chronic late-stage addiction, which ended with either the death, imprisonment, or recovery of the person. We do not know what progression may look like for other substances besides alcohol, which was the only substance Jellinek studied. However, for years many treatment professionals have believed that this trajectory with its prescribed progression of symptoms and consequences was the typical course for all addictions.

Clearly, some people have increased difficulties over time with their drug use and may experience greater losses or worsening consequences, but this is not true for everyone with drug problems. Sometimes when working in treatment settings, it feels like it is true, but in treatment settings we see a very limited sample of all drug users, a sample whose members often do have worsening problems. There are many people who never darken the doors of treatment who are different than the clients generally seen by treatment professionals.

Interestingly, Jellinek later modified his model by proposing that there were five different types of trajectories for alcoholics, three of which he did not consider to be chronic, progressive, or even related to disease (Jellinek, 1960). In effect, Jellinek was ahead of his time by suggesting more than 40 years ago that the trajectory for substance-related problems is not the same for all users of substances.

Drug Problems: A Biopsychosocial Model

Drug problems likely have multiple causes. To begin with, drug problems seem to be rooted in biological processes. No surprise here, since the biological processes related to addiction have gotten a great deal of press. Psychoactive drugs influence neurochemistry in such a way as to stimulate the pleasure center of the brain. In this way, drug problems are biologically based. Many researchers are also searching for possible genetic links that may place a person at risk for developing a drug problem.

However, drug problems also have psychological and social factors that seem to contribute to the development and perpetuation of the problem. Researchers refer to this as a *biopsychosocial* model (see Figure 1.2) since biology, psychology, and social/environmental factors are all important for understanding and treating a drug problem. Notice that the arrows on this model go two ways, indicating that not only do these factors influence a drug problem, but the drug problem can influence these factors. Psychological factors may include personal variables such as the way a person behaves, thinks, and feels. Social factors often are related to personal interactions but also can be related to environmental factors. The social and psychological factors are very important to understand in the development and perpetuation of drug problems because these are the areas that we will most likely be able to intervene upon and possibly change. We have not determined how to change biology yet, although some progress has been made in *pharmacotherapy* (which will be discussed in Chapter 5).

Within the broad categories of biological, psychological, and environmental processes, researchers have identified certain factors that seem to increase the risk of experiencing drug-related problems. There are several different categories of risk factors that tend to cluster together. However, many of these risk factors

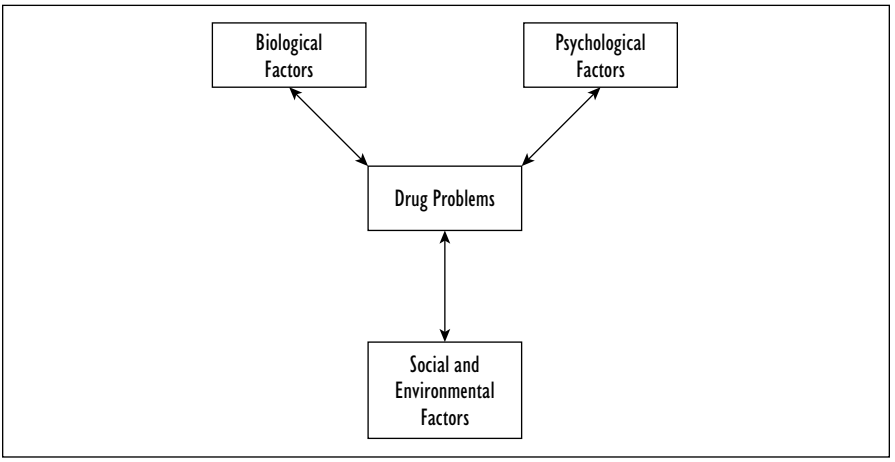

Figure 1.2: The biopsychosocial model of drug problems.

influence each other, so it is difficult to talk about one without remembering the others. For the purpose of simplicity, I will classify the risk factors in biological, environmental, behavioral, cognitive, and emotional categories, although it should be understood that these risk factors may interact with one another.

Biological Risk Factors

Therapists and researchers have found that a family history of addictions may be a particularly potent risk factor for drug problems, and the risk seems even higher if a member of the nuclear family has abused substances. Health care professionals have noted that intergenerational substance abuse commonly occurs within families. However, it is not clear how much of the propensity to experience drug problems within families is genetic rather than behavioral. Twin studies have suggested that drug abuse may have a genetic component, but more than a decade of work has not clearly identified the specific genes responsible. Furthermore, even if a gene pattern emerged for, say, opioid (e.g., heroin) dependence, there is no guarantee that a similar pattern would be identified for dependence on another type of drug (say, cocaine). To further complicate matters, intergenerational transmission of substance abuse also can be explained by behavioral factors, such as modeling by parents' or siblings' using drugs in order to escape, avoid, or cope with stress or problems. Intergenerational transmission of substance abuse within families is likely a combination of genes, which may cause a person to be vulnerable or sensitive to drug use, and of maladaptive modeling by family members who use substances to cope.

Although genetic research is not conclusive to date, there is compelling evidence that the greatest biological risk factor for having a drug problem is to have a *co-occurring psychiatric disorder*. As mentioned previously, epidemiological research has determined that the co-occurrence of drug problems with psychiatric disorders is quite high, with estimates that 1/3 to 2/3 of all drug-dependent people have at least one co-occurring psychiatric disorder. There is evidence to suggest that certain mood and anxiety disorders may be transmitted across generations in families, so it is possible that what is thought to be an intergenerational transmission of a drug problem may actually be related to intergenerational transmission of psychiatric conditions that may cause a person to be at risk for a drug problem. Many clients with co-occurring disorders believe that their drug problems may have started as an attempt to *self-medicate* their psychiatric symptoms (self-medication will be discussed in greater detail subsequently). For many clients with co-occurring disorders, though, it is difficult to parse out what came first, the psychiatric symptoms or the drug problem.

Environmental Risk Factors

Environmental risk factors also influence the development and course of drug problems. For instance, poverty has been linked to higher rates of drug problems, and impoverished neighborhoods usually have higher rates of drug abuse. In

addition, stress has been identified as a risk factor for the development and perpetuation of drug-related problems. Many of my clients have told me that their drug use started as a way to reduce stress or to relax. Many different types of psychological stressors may contribute to drug abuse, including those related to family, money, and job stress; unemployment; daily hassles; or major life changes or crises. There has been speculation on the part of some researchers that crowded living conditions, often associated with increased psychological stress, also may be associated with drug abuse, although this would be difficult to determine absolutely since crowding and poverty usually go hand in hand.

The same can be said for education, which is generally considered to be a protective factor from problems, meaning that increased educational training usually means a person is at less risk for drug-related problems. However, education, too, is highly associated with income, so it is unclear what is really protective from drug problems — financial security or higher education. On the other hand, college students tend to have increased rates of drug usage while they are in school (as mentioned previously) before the use tends to subside after graduation, so education is not always protective from drug use but perhaps reduces the likelihood lof long-term destructive abuse.

Other environmental stressors linked to drug problems include physical or emotional abuse, traumatic events, and oppression. A significant body of research has studied the relationship of abuse and trauma with drug problems (see the discussion on shame later in this chapter). Many people who go on to develop drug problems in life have a history of being physically, emotionally, or sexually abused, although ascertaining exactly how many people have been victimized is difficult because of the sensitivity of the topic. Epidemiological estimates that I have seen suggest that 10% to maybe more than 50% of all people with drug problems may have been abused in some way, depending upon the definition of abuse and the population being studied. The association of abuse with drug problems is significant and certainly warrants attention. However, asking a person about abuse has to be done very skillfully and with caution (see Chapter 5 for greater discussion).

One area of research related to abuse or neglect has to do with how well a person fits within his or her social environment. One researcher, Marsha Linehan (1993), has talked about how a poor fit with the social environment (viz., not fitting into the family, school life, or other important social networks) may cause psychiatric problems if the poorness of fit causes the person to feel like an outsider or to feel constantly invalidated or put down. Many of my clients have told me that they have not felt part of their families or that they did not fit well into society in general, or have described themselves as black sheep. Abuse and neglect lead to an invalidating environment, but so can mismatches of personalities within families or mismatches of behavioral patterns with social norms. Furthermore, there is evidence that the way emotion is expressed in families can be associated with a poorness of fit that can influence the course of drug problems.

Many of my clients have talked about this as contributing to the feeling that they did not belong or were not accepted in their families (see the discussion later in this chapter about familial factors).

Many clients from ethnic-minority groups also feel a poorness of fit with the majority culture. Majority culture often has vastly different expectations for behavior and relationships and vastly different values than those held within many ethnic-minority cultures. Some researchers have suggested that being competent in a culture may be an important skill to have for good psychological health. Some of this research suggests that the ability to function competently in all the cultures in which a person dwells, such as the home culture and the culture of the larger society, may be associated with less risk of drug problems, presumably because a person has the requisite skills to successfully negotiate his or her different worlds.

Furthermore, many of the ethnic-minority clients I have worked with report experiencing varying degrees of prejudice and cultural isolation as well as reporting some degree of culture shock and problems adjusting to the majority culture. Some clients report using drugs to seek relief or escape from the environmental stressors related to prejudice and cultural shock. Others have candidly told me that their drug use was an act of defiance toward what they consider to be an oppressive majority society.

In addition, societal expectations about substance use seem to be related to the susceptibility of societal members to experience drug-related problems. Many respected researchers believe that exposure to responsible substance use in society early in life may promote more moderate substance use in those societies where such behavior is sanctioned. One striking example is the Netherlands, which legalized marijuana use in coffee shops two decades ago but currently has lower marijuana abuse rates than the United States. We have no idea whether this kind of societal exposure would work with more potent substances than marijuana, although the same results have been found for alcohol in France, which has a much lower cirrhosis rate than the United States even though French citizens usually drink for longer portions of their life spans.

> "[I]t would be madness to settle on medical treatment for the body of a person by taking an opinion poll of the neighbors. . . ."
>
> — PLATO

In particular, the United States has an interesting history of tension between trying to solve drug problems through the legal system versus through treatment services. In some ways, these approaches are diametrically opposed to each other, since one approach focuses on punishment whereas the other focuses on care. More recently, these two approaches to dealing with drug problems have been merged creatively in so-called *drug courts,* which have mandated treatment to inmates as an alternative to prison time. Research clearly supports that treatment is more effective than imprisonment in resolving drug problems. In addition, prisons in the United States are bursting at the seams,

with more than one million people incarcerated on drug-related charges. Other societies, including Australia and some nations in Europe, have been relying more heavily on prevention and treatment instead of the court system, and have either reduced legal penalties or decriminalized drug use entirely while increasing the resources dedicated to helping those with problems or at risk for developing problems. It is unclear at this time whether the overburdened prison systems may cause U.S. public policy on incarcerating drug users to be reconsidered in the future, but the data are quite clear that treatment, as opposed to imprisonment, saves taxpayers money in the long run.

In addition to biological and environmental factors that influence the onset and course of drug-related problems, there also are many individual risk factors. These variables can include those related to a person's actions or behavior, those related to the way a person thinks, or those related to the experience of emotions. The next few sections will discuss in detail these personal variables that can be related to drug problems in some people.

Behavioral Risk Factors

As mentioned, researchers have been searching for many years for a personality pattern or a psychological profile for people who have drug problems, without success, in spite of the belief by many that such a personality type exists. However, behavioral principles may explain the addictive behavior patterns that we may see even if people with drug problems exhibit varying personality types. For instance, *positive reinforcement,* which is akin to receiving a reward or something pleasurable after a specific behavior occurs, will encourage the person to repeat that behavior. Positive reinforcement can happen after a person has used a psychoactive drug if he or she begins to feel relaxed, numbed, excited, or high — in other words, if the experience is pleasurable.

However, reinforcement does not necessarily happen all the time or even regularly. For example, even though many of us work every day, we do not necessarily get paid at the end of that day for what we did. And in some instances reinforcement is unpredictable, like when you receive an unexpected phone call that is rewarding to you from a close friend. When reinforcement doesn't occur in a predictable way, it is referred to as being on a *variable* or *intermittent* (random or unpredictable) schedule (or pattern). Behavioral researchers have found that a variable reinforcement schedule produces behavior patterns that are much more difficult to change than behavior patterns reinforced regularly.

The variable reinforcement pattern is complicated by certain beliefs that people have about what drugs can do for them. Many clients I have worked with engage in a type of thinking about drug use that is very similar to what is called the *gambler's fallacy:* the belief that the odds favor getting lucky the next time after a losing streak, even though the reality is that the odds of winning remain the same regardless of what happened before today. Many of my clients tell me (wishfully) that the next high will be a good one, even if the last 10 have not been

good, believing (errantly) that the odds favor it. The reality, of course, is that the occasional rewards keep people hopeful that the next time will be the jackpot high that they are seeking (maybe even as good as the ones they experienced prior to the development of tolerance).

Drug use also can be negatively reinforcing for a person. Negative reinforcement makes it likely that the person will repeat the behavior, just as positive reinforcement does, but in a slightly different way. In *negative reinforcement,* the reward occurs when the behavior is followed by removal or reduction of something aversive to the person, or of a negative consequence, therefore making it likely that the behavior will be repeated. Sometimes negative reinforcement may involve the lifting of a punishment. Drug courts use negative reinforcement by suspending or reducing a prison sentence if the person complies by completing treatment successfully. In another case, negative reinforcement may involve the reduction of nasty physical withdrawal symptoms. In this instance, using drugs

THINGS TO REMEMBER

Reinforcement Can Help Drug Use Become a Habit

Reinforcement is something that happens after a behavior that makes it likely that the behavior will be repeated, and it can be both positive and negative. Reinforcement is different than punishment. Reinforcement encourages repeating a behavior, whereas *punishment* discourages repeating a behavior.

Some find it difficult to understand differences between positive and negative reinforcement, and often confuse negative reinforcement and punishment:

- *Positive reinforcement* = pleasurable consequences related to substance use
- *Negative reinforcement* = reduced emotions, withdrawal, or psychiatric symptoms

Positive and negative reinforcement play a part in establishing the addictive process.

Reinforcement often happens more than once, and sometimes with a pattern:

- *Continuous* reinforcement means that drug use is reinforced after every use, but this pattern is less likely after tolerance develops.
- *Variable* or *intermittent* reinforcement happens after tolerance develops, and occurs in a random and unpredictable fashion that keeps the person returning to the drug for the next good high.
- People with drug problems often experience variable reinforcement — both positive and negative — when they use, because the drug makes them feel better, but only occasionally and unpredictably.

may be reinforced if the use helps the person avoid getting the shakes or chills. Just like positive reinforcement, negative reinforcement can be on a variable or intermittent schedule, meaning that sometimes using a drug averts withdrawal symptoms, but not always. Drug problems may develop as a consequence of having drug use "shaped" by the pattern of seeking pleasure and avoiding discomfort. In the beginning of the vicious cycle, the compulsion to seek and use drugs may begin in order to seek highs and avoid lows, but eventually, as the behavior becomes habit and the reinforcement becomes less predictable, the pattern may take on a life of its own.

Clients often talk about using drugs to *self-medicate* pain or emotional discomfort, or symptoms related to other psychiatric disorders. Self-medication also can be thought of in terms of negative reinforcement. The person may believe that drug use reduces aversive psychiatric or physical symptoms, such as depression, anxiety, or chronic pain — and occasionally it may. However, the research suggests that drug use probably will worsen the symptoms over the long term rather than improve them. But since the drug use has been negatively reinforced at times by symptom reduction, the client may continue to use the substances under the belief that the drugs will medicate the symptoms *this* time.

Finally, drug problems often are a function of poor coping skills. Sometimes people will turn to drugs to cope with stress or avoid problems. Drugs may become a kind of solution for people when they do not have other means for coping or solving problems. There is a body of research that suggests that many people with drug problems have difficulties with skills such as assertiveness or problem-solving abilities. Because they are not able to assert themselves effectively with other people, they often find themselves having difficulties in social relationships or being socially awkward. Others may feel trapped because they are unable to solve problems methodically. There are solutions for these difficulties, namely teaching these skills, which will be discussed in Chapter 5.

Cognitive Risk Factors

A person's belief system also can influence drug use patterns. Many clients have certain beliefs about what the drug will or will not do for them. These beliefs about the effects of a drug are called *expectancies.* Expectancies can include positive or negative beliefs about the effects of using the substance. Expectancies are very powerful beliefs and difficult to change. In fact, research has found that positive expectancies about drug use can remain ingrained even after a person has not used the drugs for some time! Positive expectancies make it hard for people to want to change since they believe that using the drugs will do good things for them, such as reducing anxiety or depression or improving their social lives. Related to expectancies is what some psychological scientists have called the *self-fulfilling prophecy,* which concerns how a person's beliefs about outcomes can lead that person to act a certain way in the future (in effect, confirming what the person believed to be true all along). In this research, as mentioned earlier, if

people believe something will happen a certain way, they may actually act in ways that make the predicted outcomes happen without being aware of doing so. The consequences of using drugs can often be a function of what a client believes about the outcome.

Another important cognitive risk factor concerns whether people believe they have the ability to control their behavior in certain situations. Researchers have found that *self-efficacy* (Bandura, 1997), or the perception of control and mastery in a particular situation, can influence whether a person has problems with drugs. If people have low self-efficacy (i.e., low competence and little confidence) in particular situations for coping without using drugs, then they may lose control of their drug use in those situations. It is unclear whether low self-efficacy may be a realistic appraisal of one's ability or whether these beliefs are like a self-fulfilling prophecy. Regardless of the reason, self-efficacy seems highly influential of drug use patterns. As previously suggested, hopelessness and discouragement may lead a person to give up trying to overcome a drug problem.

THINGS TO REMEMBER

Thoughts Can Influence the Course of Drug Use

Cognitions are beliefs that contribute to drug use behavior. The following are important beliefs that have been associated with drug use:

- Expectancies about the drug use
- Self-efficacy about drug use behavior
- Awareness of consequences of drug use
- Level of motivation to change drug use
- Neurocognitive problems associated with drug use

Common emotions associated with addictive processes include the following:

- Anger
- Sadness and grief
- Shame and guilt
- Regret and rumination
- Boredom
- Happiness

Many chemically dependent clients have difficulties identifying and regulating their emotions, much to their detriment.

Cognitive Problems Related to Substance Abuse

Additionally, chronic drug use has been linked to neuropsychological problems that in turn make it harder to stop the cycle of abuse. Psychoactive drugs by definition affect the brain, and long-term or acute exposure to psychoactive substances can be toxic. Furthermore, we know that drug abuse can increase the risks of stroke, brain injury related to accidents, malnutrition, or liver damage, all of which can adversely affect brain function as well.

Memory difficulties among people with drug problems are common, including noticeable short-term memory deficits. These memory problems seem to be more noticeable when a person is under stress, or when confronted with a new and complicated problem to solve or a learning task, which of course would complicate the ability to change behavior. The research suggests that long-term memory may be less affected than short-term memory, which is both good and not-so-good news. The not-so-good news is that long-term memory is suspected to be the source for memories associated with positive expectancies for drugs, which may explain why expectancies remain entrenched.

Chronic or acute drug use also has caused problems with other, higher brain functions related to the ability to solve problems, control impulses, think abstractly, and be attentive, and to plan, initiate, and stop behavior. These would be important skills to alert a person to the fact that his or her drug use may be causing problems, to allow the person to consider alternatives, and ultimately to enable the person to change behavior successfully. There is some reason to suspect that impairment of higher brain functions and memory may be partially responsible for perceptual problems related to drug use. Lacking awareness about having a drug problem or about the desirability of reducing or stopping drug use may be related to not tracking very well cognitively. As mentioned earlier, what is called *denial* by treatment professionals may really be cognitive impairment.

Researchers used to believe that cognitive problems developed only after chronic abuse of substances, but more recent evidence suggests that these problems can develop rapidly. Certain people might be more vulnerable than others to the effects of substances on their brains. Some adolescent drug users have shown evidence of cognitive problems, and recent research has found that the adolescent brain may be highly vulnerable to toxic effects of chemicals. Some substances, such as methamphetamine and cocaine, can cause mini-strokes that drug users may not even be aware of, and these mini-strokes can cause subtle but potentially important changes in memory and higher brain functions.

What has been difficult to determine is whether the neuropsychological problems are consequences of the abuse, or whether some of these cognitive problems may have preceded drug use. For example, many people who have drug problems also exhibit signs of hyperactivity or attention problems, but it is unclear whether these problems preceded the drug use or whether the drug use caused

the problems. In addition, some people seem to have problems with impulse control or exhibit antisocial behavior even before using the substances, and these difficulties may be related to premorbid neuropsychological problems, such as an undiagnosed head injury. We do not know for sure, but it seems likely that for some people neuropsychological problems may have made them vulnerable to developing drug problems.

Additionally, impulse-control and attention problems, hyperactivity, and even antisocial behavior could be caused by a prenatal exposure to psychoactive drugs that escaped detection. Research has linked these conditions with known prenatal toxicity, and the consequences of low levels of prenatal exposure to psychoactive substances can sometimes be missed. In these instances, the symptoms are more likely to be observed as behavioral and attributed to other causes (such as Attention-Deficit Disorder). Recent research also suggests that children of mothers who may have used substances during pregnancy also may be at risk for drug problems later in life (Baer, Sampson, Barr, Connor, & Streissguth, 2003).

There is some good news, in that brain function begins to improve in most cases when drug abuse is stopped, and the improvement may continue for many months. Improvement often begins after the *detoxification* period, when mental confusion and some acute cognitive problems often improve rather dramatically. Other cognitive problems, some of which can be subtler and more difficult to detect, may persist for several months or years, as mentioned; but eventually many are reversible.

Emotional Risk Factors

Emotions also can play a role in the development of a drug problem. To begin with, many people who have drug problems have difficulties labeling what they feel. When queried about their feelings, many clients cannot tell you what they are feeling at that moment, often confusing one emotion with another (e.g., anger for shame or embarrassment) or a thought with an emotion (e.g., when asked, "How do you feel about that?" the individual may reply, "It was unfair" instead of "I was angry and hurt"). Understanding why many drug users have problems identifying their emotions is not difficult. Many people are using drugs in order to alter their moods and emotions, so obviously this alteration can blunt emotions over time. Many of my clients have made no bones about using drugs to avoid or escape certain emotions. So it is no great surprise that people with drug problems would have difficulty knowing what they are feeling, since the function of their drug use may have been to avoid feeling for many years.

People with drug problems often have difficulties expressing their emotions as well as identifying them. This difficulty has been attributed by some researchers to having *emotional dysregulation,* which simply means lack of skill at controlling or expressing emotions. Like cognitive problems, the problem of emotional dysregulation may be a consequence of substance use over time. However, the emotional vulnerability of the person may predate the substance use. If

the person was emotionally vulnerable, substance use to avoid emotions may have seemed like a very attractive option. Many clients have shared with me that they feel emotionally vulnerable, or describe their experience of emotions as more intense than it must be for other people. Certainly some people seem to be highly sensitive to emotions expressed by others, often wearing their hearts (or emotions) on their sleeves, so to speak. Research seems to support the notion that some people are more sensitive to emotions than others, just as other evidence exists that some people with seasonal depression are more sensitive to amounts of sunlight than the average person. In addition, some of the emotional vulnerability being described may be attributed to *temperament.* Developmental researchers have suggested that a person's disposition toward expressing emotion and interacting with others may be set at an early age. A person's temperament also may influence how that person reacts to the emotions and behavior of other members of his or her family (see more on temperament under familial considerations in this chapter).

Furthermore, many substance users were reared in families that expressed emotions inappropriately. Parents and others in the home may not have been very skilled at expressing emotions themselves, and modeled inappropriate expressions of emotions for the children. This would certainly have been true in families in which substances were being abused, or where trauma, abuse, and neglect occurred. For instance, if emotional volatility was normative in the family, then a person reared in that family might consider emotional volatility as normative in the real world. On the other hand, if emotional expression was punished, then a person reared in that family might be averse to expressing emotions as an adult. In my experience, clients reared in families where emotions were taboo or underexpressed often have problems confusing emotions with thoughts.

Other clients may be very good at expressing one particular emotion, so well in fact that they will often express it to the exclusion of other emotions. An example is the client who has no problem identifying that he or she is angry, and is angry often, but rarely expresses emotions other than anger. It is almost as if the anger drowns all the other emotions out. Some of my clients have drowned out certain emotions to avoid other, more aversive feelings, such as embarrassment or sadness.

The expression of emotions in inappropriate ways can cause a vicious cycle for a person. For example, expressing emotions inappropriately can cause problems with interpersonal relationships. If a person is perceived as emotionally awkward or volatile, others may go out of their way to limit contact with that person. The result may be increased social isolation, which in turn may reinforce the belief by many clients with drug problems that they are social misfits (recall the earlier discussion about environmental risk factors). In addition, the disinhibiting effects of drugs may exacerbate emotional dysregulation, potentially making the dysregulation that much worse.

THINGS TO REMEMBER

Emotions Can Trigger Drug Use

- Difficulties experiencing and expressing emotions can sometimes be at the heart of a drug problem.
- Some people may be emotionally vulnerable and may use drugs to control the experience of emotions, but using often causes consequences that can lead to increased emotional vulnerability.
- Some people with drug problems have difficulties with *emotional dysregulation,* which means they may under- or overreact to the experience of emotions.

In general, strong emotions can be potentially risky for people with drug problems, especially for people who are using drugs to cope with emotions. For instance, the expression of anger is very commonly associated with aggression, and frequently drug problems and aggression go hand in hand. Part of the reason for this association is likely the high co-occurrence of Conduct Disorder and Antisocial Personality Disorder with drug problems. Anger is a very commonly experienced emotion for people with these disorders. A person who is aggressive while using drugs also complicates his or her situation since aggressive acts often cause more problems.

Even for those clients without conduct problems, anger often is an integral part of the drug problem. Frequently the person is angry because of neglect or abuse, or the person may have been frustrated because of not being able to cope adequately with life problems. Some of my clients have described anger as a shield that helps them deflect painful events and protects them from people perceived to be hurtful. The shield of anger also may be used when a person feels like he or she is losing control, which happens frequently when a drug problem is involved.

But anger is not the only emotion that plays a part in drug problems. Grief and sadness also are commonly experienced by people with drug problems, but they are often hidden behind the shield of anger. Grief and sadness may predate the substance abuse, and the person may use drugs to avoid thinking about the events that prompt the sadness or grief. Grief and sadness may be related to past events involving abuse, neglect, or loss, or sometimes it is a by-product of depression. But grief and sadness also may develop because of the consequences of drug problems. People who have drug problems are at great risk to incur a number of aversive consequences, such as major and stressful life changes and losses, unemployment, relationship and family problems, financial and property losses, exposure to violence, loss of contact with (and possibly the death of) family or friends, illness, poverty, homelessness, loss of self-respect, and potentially even the loss of important values or spiritual meaning and purpose. It is rare to find a person with a drug problem who has not experienced a major loss

or does not have some major regret. Although the loss itself is not always attributable to drug use, the person may be using drugs to avoid remembering the loss.

Interestingly, the research suggests that for many people the day-to-day hassles of living are more difficult to cope with than the larger-than-life changes we each occasionally experience. People often are able to meet the major life challenges, but get battered over time by trying to live with the little daily hassles. *Daily hassles* are perceived as never-ending annoyances that can cause a great deal of frustration and stress to build up slowly over time. Sometimes daily hassles influence drug use more than crises. I have had some clients who are able to rise to the challenges of major life events, but then falter when trying to negotiate day-to-day living activities.

Another potentially toxic emotion linked to drug problems is the experience of *shame.* Shame as a consequence of being abused has been cited by many people with drug problems, especially women, to be related to subsequent drug use. Even if a person was not abused prior to using drugs, he or she is at high risk for being abused while using drugs, because people often are vulnerable to being victimized when impaired. Previous research has found that many adults are under the influence of psychoactive substances when they are victimized, and of course the research also finds a strong link between substance impairment and perpetration of violence. Shame does not necessarily have to be the result of abuse or victimization, though. Shame can accumulate as the direct result of the perception of personal failings or falling short of personal goals related to drug problems.

Another emotion linked with drug problems is *guilt,* which, unlike shame, is related to violating personal principles, rules, or interpersonal trust. However, the assumption that all people with drug problems feel guilty about their behavior is in error. For example, people with drug problems who also have Antisocial Personality Disorder will not likely feel guilt or remorse, which can complicate motivating behavior change in those people. Since antisocial personality frequently co-occurs with drug problems, treatment professionals cannot assume that all clients will feel guilt as a result of drug use. One caveat is worth noting here: Antisocial Personality Disorder by definition includes scrapes with the law and problems with authority. Although the co-occurrence of this (and of many other disorders) is associated with drug problems, there has been speculation that people who use drugs may be overly diagnosed with this disorder simply because drug use is a crime. One must be careful to account for the illegality of drug use when determining whether a person is truly antisocial or whether the person is simply a drug user who got caught doing illegal drugs.

Many drug users without antisocial features will feel some degree of guilt as a result of their drug use and associated behaviors. Frequently, clients will have behaved while under the influence of drugs in ways that may have violated their principles, or may have taken advantage of others. Clients may have hurt other people, conned other people, violated their own belief systems, or violated the

trust of others. Behaviorally speaking, the best way to combat guilt is to use correction or overcorrection, which will be discussed in Chapter 5. Research on the determinants of relapse have found that shame and guilt can derail efforts to stop or reduce drug use, and that many times people will use drugs again in attempts to avoid feeling ashamed or guilty (Marlatt, 1985). This sets a drug user up for a vicious cycle of experiencing noxious shame and guilt, followed by substance use to ameliorate these feelings, which then places the person in situations where he or she is vulnerable to doing something else that will increase shame or guilt.

In addition, both *rumination* (unhelpful thoughts that spin around like a treadmill in a hamster cage and stop forward progress in life) and *regret* are associated with drug problems for a couple of important reasons. To begin with, rumination and regret often are the result of poor choices related to poor judgment. Obviously, being impaired by drug abuse can cause poor judgment and a wide range of consequences that can contribute to ruminative thoughts and regret. Drug problems cause interpersonal problems, lost opportunities, or even violations of trust with people who are important to the drug user. Rumination and regret also may be related to missed opportunities or to not reaching personal goals or expectations. Since drug use often impairs a person's ability to think and reason clearly, negative consequences that can contribute to rumination and regret are often the result. However, experiencing rumination and regret is not necessarily the end of the story, because my own research suggests that uncomfortable experiences such as these may prompt a person to consider changing his or her substance use (Blume & Schmaling, 1998; Blume, Schmaling, & Marlatt, 2001).

CASE STUDY

Joy for Joyce

Joyce, a 36-year-old woman who was trying to overcome a problem with Xanax (alprazolam), had found that things were going quite well in her life. She had a much better relationship with her children since she stopped using the Xanax, work was much easier than before, and she was dating a person who seemed much nicer than the others she had dated before she quit the drugs. It was not always easy, though. When she first stopped, she felt so anxious that she thought her insides were going to shake out, and she found herself alternating between being really irritable and being really tearful. After a while, her moods leveled out and she began to experience great satisfaction in her life. That joy scared her and she thought about using again because she was not sure how to cope with this experience of joy. In some ways she felt guilty about feeling so good after feeling numb for so long. Today, she is grateful to have that joy, and all the other emotions — including the not-so-good ones, because they remind her that she is alive instead of numb.

Rumination and regret also may be frequently experienced simply because depression and anxiety often co-occur with drug problems. Rumination and regret are common symptoms of depressive and anxiety disorders. When a person ruminates, the obsessive thinking tends to keep the person depressed because the problems seem unsolvable. Problem solving is paralyzed by the hopelessness, worry, and regret that engulf a person. It is difficult to determine whether the depression or anxiety preceded or are a consequence of the drug problems, so it is important to treat the drug problems and depressive symptoms/anxiety simultaneously when they co-occur. This will be discussed in detail in Chapter 5.

For some people, *boredom* has been associated with excessive drug use. There is a growing body of research looking at how unstructured time is related to substance abuse, especially among young adults. Unemployment also can be a risk factor for increased substance use. Many of my clients have told me that they frequently used drugs to overcome boredom and fill the time. Similarly, risk- or sensation-seeking behavior is associated with drug problems, and boredom in combination with risk seeking and impulsiveness can be particularly dangerous for some drug users. Some psychiatric disorders that commonly co-occur with drug problems are defined by these particular behaviors — for example, constant feelings of boredom or emptiness are common with Borderline Personality Disorder, and risk- or thrill-seeking is also common among people with Conduct Disorder or Antisocial Personality Disorder. So for some people with drug problems, structuring time and finding ways to have exhilarating experiences without drugs will be important for behavior change to occur.

Finally, and surprisingly to some, *happiness and joy* can cause problems for some people with drug problems. The reason? The experience of happiness and joy may be so overwhelming to a person who otherwise has difficulties with emotional dysregulation or who has not experienced much happiness or joy in his or her life that it may cause the person to feel off balance or uncomfortable with the experience. Regardless of whether the emotions are positive or negative, some people do not know how to handle emotional experiences appropriately. Some of my clients have told me that happiness and joy were paired with drug use to celebrate an occasion, which of course often led to a loss of the happiness and joy after the celebration. Others described their first experiences of joy in many, many years as foreign and awkward, and some had the opinion that they were not entitled to experience joy (probably as a result of shame and guilt). Many times they would sabotage the experiences of happiness and joy by using drugs to avoid the strangeness of these emotional experiences.

Some clinicians and researchers have noted that drug problems seem inextricably linked to problems with emotions. Certainly, many studies have found evidence for links between emotions, especially extreme emotional experiences, and drug abuse, and such links are frequently described in the personal stories told by drug users. However, the relationship between emotions and drug use is

complicated and likely influenced by all the other risk factors discussed previously in this chapter.

In summary, there are many internal and external factors associated with the development and perpetuation of drug problems. Genetic factors or a family history of substance use are beyond our control to change at this time, but these factors may help us identify people at risk and target them with prevention strategies. However, environmental, behavioral, cognitive, and emotional risk factors are changeable. Until more is known about biological and genetic precursors to drug problems and how to treat those risk factors, intervening upon the environment, behavior, cognitions, and emotions provides the greatest hope for helping a person who is experiencing or may be at risk for experiencing a problem with drugs.

Epidemiology of Certain At-Risk Populations

There are differences in drug use and drug problems across different subgroups of the population. For example, drug use patterns may differ slightly across ethnic-minority groups (see Table 1.4), so it is important to be aware of which drugs are more commonly used by the community you serve. Specific ethnic-minority groups have higher prevalence rates for drug problems than the national norm. Epidemiological research has found that American Indians and Alaska Natives have the highest psychoactive-substance dependence rates of any ethnic group (13.9%; SAMHSA, 2003), but they also have much higher abstinence rates than the national norms. On the other hand, Asian Americans have the lowest rates (3.6%) of abuse of any ethnic group. There also are gender differences within ethnic groups that are not readily apparent. As an example, substance dependence rates are much greater for Hispanic/Latino men than women.

In addition, people with psychiatric disorders commonly have co-occurring drug problems, perhaps as an attempt to self-medicate the symptoms of these disorders. Therapists should be aware that several types of psychiatric disorders commonly occur with drug problems (see Chapters 2, 4, and 5 as well). Among the most frequently co-occurring disorders with drug abuse are mood disorders, such as depression and Bipolar Disorder; anxiety disorders, including Panic Disorder, Posttraumatic Stress Disorder, and Social Phobia; schizophrenia; Antisocial Personality Disorder; and Borderline Personality Disorder. In addition, people who have chronic physical pain have an elevated risk of abusing opioid pain medications, especially if their physicians have been undermedicating the pain (which tempts the person to seek more medication). In many cases, though, people with chronic pain had problems with substance use before the injury (sometimes the injury was a result of that abuse), and many others have co-occurring psychiatric disorders as well that complicate things.

Although these different populations are known to have higher than average prevalence rates for drug problems, they do not seem to be seeking treatment or

Table 1.4: Substances Most Commonly Used for Nonmedical Purposes (Excluding Alcohol and Tobacco) During Previous Month Among Members of Racial/Ethnic Groups in the United States (Ages 12 and Older) 2001

Racial/Ethnic Group	Most Commonly Used Drug Type	2nd Most Commonly Used Drug Type	3rd Most Commonly Used Drug Type
African Americans	Marijuana (5.6%)	Prescription drugs (1.6%)	Cocaine (0.8%)
Asian Americans	Marijuana (1.7%)	Prescription drugs (0.8%)	Hallucinogens (0.6%)
Hispanics/Latinos	Marijuana (4.2%)	Prescription drugs (1.9%)	Cocaine (1.0%)
American Indians/ Alaska Natives	Marijuana (8.0%)	Prescription drugs (2.3%)	Hallucinogens (0.2%)
Native Hawaiians/ Pacific Islanders	Marijuana (7.1%)	Prescription drugs (1.1%)	Inhalants (0.2%)
White non-Hispanic Americans	Marijuana (5.6%)	Prescription drugs (2.3%)	Cocaine (0.7%)

Source: SAMHSA (2001). State Estimates of Substance Abuse. Available at http://www.oas.samhsa.gov/

therapy in large numbers. In the United States, state and national statistics concerning how many have sought and successfully completed treatment are disturbing, suggesting that many of these high-risk groups may be grossly underserved (also see Chapters 4 and 5). It is unclear exactly what is preventing successful treatment seeking and completion by these high-risk populations, but the National Institutes for Health (NIH) is encouraging research to investigate these disparities in mental health services. To give you a sense of who is being served, Table 1.5 shows the recent figures, by age and racial-ethnic group, for how many of those who need treatment are actually receiving it.

Influences of Age and Gender

Young people tend to be at greater risk to use and abuse drugs than older adults, but many tend to mature out of this behavior, as mentioned earlier. Many drug users will give up drug use when they begin to assume vocational and family responsibilities. A minority of recreational drug users seems to go on to develop problems later in life. The length of time passing between the first use of a substance, and whether (or when) the user becomes dependent upon that substance, seem to be a function of the person's physiology, the potency of the

Table 1.5: People Needing Drug Treatment in 2000 Who Actually Received It

Population Group	Percentage of Those Needing Treatment Who Received It
By age	
Ages 12–17 years	11.4
Ages 18–25 years	8.6
Ages 26+ years	26.3
By gender	
Men	15.0
Women	19.0
By race or ethnicity	
African Americans	18.7
Asian Americans	< 5.0
Hispanics/Latinos	9.0
American Indians/Alaska Natives	8.7
Native Hawaiians/Pacific Islanders	30.0
White non-Hispanic Americans	17.8
Total for all U.S. in 2000	**16.6**

Source: SAMHSA (2000). Treatment Episode Data Set. Available at http://www.dasis.samhsa.gov/dasis2/index.htm

Note: For some racial-ethnic groups with small populations (such as American Indians and Native Hawaiians), the percentages may not be as accurate as those for larger groups because of sampling techniques.

substance, and the amount being consumed. Generally speaking, the aging process causes drug-related health problems to increase substantially, so that adult users often have health concerns after chronic abuse of a drug that young users may not experience after abusing drugs for the same amount of time. One major exception would be the rate of infectious diseases passed between drug users sharing needles, a rate unaffected by the age of the user.

Adolescence is a time of *novelty seeking* related to curiosity and learning skills for survival that maybe part of a natural maturation process. Adolescent brains are not fully mature, especially the frontal lobes, which have to do with problem

solving, decision making, and judgment. We are not totally certain whether novelty seeking may be an important behavioral component associated with brain maturation, or if it may be a behavioral by-product of not having fully developed brain functions that may lead to poor choices. Regardless of the explanation, it is common for adolescents to seek novelty — which may explain why young people are interested in experimentation in general and with drugs in particular. The downside to novelty seeking is that it can lead to risk-taking behavior, and sometimes adolescents miscalculate the risks and consequences of certain activities. Underestimation of risk can cause problems for young adults, even if they are using drugs only periodically. Binge substance use is typical for many young adults, and there is some evidence that binge patterns may be more destructive than regular, maintenance-type patterns. The differences in the cognitive processes of young adults may explain why many traditional strategies for preventing and treating drug problems that work with older adults often will not work for youth.

Gender differences with regard to risk for drug problems exist as well. Men tend to be at greater risk for drug problems than women, although with the passage of time, greater numbers of women are experiencing drug problems. Women have tended to abuse prescription drugs at proportionally greater rates than men, whereas men are more likely than women to use injectable drugs. As gender equality increases in American society, it will be interesting to see whether gender differences in drug use patterns diminish — a trend we have seen with other health risks, such as heart disease.

For women of childbearing age, a very small percentage report using drugs during pregnancy. However, just like with alcohol, using drugs during pregnancy carries the risk of significant birth defects as well as significant withdrawal symptoms for infants who are born in intoxicated states. Many psychoactive drugs pass freely from mother to child through the wall of the uterus. In addition, some substances (e.g., cocaine) will pass from mother to child in milk through breastfeeding. There also is evidence that drug use can deform male sperm cells, but it is unclear whether these defects may then contribute to birth defects. Perhaps thankfully, in many cases drug use will reduce fertility in both women and men.

Familial Considerations

As mentioned, drug problems often seem to run in families. Although genetics and biology may be partially to blame, it also is likely that families are modeling the behavior. When the children see their parents using substances to cope or to relax, they discover through *observational learning* (having it modeled for them) that substances may be functional in this way. In addition, we have already discussed the relationship of abuse with drug problems, and certainly abusive families are breeding grounds for all varieties of mental health problems.

Other factors within families can be associated with drug problems. For one, a child's *temperament* may indirectly have some effect. If a child's temperament

clashes with parental temperament or family temperament, it may cause a misfit for the child in the family structure. The child may feel alienated in the family and may seek peer support. If the child's temperament clashes with other social institutions, such as school, then the child's alienation may contribute to seeking other, like-minded peers, some of whom may be using drugs. This may be a first step toward a cycle of drug use and alienation.

Parental monitoring also has been associated with behavior problems. If children feel they are neglected or ignored, then they are more likely to engage in risk-taking behavior because the monitoring of their behavior is absent. Related to this, a lack of structure or consistency in rules and discipline can contribute to behavior that may lead a child to a drug problem. In effect, families that alienate family members are at risk for having a family member with a drug problem.

Furthermore, these principles seem to apply to success in overcoming a drug problem once it has begun. Family alienation is a sticky issue for clients seeking help with a drug problem. Sometimes loss of family contact reduces the amount of social support a recovering drug user may have after getting help, which can make progress more of a struggle. Other times the family may still be communicating with the client, but not in helpful ways. I have witnessed times when family members would unload on clients who were undergoing or had just completed treatment, and certainly their anger may be legitimate. However, the research concerning recovery from mental health disorders suggests that nonsupportive emotional expressions like these can adversely affect recovery. This makes sense when we consider that emotional dysregulation is often a contributing factor to a drug problem in the first place.

Treatment Success/Failure

The sidebar on page 41 provides some data on who is seeking treatment for drug problems. Treatment for drug abuse can vary greatly. The traditional treatment model consists of individualized and group treatment, and modalities can range from intensive inpatient to outpatient. Other people seek individualized psychotherapy for their drug problems, and some opt for pharmacological services such as maintenance on methadone (a drug often prescribed and distributed in neighborhood clinics as an alternative to heroin). As mentioned, these differences will be described in greater detail in Chapter 5, but I wanted to mention them here to highlight the difficulties in assessing how effective treatment can be. One problem with understanding success and failure in treatment is that there are multiple ways a person can get help for a drug problem, and these different treatment modalities have different standards by which they measure success. Defining treatment success is a matter of much dispute, and some definitions of success may be controversial across treatment models. For example, some treatment models view success only in terms of abstinence, whereas others view success as reduction of harmful drug use. These different models will be described more in Chapter 5.

Who Is Seeking Treatment?

- In fiscal year 1995, 1.9 million people were admitted to publicly funded treatment facilities.
- 46% of those admissions were drug (but not alcohol) related.
- 56% of those admitted were White Americans, followed by African Americans (26%), Hispanics/Latinos (7.7%), American Indians/Alaska Natives (2.2%), and Asian Americans and Pacific Islanders (0.6% combined).
- The most commonly abused drug reported by those admitted was cocaine (38.4%), followed by heroin (25.5%) and marijuana (19.1%).

Source: NIDA InfoFacts.

Federal data collected from across the nation suggest that between 42 and 52% of those who enter drug treatment complete the recommended length of the program. The people who would be less likely to complete would be those in the high-risk categories discussed earlier in this chapter. *Relapse-prone* clients or those who do not fit well within a certain treatment modality also are at risk for early departure from treatment. Other data suggest that the outcomes after treatment are mixed. The research suggests that many people may get better after treatment, but that only a minority of clients remain abstinent for a year or more after discharge (Miller, Walters, & Bennett, 2001). Because of these findings, treatment professionals might want to broaden their definitions of success, because clearly some people with drug problems get better even while still using drugs after treatment. Progress, rather than perfection, may be a worthy goal.

What may be more interesting is the compelling evidence that *client-therapist match* may be the most important predictor of successful outcome for clients after drug treatment. The evidence suggests that the way a therapist treats a client will not only affect treatment outcome, but also may influence whether the client seeks help in the future if needed. Therapists who aggressively confront clients often generate resistance, and if clients feel they have been disrespected, then they are significantly less likely to seek help again in the future. These findings speak to the power of the therapeutic relationship to make or break treatment.

Therefore, *goodness of fit* between therapist and client is crucial. There are three important factors that may be related to goodness of fit. First, the therapist should consider the client's goals for therapy in developing the treatment plan (see Chapter 4). Sometimes therapists allow their own agendas to dictate the treatment plan, which may lead the client to feel invalidated (not taken seriously). Second, the therapist should be respectful toward the client, which means being an advocate instead of an antagonist. Clients do not generally consider the old model of confronting early and often to be respectful, and that old model has

been associated with poor treatment outcomes. Finally, individualized treatment plans should be truly individualized, which suggests that one style of therapy will not necessarily work well for all clients. I realize that it is difficult in treatment facilities with large client-to-therapist ratios to individualize therapy, but it is important to find creative ways to do so in order to ensure positive outcomes.

Therapists may wish to use these suggestions to guide their conduct with their clients in order to promote a healthy therapeutic alliance. Consumers (drug users seeking treatment) and their families also may wish to use these three goodness-of-fit treatment factors as guidelines when shopping for an appropriate therapist. Consumers will want to consider whether the model of treatment fits well with their own needs and worldviews as well (see Chapter 5 for more details on treatment models).

Recovery/Relapse Rates

As mentioned, only a small minority of clients sustains abstinence for a year after treatment. This means that most people will have a slip or a relapse, but this should not be discouraging to those who know or work with a person who has been in treatment. Relapse should be considered a normal part of the change process, and an opportunity rather than a disaster. *Relapse* is defined as a return to old using patterns, which differentiates it from a *lapse* — a brief slip into using that may or may not lead to a relapse. It is unclear how many relapse episodes are normal for people with drug problems to experience before they succeed at abstaining, but smoking research has found that the average is more than 10 serious quit attempts before a person can successfully stop smoking tobacco. Because of these findings, relapse is considered progress toward change, rather than a failure in the change process (see the discussion of relapse prevention in Chapter 7 for greater details). Therefore, therapists and people with drug problems should not be discouraged by relapse rates, because relapse simply points out where a correction in the recovery plan needs to take place in order for the client to succeed in the future. Relapse is an opportunity to learn rather than a failure in treatment.

The Unrecognized Treatment: Prevention Programs

One of the most underrecognized forms of treatment is *prevention.* With regard to drug treatment, an ounce of prevention is worth a pound of the cure. The best treatment for drug problems is to prevent them from occurring in the first place. Many prevention programs currently in place target adolescents and young adults.

Recent campaigns for prevention include programs like Drug Abuse Resistance Education (D.A.R.E.), a school-based program designed to support a decision to "say no" to drug use. Some advertising campaigns target people who may already be using drugs, and these campaigns try to link drug use to contributions to a

variety of social ills, such as accidents, theft, and even the supporting of terrorism. These recent advertising campaigns have not been evaluated by researchers to determine whether they are effective, but in general, similar advertising campaigns in the past have not been found to be effective. Many of these campaigns have used *fear* as a principle motivator for behavior change. However, for many people, especially young adults and adolescents, fear campaigns do not work to change behavior. The problem with using fear campaigns is twofold. First, young adults and adolescents are not at a point in their lives developmentally such that they believe the fear message will happen to them. Since the fear message generally is associated with death, and adolescents and even young adults have little concern about death and dying because of their developmental stage, these campaigns fall flat. Second, older adults often dismiss fear campaigns as something that may happen to the other person but likely will not happen to them.

Project D.A.R.E. and other abstinence-based programs do not have good track records for success. The problem for "just say no" programs is that they do not teach a person how to respond to high-risk situations in effective ways to avoid saying yes, and they do not teach young adults what to do in case they have already said yes — and finally, these programs often have presenters (such as police officers) who can be easily discredited by teens and young adults as biased and not the kinds of spokespeople who will adequately present all the facts. Because of these problems, programs like these have not shown good research outcomes: Participants of these programs did not have any more reduced levels of substance use over time than people who did not participate in the programs, and in some studies, participants actually did worse over time with substance use than nonparticipants.

Other, more successful prevention programs have been documented to save an amazing amount of money when compared to the money spent on treatment, and because prevention programs also save many lost months and years of productivity for young adults who end up abusing drugs, developing effective new prevention programs is an extremely important strategy for treating drugs. Unfortunately, significantly more money is spent on treatment each year in our society than is spent on prevention.

Clearly, prevention is an extremely important strategy for treating drug problems at the earliest stage. An effective prevention program must level with adolescents and young adults about drug use, should not use fear as the principle motivator for behavior change, and should assume that many curious young adults will experiment with drugs. In addition, skills must be taught that will allow the young adults who do use drugs experimentally to control that use, and that will reduce the danger of drug-using activities in order to reduce harm to young and naïve drug users. Prevention programs are the first and best line of defense against drug problems developing in the first place. However, our society has not invested in or developed effective prevention programs in the same

way that we have invested in and developed treatment programs. It is unfortunate, because it is almost as if we have built our house of treatment services without a strong and necessary foundation of prevention. Our house of treatment is the weaker for it, too.

What the Future Holds: What Is Next for Treatment?

Many of the changes in treatment protocols over the last decade have been driven primarily by two factors: economics and new research. As mentioned, when I started in the addictions field, 28-day inpatient treatment was the norm. Third-party reimbursement (by insurance companies and governmental agencies) has pushed the industry to shorter (if any) inpatient stays, with the bulk of the treatment being conducted in an outpatient modality to control costs. This change is not necessarily a bad thing, since the research suggests that outpatient therapy is as effective as inpatient services for most clients. In addition, highly successful brief interventions and therapies have been developed and widely tested that can be conducted in a few sessions, sometimes even just one (see discussions about motivational enhancement therapy and interviewing in Chapters 3 and 5).

I believe these particular trends will continue into the future as medical and mental health resources become more stretched in American society. Furthermore, the integration of multiple modalities of treatment is likely to become more commonplace, so that clients may receive all sorts of services as part of treatment. Treatment for clients with co-occurring disorders is likely to be more common, and pharmacotherapy will be a routine part of treatment along with psychological therapy. It is more likely that cravings will be managed with new *prophylactic* medicines during treatment. Therapists and counselors will need to become skilled in using empirically supported therapies specifically targeted at disorders that commonly accompany drug problems, such as cognitive behavioral therapies for depressive and anxiety disorders (see Chapter 5 for more information). In addition, neuropsychological evaluations may become more necessary, since research has determined that significant cognitive problems frequently occur among people who abuse drugs.

The demographics of the country are changing, and it is predicted that some time around the year 2050 White Americans will be outnumbered by all the other racial-ethnic groups. This suggests that treatment in the not-so-distant future will have many new cultural issues to consider. Language barriers will be increasingly important to overcome, and many clients will have radically different worldviews than the majority who are treated now. It is likely these differences in worldviews will affect how treatment is designed. For instance, folk healers from particular cultures are invited to be part of treatment in some areas of the country today, and this will probably become a necessity for most areas of the country in 50 years. Another consideration is whether traditional support groups will work for people with worldviews that differ greatly from those of the

majority culture, because there is some evidence now that they do not (e.g., Arroyo, Miller, & Tonigan, 2003).

Additionally, technological advances will offer new and exciting ways to treat clients. Already, Web-based services are being used for primary and secondary prevention of substance abuse, principally among young adults. It may be that some treatment services will eventually be offered at common Web sites over the Internet. Virtual reality also offers the potential for clients, at the flip of a switch, to have *imaginal exposure* (simulated real-life situations, sought in order to practice skills) to high-risk relapse situations. Already virtual reality is being used for the treatment of other psychological disorders, mainly anxiety, and it is only a matter of time before some enterprising treatment center uses virtual reality to train their clients in drug refusal skills. This technology offers the opportunity to take relapse prevention to a new and rather realistic level.

Finally, prevention must play a larger role in treating drug problems before they occur. The best money we can spend is to nip a drug problem in the bud. Unfortunately, drug prevention programs have not fared well in the past, and new programs must be developed that not only reach those people at risk, but do not alienate them at the same time. The prevention message must focus on public health rather than moral concerns, and should be a message that will not be dismissed by those who need to hear it most.

All of these changes may cause some nervousness in the field, since therapists and counselors will have to know how to treat more than simply drug problems alone. However, in the end, I believe greater competence in all of these areas will help the clients we treat immensely, and ultimately may reduce the risk of relapse after discharge from therapy. A great deal of this book will be dedicated to providing detailed information that may help therapists develop new competencies in preparation for the exciting future in the treatment of drug problems, and for consumers to make informed choices on how to treat their drug problems.

Summing Up

Defining a drug problem is complex, and its definition is complicated by a great number of cultural myths that have no scientific support. Many beliefs in our culture about what constitutes a drug problem simply do not agree with the research. The use of drugs is not necessarily a gateway to a drug problem, and even when a drug problem develops, it may change over time without any intervention at all. The biopsychosocial model suggests that drug problems, when they occur, are influenced by an interaction of biological, psychological, and social factors that vary greatly from person to person and across different cultures.

The greatest hope for intervening upon a drug problem is treating the factors we know how to change at the present, which are mainly psychological and environmental. Because drug problems may look different from one person to the next, therapists and counselors must individualize treatment services to serve

the unique problems of individuals, even if the treatment is delivered in groups. Prevention methods would be our first and best weapon, but they currently are underfunded and lag years behind the development of treatment services. In the future, treatment will be influenced by rapidly changing demographics and by technological advances. Treatment and therapy do work, and will only get better in the future with these changes.

Key Terms

Biopsychosocial. A model wherein a drug problem is believed to develop because of an interaction among biology, psychology, and the social environment.

Co-occurring disorders. The occurrence of other disorders along with the drug problem; also called *dual diagnosis* or *comorbid disorders*.

Craving. A strong desire to use drugs, which can be physically or psychologically cued.

Denial. A way to describe a person's apparent unawareness of a drug problem.

Detoxification. The period when a person is withdrawing from a substance.

Drug myopia. Drug-induced distortion of a person's perceptions of reality such that the person is blinded to what is happening around him or her.

Maturing out. A natural phenomenon whereby many youthful drug users naturally evolve out of a drug problem as they mature.

Natural recovery. The phenomenon whereby many people with drug problems are able to overcome those problems by themselves.

Novelty seeking. A natural youthful tendency to seek out new and interesting experiences.

Parental monitoring. The amount of time that parents actively spend with their children.

Pharmacotherapy. Therapy that uses medicines to treat problems.

Prophylactic. Preventive measures to stop a problem before it starts.

Relapse. A return to old substance use patterns after a period of cessation.

Self-medicating. The attempts of some drug users to reduce symptoms of another problem by using drugs.

Temperament. Similar to personality, it is the way a person may get along with others.

Recommended Reading

One recommended resource is *How Drugs Influence Behavior: A Neurobehavioral Approach,* by Jaime Diaz (New York: Prentice-Hall, 1996). This book is written in such a way that even nonresearchers can understand the effects of certain types of drugs upon the body.

Another I recommend is *Addiction and Change,* by Carlo C. DiClemente (New York: Guilford Press, 2003). This book provides a detailed review of the research that concerns how to change a substance-related problem.

TRUTH OR FICTION

QUIZ ANSWERS

1. True; 2. False; 3. False; 4. False; 5. False; 6. True; 7. False