

Chapter 1

Theories of Addiction and Implications for Counselling

ALAN C. OGBORNE

Many theorists have tried to account for why people use alcohol and other drugs, and especially why they continue or relapse despite negative consequences. Some theories suggest genetic and other biological factors, while others emphasize personality factors or social-environmental factors (Lettieri et al., 1980). While these factors have all been shown to contribute to persistent substance use and to relapse following periods of abstinence, no one set of factors can account for all types of substance use. Rather, substance use appears to result from complex interactions of biological, psychological and social-environmental structures and processes (Arif & Westermeyer, 1988).

This chapter outlines these factors and the ways in which they may interact. Some implications for counselling will also be considered. The focus is on factors that account for why substance use continues once it has started, and why people relapse following periods of abstinence. (Some of these factors also account for why people begin substance use, but that is not the subject of this chapter.)

FOCUS AND TERMINOLOGY

This book is about ways to help people with alcohol and other drug problems. It is not especially about helping “alcoholics” or “drug addicts,” although many people who use substances may be given these labels by those who know them and by some clinicians and researchers. This book has a broader focus: it concerns people whose problems with substances vary in kind and severity.

This chapter also has a broad focus: it summarizes theories of substance use, including use that is often labelled “addictive.” However, the terms “addictive” and “addiction,” and the related term “alcoholism,” will generally be avoided, because they have no agreed definitions and have limited value in many counselling settings. These labels are used in this chapter only in a historical context or if they appear in a cited study.

Most experts do agree that the concept of *dependence* is useful. Dependence refers to a cluster of cognitive, behavioural and physiological symptoms of varying severity, consistent with the use of the term by the World Health Organization (1992) and the American Psychiatric Association (2000).

The American Psychiatric Association’s (APA) criteria for a diagnosis of substance dependence are met when any three of the following occur at the same time during a 12-month period:

- tolerance as indicated by the need to increase dosage to obtain the desired effect, or reduced effects with continued use of the same dose
- withdrawal symptoms characteristic of a particular substance
- use in larger amounts or over a longer period than the user intended
- persistent desire for the substance, or unsuccessful efforts to cut down
- a great deal of time spent in obtaining or using a substance
- social and other activities given up or reduced due to substance use
- use despite persistent or recurrent problems (e.g., health or social problems).

Although the moralistic implications of the term “substance abuse” concern many experts, the APA uses this term to refer to a condition that is met when one or more of the following symptoms occur within a 12-month period, provided the criteria for substance dependence have not been met during the same period:

- recurrent substance use resulting in a failure to fulfil obligations at work, school or home
- recurrent substance use in physically hazardous situations
- recurrent substance-related legal problems
- continued substance use despite persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance.

We will use the phrase “alcohol or other drug problem” with the understanding that such problems are social constructions. In some cases, such use may be essentially benign, but may be seen as a problem because it contravenes social norms (e.g., occasional use of alcohol by people whose religion forbids it, or the occasional use of cannabis). More serious problems may also be defined differently by each of those involved. Weekend drunkenness may be intolerable to a spouse but just fine to the drinker’s companions. An important task for counsellors is to negotiate a common understanding of the problems to be addressed. Relevant issues are discussed in the chapters in this book on assessment and motivational interviewing.

This chapter does not deal with the so-called “disease” concept of alcoholism, which is less a testable theory than an analogy. Nonetheless, it has important implications for the ways in which “alcoholism” is regarded and treated. When viewed as a disease, alcoholism becomes a legitimate condition for treatment by medical and

allied professionals, rather than simply a bad habit or a sign of moral weakness. The disease analogy is appropriate if the term is understood to include complex conditions, such as high blood pressure, that are influenced by genetic and lifestyle factors. However, the analogy breaks down when alcoholism is compared with diseases with clear causes, such as tuberculosis or syphilis.

BIOLOGICAL FACTORS

Genetic Inheritance

There is growing evidence that alcohol use is influenced by genetic factors (*Alcohol Health and Research World*, 1995; Shuckit, 1999). The strongest evidence comes from studies of family histories, twins and adopted children, different racial groups, and animals. Genetic factors seem to influence the ways in which humans respond to and metabolize alcohol, and seem to contribute to neurological dysfunctions common in people whose drinking problems begin at an early age (see the discussion of psychological factors, below). Genetic factors also appear to play a role in people's use of tobacco and other drugs (Madden & Heath, 2002).

It is believed that many genes influence people's responses to alcohol, and that their responses reflect a continuum of vulnerability to alcohol problems. This understanding is consistent with behavioural studies that have failed to clearly distinguish between people with drinking problems and others.

The influence of genetic factors is sometimes interpreted as meaning that, in those who are vulnerable, alcoholism is an inevitable, progressive and irreversible condition. This reflects a limited understanding of the role of genetics in determining complex behaviours, and is inconsistent with research. For example:

- There is overwhelming evidence that in both clinical and survey samples many people labelled "alcoholics" have periods of moderate drinking.
- Several early experiments showed that "alcoholics" are able to limit their drinking in laboratory settings when they view the benefits of reduced drinking as worthwhile. These experiments demonstrated the role of environmental factors (such as price) in moderating alcohol consumption, even among "alcoholics" (Mello & Mendelson, 1965; Mello et al., 1968).

Further, there are large differences between otherwise similar societies in consumption levels and rates of alcohol problems. For example, the per capita consumption of alcohol in Norway was only 5.64 litres per year in 1999, and Norway had a low rate of liver cirrhosis. In contrast, in France (where the gene pool is presumably largely the same), the per capita consumption of alcohol was 20.28 liters per year, and France had one of the highest rates of cirrhosis. Such differences also

occur within the same society over time. Between 1945 and 1982, the rates of alcohol consumption and alcohol problems increased dramatically in many industrialized countries (Smart & Ogborne, 1996).

If genetics played a determining role in drinking, we would have to conclude that Norwegians have different genes from the French and that the gene pool of the industrialized world has changed dramatically since the end of the Second World War. Neither conclusion could be supported on other grounds, and neither conclusion is necessary because levels of drinking and of drinking problems are clearly influenced by social customs and economic forces. These same forces also influence the drinking behaviour of individuals.

Of course, this does not rule out the influence of genetics on drinking behaviour and alcohol problems. There are wide individual differences in preferences for alcohol and the capacity to drink large amounts, and genetic factors contribute to these differences. However, other factors are clearly important and need to be included in theoretical models.

Equally, the potential influence of genetic factors should be considered when counselling people with alcohol problems. This perspective can contribute to clients' understanding of their problems and to their recovery. However, clinicians should ensure that clients also learn to recognize other factors that influence drinking, especially those factors that are within their own control.

Tolerance and Physical Dependence

The repeated use of alcohol and other drugs can change the body's ability to adapt to the presence of these substances. One result is that people become less sensitive to the substance and so need to increase the dosage to obtain the desired effects. This loss of sensitivity is called *tolerance*.

The body's adjustment to the presence of a drug may also result in withdrawal symptoms when use stops. This condition is called *physical dependence*. In extreme cases, the effect of rapid withdrawal can be life-threatening, because the body has become so dependent on the drug that withdrawal interferes with normal bodily processes.

The adaptive changes that underlie tolerance and physical dependence are not yet fully understood. However, they seem to involve changes to metabolic pathways, cellular adaptation, activation of parallel biochemical systems and changes to the release of neurotransmitters. These changes may help explain why some people who use alcohol and other drugs heavily find it so difficult to stop.

Research on neurobiological aspects of drug use has led to the identification of many relevant structures and processes (e.g., drug-specific receptor sites in the brain and the effects of specific drugs and their metabolites on neurotransmitters). It has been suggested that all addictive behaviours may be the result of common physiological or biochemical actions in the brain, and a good deal of research is currently focused on the neurotransmitter dopamine. Some theorists have suggested that all

pleasurable activities, including drug use, result from the release of dopamine in specific areas of the brain. Some animal research supports this view, but it is likely that other mechanisms are also involved.

Some addiction treatment services include education on the biological effects of drugs, in the belief that this will motivate clients to change their behaviour. However, there is little evidence that this type of drug education influences client outcomes (Health Canada, 1999).

PSYCHOLOGICAL FACTORS

Three types of psychological factors will be discussed: (1) personality traits, (2) psychodynamic processes and (3) learned cognitions and behaviours.

Personality Traits

Hundreds of studies have searched for differences between people who have substance use problems and other people. In general, these studies do not support the notion that people with substance use problems have different personalities than others and, in the early 1970s, one expert called for an end to this type of research, at least in the alcohol field (Keller, 1972). He also proposed “Keller’s Law,” which states that whatever trait was considered, the results would show that alcoholics have either more or less of it!

Personality research has, however, continued, and several studies have sought to identify personality characteristics associated with the onset of heavy drinking and other drug use in adolescence. The results suggest that such use is more common among adolescents who show pre-drug use signs of one or more of the following: rebelliousness, other adjustment problems, depression, sensation seeking (Kandel & Yamaguchi, 1985; Stein et al., 1987; Shedler & Block, 1990).

However, no specific pre-drug use traits or clusters of traits have been shown to fully account for the onset or maintenance of drug use in adolescents or others.

There is evidence for common pre-drinking personality traits in one type of problem drinker (Allen, 1996; Molina et al., 2002). These are people who have alcohol problems from an early age (late teens or early 20s) and strong antisocial tendencies. Evidence also suggests that such people have a genetically determined brain disorder involving the prefrontal lobes (Tarter et al., 1988). The relevant neurological disturbances may involve the brain’s “executive” functions of planning and goal formulation, persistence, self-monitoring and self-evaluation. These disturbances manifest in:

- attention-deficit disorders
- childhood hyperactivity
- pre-alcoholic essential tremor (a neurological movement disorder that most commonly affects the hands)

- left-handedness
- low academic achievement
- impulsiveness
- lack of inhibition
- emotional instability
- aggressiveness
- antisocial and psychopathic tendencies.

These traits can find expression through heavy drinking and a preference for companions who drink heavily. Although there is less relevant research on people who use drugs other than alcohol, similar neurological disturbances may occur in some people who use heroin and cocaine. Users of alcohol and other drugs with these personality traits may benefit from training in coping skills, self-control and relapse prevention (Ball, 1996).

The relationship between substance use problems and various types of mental illness has been considered in a number of studies (Miller, 1994; Health Canada, 2002). One U.S. study (Reiger et al., 1990) of 20,291 people living in the community found that over 50 per cent of those who qualified for a diagnosis of drug abuse also had one or more mental disorders at some point during their lifetime. Most common were anxiety disorders (28 per cent), depression and other mood disorders (26 per cent), antisocial personality disorder (18 per cent) and schizophrenia (7 per cent). Some had multiple disorders. The prevalence of mental disorders among people with drug use problems varied depending on the drug, from 50 per cent of people who met criteria for a diagnosis of marijuana abuse to 76 per cent of those who met criteria for a diagnosis of cocaine abuse. Almost half the people with such drug use problems also had drinking problems during their lifetime.

However, the relationships between mental health and substance use are complex and difficult to disentangle. Some people with serious mental disturbances (e.g., phobias, rage, anxiety, depression, mania, paranoid delusions) appear to use alcohol and other drugs to self-medicate for mental distress. For others, mental health problems are caused or exacerbated by substance use, and these problems tend to decrease with abstinence. (See Chapter 26 for further discussion of the etiology of concurrent mental health and substance use disorders). While clients with concurrent disorders are generally considered hard to treat, integrated mental health and addiction treatment services seem to be quite successful (Health Canada, 2002).

Psychodynamic Processes

A psychodynamic approach to understanding human behaviour emphasizes psychological forces, structures and functions as they develop and change over time. There is a special interest in childhood experiences and conflicts and their influences in later life. Psychodynamic perspectives on substance use problems focus on unconscious motivation, emotions, self-esteem, self-regulation and interpersonal relationships.

Psychodynamic theories can be traced to the writings of Sigmund Freud and his followers and revisionists. There are perhaps as many variants of a psychodynamic approach to substance use as there are psychodynamic theorists. Freud originally proposed that “alcoholics” were “orally fixated” (i.e., stuck at an early developmental stage) and thus unable to cope with the demands of adult life. Thus they used alcohol to “escape from reality” (a Freudian concept). Later, Freud proposed that “alcoholism” was an expression of repressed homosexuality. He reasoned that male homosexuals turned to drink because they were disappointed with relationships with women and because drinking gave them an excuse to be with other men. Other psychodynamic theorists have proposed that alcoholism is a reflection of unresolved dependency conflicts, a striving for power or a form of self-destruction. “Fixations” at Freud’s anal and phallic stages have also been proposed as explanations for alcoholism (Barry, 1988).

Psychodynamic theory does not feature prominently in the mainstream of current substance use research, and it has not been expanded to accommodate recent research on biological factors. Psychodynamic formulations of human behaviour have not led to testable assumptions and, in general, they have little clear empirical support. Purely psychodynamic treatments designed to increase the client’s insight have not proven effective (Health Canada, 1999) and have generally been abandoned. However, various forms of non-psychodynamic, client-centred psychotherapy are often used in conjunction with other types of treatment in specialized addiction treatment programs.

The relationship between psychodynamic and learning theories (discussed below) is problematic. Although both theories of substance use emphasize the role of experience (including childhood experiences), learning theorists typically challenge the utility of the concept of “repressed” memories or impulses. Nonetheless, some overviews of the psychodynamic approach (e.g., Khantzian, 1995) seem quite compatible with social learning theory.

Learned Cognitions and Behaviours

Use of alcohol and other drugs activates two basic learning mechanisms. The first, called *classical conditioning*, occurs when an initially neutral stimulus eventually produces the same responses as an existing stimulus with which it has been paired. The best-known example is the experiments of Ivan Pavlov, in which he rang a bell every time he fed his dogs. Initially, the dogs salivated (an *unconditioned response*) only at the sight of food (an *unconditioned stimulus*). However, in time the dogs began to salivate at the sound of the bell. The bell thus became a *conditioned stimulus* and salivation a *conditioned response*.

Another example of a classically conditioned response is the onset of cravings and withdrawal symptoms in response to stimuli associated with substance use. These stimuli, or cues, may be internal to the person (e.g., feelings of depression or anxiety)

or may be found in the external environment (e.g., advertisements, social situations or the sight of a syringe). Through classical conditioning, alcohol- or other drug-related stimuli may also invoke mild drug effects that whet the person's appetite for more.

The importance of cues in conditioning craving for a drug is illustrated by the very low rates of heroin use among American veterans who had previously used heroin in Vietnam. This phenomenon may be explained partly by the relative lack of external cues for heroin use in the veterans' home situations (Robins, 1974). For most returning veterans, the main external stimuli for heroin use were not associated with the United States but with Vietnam and the war. In addition, policies were established to reduce the likelihood of internal cues (e.g., coming down from heroin intoxication) occurring in the United States. Thus, no soldier was allowed to board a plane for home without passing a urine screening test.

Classical conditioning has been used to account for increased tolerance of the effects of alcohol and other drugs. Tolerance is typically greater in situations or locations where alcohol or other drugs have previously been used. One theory proposes that these familiar situations become classically conditioned stimuli that evoke unconscious, compensatory physical responses whenever alcohol or other drugs are used. These tolerance responses reflect the body's need to re-establish biological equilibrium disrupted by substance use. By being frequently paired with substance use, the (now conditioned) tolerance responses become stronger, and more of the substance is needed to produce intoxication (Sherman, 1998). This theory has been used to explain why people addicted to heroin sometimes overdose after taking a dose of heroin that is usually well tolerated. It has been found that often, this happens when the person took the dose in an unfamiliar environment, and so the usual conditioned tolerance response did not occur (Siegel et al., 1982).

"Cue exposure" treatments have been used to eliminate classically conditioned substance-related responses through the process of *extinction*. Clients are presented with, or asked to imagine, situations in which they typically used their preferred substance. They are then asked to imagine themselves resisting urges to use the substance. The assumption is that classically conditioned responses to these situations (withdrawal symptoms or drug effects) become "extinguished" through lack of reinforcement. However, studies of this type of intervention have produced mixed results (Health Canada, 1999).

The second learning process activated by drug use is called *operant conditioning*. This occurs when behaviours are shaped by their consequences. Through operant conditioning, positive reinforcements (rewards) are used to increase the frequency of specific behaviours in specific situations, and negative reinforcement (withholding of rewards) or punishments are used to decrease or eliminate behaviours. Behaviours come to be evoked in response to the various stimuli associated with the conditioning process. Depending on the schedules of reinforcement used (e.g., continuous, intermittent, response-dependent or time-dependent), behaviours may be very persistent if the appropriate cues are present.

All drugs used for pleasure can act as positive reinforcers. This is clear from studies showing that animals will learn to perform tasks when drugs are used as rewards. Alcohol and other drugs are, of course, positive reinforcers for drinking and other drug use, and through experience can become associated with a variety of internal and external cues. For many people, these cues may be rather limited (e.g., only at family meal times and never more than once a week). For others, drinking cues can become highly generalized (e.g., when they are happy, sad, alone, with others, and at any time of the day).

One apparent problem with this view of substance use is that many people continue to use alcohol and other drugs despite negative consequences such as hangovers, ill health, and social and legal problems. This appears to be contrary to an operant conditioning analysis. However, this is not the case because these negative consequences do not occur immediately after alcohol or other drug consumption. The immediate effects (the effects of the substance and the relief of withdrawal symptoms) continue to be positive and reinforcing. A person with substance use problems may acknowledge and regret the social and other problems caused by his or her substance use and vow, quite sincerely, to abstain in the future. But without some sort of help, such as relapse prevention treatment, he or she may continue to be overwhelmed by stimuli that evoke substance use (e.g., the sight of old friends, anxiety or arguments with a spouse).

It is widely believed that the use of alcohol and other drugs can relieve stress, which may motivate and sustain a person's consumption. Retrospective and prospective studies with humans lend some support to this stress-reduction theory, but other relationships between stressful events and substance use are not as strong as the theory suggests. A likely explanation is that stress relief from alcohol or other drug use is influenced by expectations that relief will occur (Cohen and Baum, 1995).

Expectations of the effects of alcohol or other drugs are cognitions and, like other cognitions, they both influence and are influenced by classical and operant conditioning. Through conditioning, expectations and other cognitions not only *arise from* stimuli and rewards, but they also influence *reactions* to stimuli, behaviours and consequences. This is a basic premise of social learning theory (Bandura, 1977), which recognizes the behaving and self-aware individual as an active participant in the learning process rather than as a passive victim of circumstances. The theory also emphasizes that learning takes place through modelling, and is shaped by consequences under the control of the individual. Moreover, reactions to stimuli, rewards and punishments are mediated and modified by changes in cognitions. Thus, an "overwhelming desire to drink" can come to be viewed as a passing "crest of a wave" (Marlatt & Gordon, 1985). Similarly, one lapse after treatment can be seen as either a sign that all is lost or as a positive learning experience.

Social learning theory also recognizes the influence on behaviour of self-monitoring and self-evaluation, self-reward and self-punishment, perception of responsibility and control, and expectancy effects. The theory has also given rise to the notions of *learned helplessness* (belief in loss of control) and *abstinence violation effects* ("I have relapsed and so all is lost").

There is strong experimental and clinical support for a social learning analysis of substance use (Wilson, 1988). In addition, alcohol use treatments based on this theory have more support from experimental studies than do other types of treatment for alcohol use (Health Canada, 1999). Treatment methods based directly or indirectly on social learning theory are:

- aversion therapy (including covert sensitization)
- cue-exposure training
- social skills training
- self-control training
- relapse prevention.

Social learning theory, along with theories of client-centred counselling, also influenced the development of motivational interviewing (Miller, 1996). Most of the chapters in this book reflect the influence of both these types of theories.

Social learning theory can explain why other forms of treatment can work for some people. For example, 12-step programs can be seen as creating drug-free environments, providing social reinforcements for abstinence and for related verbal statements, and providing an appealing explanation for problems. Social learning theory does not support the concept of alcoholism as a distinctive entity and regards “loss of control” as a modifiable experience, not as an inevitable, objective consequence of alcohol use. Nonetheless, the theory does not deny that, for some people, acceptance of the label “alcoholic” and the concept of “powerlessness” over alcohol can become the cornerstones of their recovery.

SOCIAL-ENVIRONMENTAL FACTORS

Many social and other environmental factors have been cited as contributing to the onset and maintenance of substance use and to relapse. However, no one factor has been shown to be either necessary or sufficient for use or relapse to occur. Thus, like other factors that influence substance use, social-environmental factors exert their influence in the context of a complex, dynamic multi-factor system.

The availability and cost of alcohol and other drugs clearly influence overall patterns of use (Single, 1988; Godfrey & Maynard, 1988) and can contribute to use and relapse. We have already noted that, at least in the laboratory, price manipulations can influence the drinking behaviour of “alcoholics.” There is also evidence that price influences people who drink heavily in the community. Some clinicians have contracted with clients to increase the cost of alcohol and other drugs to deter relapse. Clients agree that if they drink or take other drugs, they will make a donation to a despised cause or forfeit a returnable deposit.

The substance use culture of the dominant society, and especially of clients’ peers and family, can contribute to continuing substance use and relapse. This is especially so in cultures that promote heavy or illegal substance use, or substance use to solve problems.

Many other aspects of family life may also contribute to substance use and relapse. Family members may present models of substance use that are emulated by children. Childhood experiences within distressed or dysfunctional families may leave children vulnerable to substance use and a variety of other problems as adults. Family-related factors that can contribute to the onset and maintenance of substance use (and possibly to relapse) include:

- poverty
- membership in a group devalued by the larger society
- alcohol or other drug problems among family members
- parental abuse and neglect
- parental separation
- low cohesion
- low mutual support (Goplerud, 1990).

Systems theory has drawn special attention to the influence of other family processes (Pearlman, 1988). This theory views individuals' behaviour as being determined and sustained by the dynamics and demands of the key people with whom they interact. (This proposition is compatible with social learning theory, described above.) Further, systems theory proposes that behaviours have *functions* within dynamic systems, even when the behaviours and their supporting systems cause problems for those involved. The theory draws attention to ways in which a substance user's family copes with and possibly reinforces substance use, and the implications for the family if the person changes his or her behaviour.

Systems theory proposes that families and other social networks develop "rules" of interaction that can sustain pathological behaviours (e.g., the family implicitly agrees never to plan family events on Friday nights because that is when father goes out to get drunk with his friends). Family members also assume roles, such as "enabler," "martyr" or "sick person," that maintain the homeostasis within the family).

The notion that some family members have "codependency" needs that help maintain a dysfunctional homeostasis has been widely and uncritically embraced by the recovery movement. In addition, popular recovery literature and Web sites often refer to codependency as a disease. However, there is little relevant research on this topic, and the concept of codependency has been challenged by feminist academics (e.g., Babcock & McKay, 1995).

AN INTEGRATED BIOPSYCHOSOCIAL PERSPECTIVE

Figure 1-1 attempts to capture the many factors that influence substance use and to show how they interact. The model was developed for the World Health Organization (WHO, 1981). It identifies biological, personal and social factors and learning experiences, and shows how they may have immediate or more distant influences on a person's disposition to use drugs. It also shows that social and individual factors can

be influenced by the *consequences* of drug use. Other feedback mechanisms that can have positive or negative influences on future use, depending on individual users and their circumstances, are also identified.

The model shows that drug actions and their effects may lead to biological responses that account for tolerance and drug-specific withdrawal symptoms. These responses may have either adverse or reinforcing properties. While withdrawal symptoms may initially be aversive, they can be relieved by taking more drugs, and this strengthens the drug-taking response. Repeated experiences of withdrawal can activate a classical conditioning process whereby previously neutral stimuli elicit withdrawal symptoms, or drug-like effects, and lead to further drug use. Over time, through a process of generalization, a variety of internal and external cues (e.g., anxiety, stress or social events) may be associated with withdrawal symptoms and drug effects. This process can lead to an extreme narrowing of a person's repertoire of responses to cues, and a tendency to use drugs whenever these cues are present. The person often increases his or her involvement with other drug users, who facilitate access to drugs and otherwise support drug use. Conversely, involvements with people who might encourage reduced drug use and associated behaviours may become less frequent and significant.

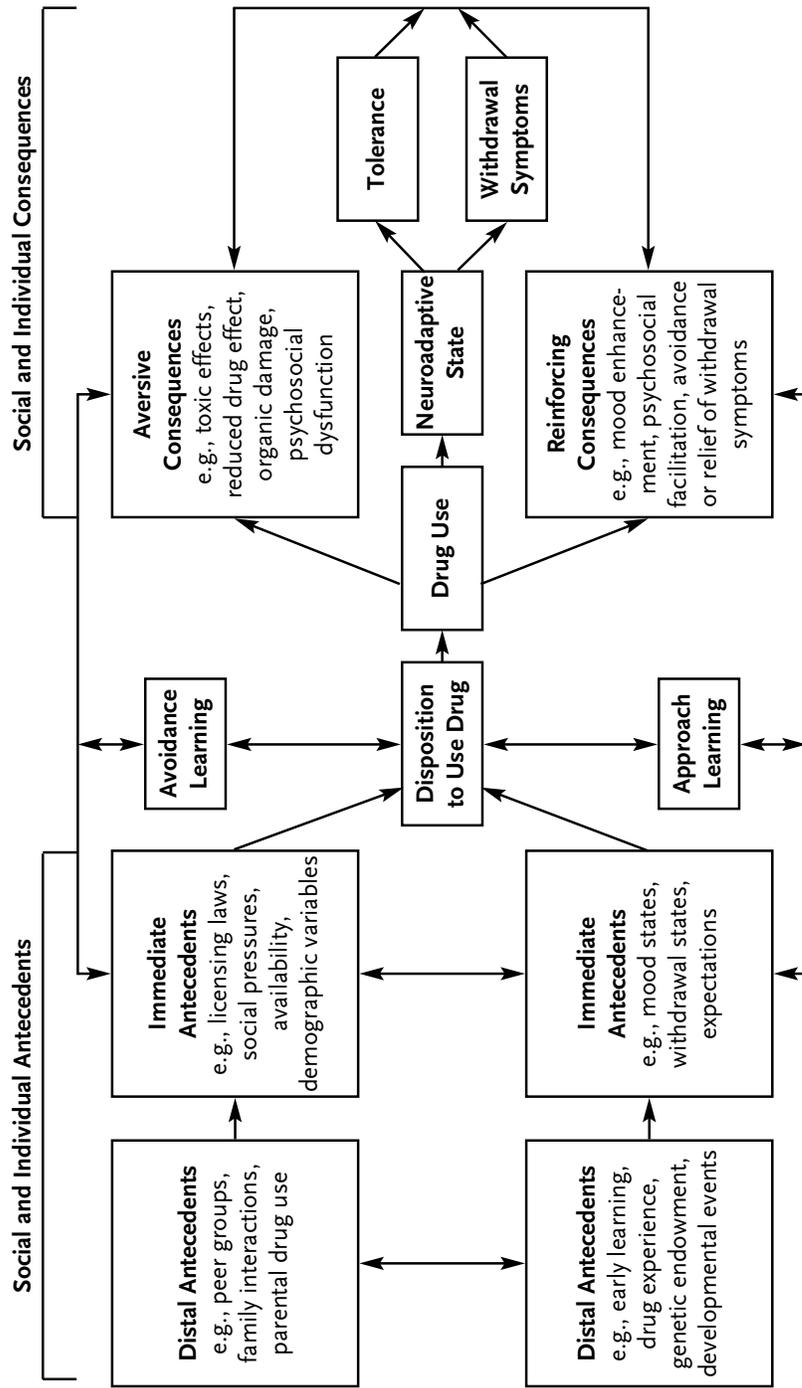
SOME IMPLICATIONS FOR COUNSELLING

The model shown in Figure 1-1 suggests that drug taking can be reduced by making the experience less rewarding and making abstinence or reduced use more rewarding. This could be achieved through a variety of biological, psychological and environmental interventions, some of which have been mentioned in this chapter. A useful summary of the objectives of such interventions was proposed by Daley and Marlatt (1992). These objectives are indicated in Table 1-1 together with the relevant clinical aids or procedures that have the strongest empirical support.

Other chapters in this book describe many of the specific practices identified in Table 1-1. Further evidence for their effectiveness can be found in recent reports from Health Canada (1999, 2000, 2001a, 2001b & 2002), on the Treatment Improvement Protocols (TIPs) Web site (www.treatment.org/Externals/tips.html) maintained by the U.S. Center for Substance Abuse Treatment, and on the Web site of the U.S. National Institute on Drug Abuse (NIDA; www.nida.nih.gov/). However, more research is needed to determine the effectiveness of different treatments for different types of clients, especially for women and youth.

FIGURE 1-1

Factors Affecting Drug Use and Abuse



Source: Edwards et al. (1981). Reprinted with permission.

TABLE 1-1

Objectives, Treatment Components and Empirically Supported Clinical Aids

TREATMENT OBJECTIVES	EMPIRICALLY SUPPORTED AIDS/ PROCEDURES
Help client identify high-risk situations and develop strategies to deal with them	Assessments using inventories of risk situations Behavioural rehearsal Covert modelling Assertiveness training Coping imagery Reframing reactions to relapse Meditation and relaxation Exercise
Help client understand relapse as a process and as an event	Methods to help client identify factors that contribute to relapse (e.g., functional analysis or instruments such as the Inventory of Drug Taking Situations [IDTS], which help clients identify high-risk situations for relapse)
Help client understand and deal with substance cues and cravings	Monitor cravings Behavioural interventions such as avoiding, leaving or changing situations that trigger or worsen cravings; and redirecting activities or getting involved in pleasant activities Help and support from others Self-help meetings to learn how others have coped Medication such as naltrexone (ReVia®) or disulfiram (Antabuse®)
Help client understand and deal with social pressure to use substances	Identify high-risk relationships Assess effects of thoughts, feelings and behaviours Plan and practise alternative coping skills using role playing Evaluate results and modify the coping strategy if required
Help client develop and enhance a supportive social network	Involve family and significant others Refer to self-help groups Help client decide who should be included in or excluded from social network Rehearse asking for help/support Develop a written action plan

Based on Daley & Marlatt, 1992.

TABLE 1-1...CONTINUED

TREATMENT OBJECTIVES	EMPIRICALLY SUPPORTED AIDS/ PROCEDURES
Help client develop ways of coping with negative emotional states	Various methods depending on the sources, manifestations and consequences of client's emotional state. May include: <ul style="list-style-type: none"> • treatment for mental health problems • anger management • leisure planning (for boredom) • counselling on attitudes and beliefs
Assess client for psychiatric disorders and facilitate treatment	Monitor target moods Participate in pleasant activities Develop routines and structures for daily living Identify signs of relapse Psychotherapy Pharmacotherapy
Facilitate transition to follow-up outpatient care or aftercare (for residential programs)	Motivational therapy prior to discharge Telephone or mail reminders for initial appointments Reinforcers for participation in aftercare (e.g., coupons, certificates)
Help client learn to cope with cognitive distortions ("stinking thinking")	Use worksheets to list faulty beliefs such as "awfulizing," over-generalizing, selective abstraction and jumping to conclusions Help show what is wrong with these beliefs Help develop new beliefs
Help client develop a more balanced lifestyle	All of the above Identify sources of stress and pleasure/self-fulfilment Develop and implement plans to avoid or deal with stress, and to do more fulfilling things
Facilitate pharmacological interventions as an adjunct to psychosocial treatment	Naloxone as an adjunct to psychosocial treatments Medication for psychiatric disorders Methadone for opioid addiction
Help client develop plans to manage a lapse or relapse	Self-talk or behavioural procedures Talk to family Go to self-help group Seek professional help Carry a list of names and phone numbers of people who can help Carry a reminder card about what to do in the case of a lapse Learn from the experience

CONCLUSION

Substance use, and especially continued use despite negative consequences, cannot be explained by any single set of factors. Rather, substance use is determined by several types of factors that interact in complex ways. Clinicians who counsel people with substance use problems need to be aware of these complexities, while giving clients practical advice and help. Despite its overall complexity, however, substance use and relapse can be prevented or reduced if clients acquire appropriate cognitions and skills. Skilled and sensitive counsellors can contribute a great deal to this process, as will be evident from any of the chapters in this book.

REFERENCES

- Alcohol Health and Research World*, 19. (1995). The genetics of alcoholism (special edition).
- Allen, J.P. (1996). Subtypes of alcoholics based on psychometric measures. *Alcohol Health and Research World*, 20(1), 24–29.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.). Washington, DC: author.
- Arif, A. & Westermeyer, J. (1988). *Manual of Drug and Alcohol Abuse: Guidelines for Teaching in Medical and Health Institutions*. New York: Plenum Medical Book Company.
- Babcock, M. & McKay, C. (Eds.). (1995). *Challenging Codependency: Feminist Critiques*. Toronto: University of Toronto Press.
- Ball, S.A. (1996). Type A and Type B alcoholism: Applicability across subpopulations and treatment settings. *Alcohol Health and Research World* 20(1), 30–35.
- Bandura, A. (1977). *Social Learning Theory*. New Jersey: Prentice Hall.
- Barry, H. (1988). Psychoanalytic theory of alcoholism. In C.D. Chaudron & D.A. Wilkinson (Eds.), *Theories on Alcoholism*. Toronto: Addiction Research Foundation.
- Cohen, L. & Baum, A. (1995). Stress. In J. Jaffe (Ed.), *Encyclopedia of Drugs and Alcohol*. New York: Macmillan Library Reference.
- Daley, D.C. & Marlatt, G.A. (1992). Relapse prevention: Cognitive and behavioral interventions. In J.H. Lowinson, P. Ruiz, R.B. Millman & J.G. Langrod (Eds.), *Substance Abuse: A Comprehensive Textbook* (2nd ed.; pp. 533–542). Baltimore, MD: Williams & Wilkins.
- Edwards, G., Arif, A. & Hodgson, R. (1981). Nomenclature and classification of drug- and alcohol-related problems: A WHO memorandum. *Bulletin of the WHO*, 59(2), 225-242.

Godfrey, C. & Maynard, A. (1988). An economic theory of alcohol consumption and abuse. In C.D. Chaudron & D.A. Wilkinson (Eds.), *Theories on Alcoholism*. Toronto: Addiction Research Foundation.

Goplerud, E.N. (1990). *Breaking New Ground for Youth at Risk: Program Summaries* (DHHS Publication No. ADM 89-1658). Washington, DC: Office for Substance Abuse Prevention.

Health Canada. (1999). *Best Practices—Substance Abuse Treatment and Rehabilitation*. Prepared for Office of Alcohol, Drugs and Dependency Issues, Health Canada. Minister of Public Works and Government Services. Cat. No. H39-438/1998E. Ottawa: author.

Health Canada. (2000). *Cocaine Use: Recommendations in Treatment and Rehabilitation*. Minister of Public Works and Government Services. Cat No. H49-155/2001E. Ottawa: author.

Health Canada. (2001a). *Best Practices Treatment and Rehabilitation for Women with Substance Use Problems*. Minister of Public Works and Government Services. Cat. No. H49-153/2001E. Ottawa: author.

Health Canada. (2001b). *Best Practices Treatment and Rehabilitation for Youth with Substance Use Problems*. Minister of Public Works and Government Services. Cat. No. H49-154/2001E. Ottawa: author.

Health Canada. (2002). *Best Practices Concurrent Mental Health and Substance Use Disorders*. Minister of Public Works and Government Services. Cat. No. H39-599/2001E. Ottawa: author.

Kandel, D.B. & Yamaguchi, K. (1985). Developmental patterns of the use of legal, illegal, and medically prescribed psychotropic drugs from adolescence to young adulthood. In *Etiology of Drug Abuse: Implications for Prevention* (NIDA Research Monograph Series No. 56, DHHS Publication No. ADH 85-1335). Washington, DC: U.S. Government Printing Office.

Keller, M. (1972). The oddities of alcoholics. *Quarterly Journal of Studies on Alcohol*, 33, 1147–1148.

Khantzian, E.J. (1995). Psychological (psychoanalytic) perspective. In J. Jaffe (Ed.), *Encyclopaedia of Drugs and Alcohol* (Vol. 1). New York: Macmillan Library Reference.

Lettieri, D.J., Sayers, M. & Pearson, H.W. (1980). *Theories on Drug Abuse: Selected Contemporary Perspectives* (NIDA Research Monograph 30). Rockville, MD: National Institute on Drug Use.

Madden, P.A.F. & Heath, A.C. (2002). Shared genetic vulnerability in alcohol and cigarette use and dependence. *Alcoholism: Clinical and Experimental Research*, 26, 1919–1921.

Marlatt, G.A. & Gordon, J.R., (Eds.). (1985). *Relapse Prevention*. New York: Guilford Press.

Mello, N.K., McNamee, H.B. & Mendelson, J.H. (1968). *Drinking Patterns of Chronic Alcoholics: Gambling and Motivation* (Psychiatric Research Report No. 24). Washington, DC: American Psychiatric Association.

- Mello, N.K. & Mendelson, J.H. (1965). Operant analysis of drinking habits of chronic alcoholics. *Nature*, 206, 43–46.
- Miller, N.S. (1994). Prevalence and treatment models for addiction in psychiatric populations. *Psychiatric Annals*, 24(8), 399–406.
- Miller, W.R. (1996). Motivational interviewing: Research, practice and puzzles. *Addictive Behaviors*, 21, 838–842.
- Molina, B.S.G, Bukstein, O.G. & Lynch, K.G. (2002). Attention-deficit/hyperactivity disorder and conduct disorder symptomatology in adolescents with alcohol use disorder. *Psychology of Addictive Behaviors*, 16(2), 161–164.
- Pearlman, S. (1988). Systems theory and alcoholism. In C.D. Chaudron & D.A. Wilkinson (Eds.), *Theories on Alcoholism*. Toronto: Addiction Research Foundation.
- Reiger, D.A., Farmer, M.E., Rae, D.S., Locke, B.Z., Keith, S.J., Judd, L.L. et al. (1990). Comorbidity of mental disorders with alcohol and other drug abuse: Results from the epidemiologic catchment area (ECA) study. *Journal of the American Medical Association*, 264, 2511–2518.
- Robins, L.N. (1974). *The Vietnam Drug User Returns* (Special Action Office for Drug Abuse Prevention Monograph, Series A, No. 2). Washington, DC: U.S. Government Printing Office.
- Shedler, J. & Block, J. (1990). Adolescent drug use and psychological health. *American Psychologist*, 45, 612–630.
- Sherman, J.E., Jorenby, D.E. & Baker, T.B. (1988). Classical conditioning with alcohol: Acquired preferences and aversions, tolerance, and urges/craving. In C.D. Chaudron & D.A. Wilkinson (Eds.), *Theories on Alcoholism*. Toronto: Addiction Research Foundation.
- Shuckit, Marc A. (1999). New findings on the genetics of alcoholism. *Journal of the American Medical Association*, 281(20), 1875–1876.
- Siegel, S., Hinson, R.E., Krank, M.D. & McCully, J. (1982). Heroin “overdose” death: Contribution of drug-associated environmental cues. *Science*, 216, 436–437.
- Single, E.W. (1988). The availability theory of alcohol-related problems. In C.D. Chaudron & D.A. Wilkinson (Eds.), *Theories on Alcoholism*. Toronto: Addiction Research Foundation.
- Smart, R.G. & Ogborne, A.C. (1996). *Northern Spirits: A Social History of Alcohol in Canada* (2nd ed.). Toronto: Addiction Research Foundation.
- Stein, J.A., Newcomb, M.D. & Bentler, P.M. (1987). Personality and drug use: Reciprocal effects across four years. *Personality and Individual Differences*, 8, 419–430.
- Tarter, R.E., Alterman, A.I. & Edwards, K.L. (1988). Neurobehavioral theory of alcoholism etiology. In C.D. Chaudron & D.A. Wilkinson (Eds.), *Theories on Alcoholism*. Toronto: Addiction Research Foundation.

Wilson, G.T. (1988). Alcohol use and abuse: A social learning analysis. In C.D. Chaudron & D.A. Wilkinson (Eds.), *Theories on Alcoholism*. Toronto: Addiction Research Foundation.

World Health Organization. (1981). Factors affecting drug use and abuse. *Bulletin of the World Health Organization*, 59(2), 225–242.

World Health Organization. (1992). *The ICD-10—Classification of Mental and Behavioural Disorders, Clinical Descriptions and Diagnostic Guidelines*. Geneva: author.