

9 Alcohol Addiction

Chapter Learning Objectives

1. Learn about the history of alcohol use and alcohol use disorder (AUD)¹ in the United States.
2. Describe ways to assess and diagnose AUD, including the pathways toward developing AUD.
3. Define blood alcohol level, standard drink, alcohol addiction, and other essential terms.
4. Discriminate among low, moderate, and severe drinking and discern when moderation may be attainable by clients and when abstinence is the reasonable goal.
5. Learn about the empirically validated treatments for individuals with AUD and discover ways to counsel them.



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¹The term alcohol use disorder (AUD) will be used preferentially in this chapter as it is the name of the DSM-5 diagnosis for this addiction.

CHALLENGING YOUR ASSUMPTIONS ABOUT THIS ADDICTION

1. How do you view individuals whom you see on the street that experience AUD? Articulate the judgments that you make of them.
2. How much empathy do you have toward individuals with AUD on a scale of 0 (i.e., no empathy) to 5 (i.e., absolute empathy)? What do you believe explains the rating you gave for empathy toward individuals with AUD?
3. What do you believe are the causes of AUD?
4. If you or a family member became addicted to alcohol, what strategy would you take for yourself or suggest to a family member in either overcoming or reducing the impact of alcohol dependence?
5. Many individuals with AUD refuse to attend Alcoholics Anonymous (AA) meetings because of their religious perspective and also perhaps because of the belief that they need to surrender control to a force outside themselves. Before reading this chapter, what is your view of AA? If you were struggling with alcohol dependence, how likely would you be to attend AA meetings regularly?

PERSONAL REFLECTIONS

A maniac was chopping down our back door. My sister had already called the police, and, shortly after that, three patrol cars arrived in front of our house and two in the back alley. Within minutes, all officers had their guns aimed at him. I was 15 years old, and my sister was 18. The maniac was our stepdad.

My mom met “Reggie” when I was 13. They fell in love, they married, and the rest is a nightmare from hell. Somehow unbeknown to my mom, Reggie was a skid-row individual with AUD. They only began living together following marriage, and, within a month, we knew the truth about him. He was Dr. Jekyll, and he was Mr. Hyde. One day, he would be sober, deeply apologetic, shaky, and without confidence or backbone. The next night, after an evening of hard drinks, he became the world’s biggest asshole. As soon as he left the house to find a local pub, we all felt relief. When he returned a few hours later, I would shake in my bed until the fighting subsided sometime early the next morning.

On the night he chopped down our door, my mom had taken his house keys before he left to drink, unbeknown to him. But she did not lock the garage door where the ax was kept. That was the worst incident. To my knowledge, I was the last person to see him alive. A few years after their divorce, I needed a favor from him. He looked like hell. When I returned a couple of weeks later, he did not answer the door, and, a few days after that, I received the hysterical call from my mom.

And then there was my best friend at the time, “Barry.” Barry and I started drinking together soon after I met him at age 19. Our drinking episodes were often stupid. We would get hammered more often than I care to admit. He eventually moved to a neighboring city, and, over time, he followed in his

father’s footsteps. AUD became his greatest vice, but he kept it together enough to work at a rather lucrative government job. Over time, employees began to complain about his erratic behavior and his inappropriate temper. They sent him 2000 miles away to an expensive and exclusive 28-day treatment. I suspected he would soon be in trouble when he called me the day after arriving home and told me that he had four double whiskeys and Coke in flight. After complaints at work erupted again, they fired him without further compassion or notice.

After losing his job, Barry went steadily downhill. One day after several months of unemployment, he drank all the liquor he had at home, and then drove to the store four blocks away to buy more. It was winter. He fell on ice leaving the store, knocked himself out, only to awaken minutes later to police hovering over him. The police charged him with a DUI, but that was nothing compared to what occurred 3 weeks later. He began having seizures, and his girlfriend thankfully got him to the hospital where a surgeon operated on his brain to release the internal hemorrhaging caused by his fall. I visited him a week or so later, and his words were gibberish. It seemed like he thought he was making sense, but his words were unintelligible. The surgery had damaged the speech center in his brain. Over time, his speech gradually improved. Within a few months, however, I had had enough of his friendship, which had become increasingly toxic and abusive. That was 2008.

How can people destroy their lives in such dramatic ways? How can alcohol get such an extreme grip on people that they cannot see the damage it is causing them and subsequently move in an entirely different direction? Why?

INSIDE AN ADDICTED PERSON'S MIND

Roberto, age 42

My immediate family moved to Miami when I was 7 years old. From what I was told, it was not an easy escape from Cuba. Most of my relatives are still there, and I know not seeing them again was very hard on my parents. Perhaps that explains the way they treated me growing up. First off, my dad ignored me most of the time, but, when he did get involved, it was usually to discipline me for something I did that I thought was not a big deal. For example, I would stay at Johnathan's house, and, if I returned home even an hour late, my mom would tell me that dad would take care of it later. I knew what taking care of it meant. It meant his big black belt across my buttocks several times, and he wouldn't stop until I began screaming. Well, I learned to start screaming horrifically earlier in my punishment to escape being beaten for longer durations.

For the most part, my mom ignored me, too. She often seemed anxious and depressed with little time to give to either my brother or me. When she did talk to me, it was usually yelling at me for something. It didn't seem like she knew how to speak at a normal level. I grew up thinking that I was worthless and unlovable. I only had Jonathan as my friend, and, by age 16, we were both drinking heavily. I remember laughing hysterically many times as we would talk about our lives and make up stories. At times, I felt more like crying, but dad taught me that guys don't cry. I got the belt more than once for thinking I could.

Jonathan eventually moved to somewhere in Colorado. We lost touch with each other. I was working in construction, and, every night after work, I would go with a few buddies to the nearby bar and get hammered. That led to more than one DUI charge. But it didn't matter because I didn't have anything to live for. I had become like my mom: anxious and depressed. Drinking helped immensely to numb those feelings, together with my feelings of unworthiness and self-loathing. Yes, I have gone through treatment centers, and, yes, I have abstained for periods up to 3 months. Life carries on, however, and my deep-rooted feelings of shame and guilt haunt me. Inevitably, once I feel I can't take it anymore, I succumb to closing down the bar most nights of the week. I will be honest this once: I crave alcohol, and I know it's what I need to get through the long days of nothingness.

I blame my parents for most of my problems. If they hadn't treated me so horribly, I'm sure I would not need

to drink the way I do. Now, drinking and thinking about drinking is about the only thing that gives me pleasure. It's hard to swallow that, at my age, but I have no friends, and, even though my mom is still alive, I don't want anything to do with her. When I'm drunk is the only time I feel normal, and, when I'm sober, I cannot even stand to look in the mirror. The reflection I see there is despicable and disgusting. I did not turn out to be a nice person.

One Friday night changed my life forever. As I was driving home from the bar, I lost control and struck a telephone pole. As I was waking up, a police officer was banging on my window. As soon as I rolled it down, he told me to get out and blow on his breathalyzer. I remember he stood there shocked for a few moments, but I don't know what happened after that until I woke up the next morning in a cell. I found out I had blown 0.97, and this was the highest recording the officer had ever seen in someone who was still alive. I know I am still alive. But I wish I were dead.

Commentary

Roberto displays most of the symptoms of AUD, and he would be diagnosed as having a severe addiction. His drinking has become out of control. His symptoms include the following: (a) he has attempted to stay sober unsuccessfully, (b) he experiences strong cravings, (c) he spends a great deal of time drinking, (d) he is experiencing severe consequences because of his drinking, (e) he has a level of tolerance that would be lethal to most individuals, (f) he continues drinking and driving despite its dangerousness, and (g) he drinks despite how it has affected his relationships. Roberto has not developed recreational activities that do not include alcohol either. Given how high his blood alcohol concentration was when he blew into the breathalyzer (i.e., 0.97), withdrawal from alcohol would be life-threatening if it were not medically supervised.

Discussion

1. Do you know of anyone whom you suspect has become dependent on alcohol? If "yes," which symptoms noted in the commentary apply to him or her?
2. Does this person have symptoms that are not listed in the commentary? If so, what are they?
3. If you were Roberto's counselor, how would you go about helping him?

COUNSELING SCENARIO

Note: Imagine that *you* are the client in this scenario.

Your name is Rosemary, a 30-year-old architect. Your employer sent you to a Betty Ford clinic for treatment of AUD. While there, the program pushed the idea that you should remain forever abstinent, but that never seemed like the right goal for you. It's not that you deny having a problem with alcohol; it's more that you don't see the connection between how it is affecting you at work and in other areas of your life. You would, however, call yourself a binge drinker. Your pattern is that you begin drinking on a Friday, and, once that begins, the entire weekend is spent sleeping and drinking. It is how you have come to deal with your loneliness. You have been out of the program for 3 weeks, and you've already started to relapse. Your employer smelled alcohol on your breath on Monday morning and has now sent you to see an addiction counselor in the community.

- Counselor: Good afternoon, Rosemary. Tell me exactly why you are drinking at this point after having gone through treatment.
- You: Ah, ahem, I'm not sure.
- Counselor: How many times have you used that excuse before? I was drunk so many times in the past and had so many blackouts that I know when someone is in denial right away. I could tell you stories that would make you beg for me to stop.
- You: I'm sure that won't be necessary. I can honestly say that I never have drunk alcohol the way that you must've in the past.
- Counselor: Do you really expect me to believe that?
- You: Absolutely. You don't even know me yet.
- Counselor: I know more about you than you realize. I have read the report I received from the Betty Ford clinic that you attended. It appears that you never did stop denying that you have a serious problem.
- You: I do not have a serious problem! I drink a lot during the weekend because I am lonely. . . that's all.
- Counselor: What are you prepared to do about your loneliness in that case?
- You: Hook up every chance I get (says sarcastically).
- Counselor: I do not think that you are taking my question seriously. If you don't have a problem with alcohol then why did your employer send you to me?
- You: My employer has had it out for me since day one. I'm sure he is a teetotaler.
- Counselor: I don't know your employer, but I can certainly tell you are not taking any of this seriously.
- You: I can't believe this. You haven't even got to know me, and you are already passing these judgments.
- Counselor: I'm not passing judgments on you, Rosemary. I'm trying to get you to see that you are still in denial.
- You: I am not in denial! I drink on the weekends. That's it. I've only missed 3 or 4 days from work, and I have worked there for nearly 8 months already.
- Counselor: Your employer tells me that you've missed more like seven or eight Mondays. You phone in sick, but he doesn't believe you.
- You: He is grossly exaggerating. I am not sure why I have to see you.
- Counselor: Rosemary, you know why. Just accept it. You are a full-blown alcoholic who is unwilling to take corrective action.
- You: Then there is no point in continuing to talk to you. You've already made up your mind about me, and I disagree. You don't know me and you never will.
- Counselor: Do you want to keep your job or don't you?
- You: Not if I have to put up with you. I would rather be unemployed!
- Counselor: So you want to play hardball, do ya?
- You: Todd, I really don't know what you are getting at. What is wrong with you? Why are you so angry?
- Counselor: What you are doing we call projection, Rosemary. You have kept so much bottled inside that it is now you who wants to punish the world and everyone in it.
- You: Thank you but I think I've had enough. I am leaving.
- Counselor: Okay. I will see you next Wednesday, same time and place.

From the Client's Perspective

1. What feelings with this interaction evoke in you?
2. What is missing for you in this dialogue?
3. What would you find more helpful from a counselor in this scenario?

From the Counselor's Perspective

1. What is interfering with developing a working alliance?
2. Going back to the Common Counseling Mistakes list in Chapter 6, which mistakes is the counselor making with Rosemary?
3. What personal issues do you believe Todd needs to work through if he is to become an effective counselor? Which defense mechanism(s) is Todd demonstrating in his dialogue with Rosemary?

Background Information

“So much wasted time” (final words spoken before his death from AUD—David Cassidy, singer, actor).

The production of beer dates back approximately 20,000 years, and the fermentation of grape juice and wine is nearly as ancient (Guidot & Mehta, 2014). Interestingly, one of the first alcoholic drinks was fermented mare’s milk in ancient Siberia. A version of this alcoholic beverage, known as kumis, is still drunk in some areas of Russia (Guidot & Mehta, 2014). Several religions (e.g., Islam and Mormonism) and societies (e.g., Saudi Arabia) have banned alcohol consumption indefinitely, whereas others have done so for a period, such as the Prohibition era in the United States between 1919 and 1933 (Guidot & Mehta, 2014). There is a biblical reference to Noah drinking wine and becoming drunk and a reference to Jesus consuming alcohol in moderation (Rastegar & Fingerhood, 2016).

In the United States, Dr. Benjamin Rush in about 1785 was the first to see the public health risks caused by excessive alcohol consumption and to discuss it as a medical condition (Blume, Rudisill, Hendricks, & Santoya, 2013). Magnus Huss, A Swedish physician, first referred to AUD as a disease in 1849.

The disease model that is practiced today is primarily due to the work of American E. Morton Jellinek (Blume et al., 2013). Jellinek’s model continues to be embraced by AAs, the National Council on Alcoholism, the National Institute on Alcohol Abuse and Alcoholism (NIAAA), and the American Medical Association (Milkman & Sunderwirth, 2010).

Political views on alcohol consumption have varied considerably over the years in the United States. Although the 1960s and early 1970s were considered drug-friendly, public concern about heavy alcohol and drug use increased toward the end of the 20th century. The drinking age had been lowered to 18 during the Vietnam War era but afterward increased again to age 21 (Ray, Courtney, & Guadalupe, 2013). Concern also grew regarding increased deaths from drunk driving, and groups such as Mothers Against Drunk Driving helped support stricter drunk-driving laws.

The most significant recent law passed in the United States regarding alcohol was the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970 (Pub. L. 91-616). This federal act focused on the prevention and treatment of AUD. It also gave rise to the NIAAA. NIAAA remains the largest funder of basic and applied alcohol research in the United States (MacKillop, Stojek, VanderBroek-Stice, & Owens, 2018).

According to the 2015 National Survey on Drug Use and Health, 138.3 million Americans aged 12 and older report that they actively consume alcohol, and 48.2% of this group reported that they had had at least one binge drinking episode within 30 days of taking the survey (Nehring, 2018). Furthermore, of those who become patients in the medical system, up to 40% experience problems with alcohol misuse (Nehring, 2018). There are more than 85,000 deaths each year due to alcohol in the United States (Nehring, 2018) and millions of deaths worldwide each year (Guidot & Mehta, 2014). Among the preventable causes of death, alcohol ranks in third place, trumped only by smoking and an unhealthy lifestyle of poor diet and physical inactivity

(Heilig, 2015). Alcohol causes more deaths and disability than heroin, cocaine, and cannabis combined (Heilig, 2015).

Furthermore, approximately one third of all suicides and one quarter of all emergency room visits are alcohol-related (Lewis, 2015). The societal cost annually in the United States resulting from alcohol misuse is estimated at more than \$249.0 billion (Morris, Winters, & Wagner, 2018). Today there is no refuting that excessive alcohol intake can have devastating effects on health and longevity.

There are many definitions of alcohol addiction (i.e., AUD), but one that incorporates its main features in few words was offered by Brooks and McHenry (2009): “Addiction involves a compulsive and excessive use of drugs and alcohol with subsequent negative consequences” (p. 113). The definition includes the compulsiveness that typifies addiction, the excessive use of the substance, and the adverse consequences that result. Morris et al. (2018) highlighted the progressive nature of the disorder, which over time replaces other life pleasures. Many definitions also refer to AUD as a “primary, chronic disease” (Rastegar & Fingerhood, 2016, pp. 60–61), denoting its harmful and all too commonly lethal trajectory. Furthermore, relapse is common among individuals with AUD and other substance-addicted individuals (Glantz, Moskalewicz, Caldas-de-Almeida, & Degenhardt, 2018).

Binge drinking is generally defined as heavy episodic drinking of at least five drinks in men and four drinks in women within a 2-hour period. Although other definitions exist, the 5+ / 4+ rule is most often used in alcohol research (Lewis, 2015). Despite this international convention, Pearson, Kirouac, and Witkiewitz (2016) argued that the 5+ / 4+ rule has not demonstrated unique predictive validity or clinical usefulness.

The NIAAA (2010) has a comparable definition for at-risk drinking. They defined at-risk drinking as follows:

1. For men: More than four drinks a day and not more than 14 drinks in a week.
2. For women: more than three drinks a day and not more than seven drinks in a week.

The kind of alcohol found in drinks is called ethyl alcohol or ethanol. It is mostly derived from plants including fruits, grains, and cactus (Lewis, 2015). Alcohol is classified as a depressant (note that the other depressants are included in Chapter 13).

Alcohol metabolism begins with the enzyme called dehydrogenase, which breaks down alcohol to acetaldehyde. Acetaldehyde is further broken down into acetic acid before that metabolizes into carbon dioxide, water, and carbohydrates. Most of this metabolism occurs in the liver. Heavy drinking can lead to three conditions of the liver: (a) “fatty liver” resulting from fat accumulation around liver cells, (b) hepatitis resulting from inflammation of the liver, and/or (c) cirrhosis, which is a hardening of the liver (Lewis, 2015).

A *standard drink* refers to a beverage that contains 0.60 ounces of pure ethanol. Drinks that contain this amount include a 12-ounce can of beer, a 5-ounce glass of wine, or a drink with 1.5 ounces of 80-proof liquor. The alcohol concentration is measured in *proof*. The proof of a liquor is always twice the actual percentage of ethanol. For example, an 80-proof whiskey contains 40% alcohol. Similarly, 200 proof means pure ethanol (i.e., 100%) (Lewis, 2015).

The amount of alcohol in the blood is known as *blood alcohol level* (BAL) or *blood alcohol content* (BAC). BAL is measured in milligrams of alcohol per 100 liters of blood (mg/mL). The following effects typically occur at different BALs (Lewis, 2015):

1. 0.02: Feelings of warmth and relaxation.
2. 0.05–0.09: Increased talkativeness, increased happiness, and some impairment in motor skills and reaction time.
3. >0.10: Slurred speech, unsteady gait, nausea, vomiting, and lowered inhibitions.
4. 0.30–0.40: Some individuals will experience severe stupor or coma.
5. >0.40: The most likely outcome is death.

Individuals who have become addicted to alcohol, on the other hand, may not demonstrate any behavioral effects until their BAL has reached well over 0.10 (Lewis, 2015). An individual's reaction to consuming alcohol depends on several factors. Factors that reduce the impact of alcohol on a person include having a heavier weight and having tolerance. Factors that increase the impact of alcohol include gender (i.e., women are affected more than men), rapidity of consumption, and the amount of food in the stomach. Genetics may either increase or decrease the effect of alcohol on an individual (Rastegar & Fingerhood, 2016).

Withdrawal from higher doses may include tremors, seizures, and delirium tremens, and these symptoms may be life-threatening. Severe withdrawal is more likely to occur if an individual has elevated blood pressure and/or comorbid medical conditions. The most significant factor, however, is if the individual has a prior history of severe withdrawal (Rastegar & Fingerhood, 2016).

Not everyone who abuses alcohol or receives a diagnosis of an AUD at some point, however, necessarily needs to set abstinence as the goal. Based on extensive research, Miller and Munoz (2013) wrote the second edition of their book called *Controlling Your Drinking: Tools to Make Moderation Work for You*. Based on a database that included more than 8000 participants, Miller and Munoz reported that 15% of these individuals achieved stable moderation throughout the year (which meant staying under three drinks per day and averaging 10 standard drinks per week), another 23% achieved reasonably good moderation by reducing their drinking by two thirds or more (averaging about 14 drinks per week), 24% had been completely abstinent for at least a year, and 37% were still drinking.

Miller and Munoz (2013) stated that the most likely individuals to learn and maintain moderate drinking had certain qualities. These individuals

1. Were concerned about their drinking but alcohol had not yet caused major life disruption.
2. Recognized that they had problems with drinking, but they did not view themselves as individuals with AUD despite questioning this periodically.
3. Were less likely to have a family history of severe alcohol problems.
4. Had alcohol-related problems for less than 10 years.

5. Had never been physically addicted to alcohol. In other words, they could go for a week or two without consuming alcohol or taking tranquilizers, and they did not experience unpleasant physical symptoms of withdrawal.

More recently, Witkiewitz et al. (2017) analyzed data based on 3589 participants, which was integrated from three different sources. The individuals were receiving treatment for alcohol dependence. Regarding the sample, 73.0% were male, 82.0% were White, 41.7% were nonmarried, and the average age was 42.0. They identified seven patterns of drinking during treatment:

1. Persistent heavy drinking (18.7% sample).
2. Increasing heavy drinking (9.6%).
3. Heavy and low-risk drinking (6.7%).
4. Heavy drinking alternating with abstinence (7.9%).
5. Low-risk drinking (6.8%).
6. Increasing low-risk drinking (10.5%).
7. Abstinence (39.8%).

Witkiewitz et al. (2017) concluded

Low-risk drinking is achievable for some individuals as they undergo treatment for alcohol dependence.

Individuals with lower dependence severity, less baseline drinking, fewer negative mood symptoms and fewer heavy drinkers in their social networks have a higher probability of achieving low-risk drinking during treatment. (p. 2112)

In their sample, individuals in only two of the seven patterns of drinking appeared able to sustain a moderate drinking style: (a) those who were consistently low-risk drinkers during treatment and (b) those who were abstinent early in treatment who were at high probability of low-risk drinking during later weeks of treatment. In total, this amounted to 17% of their sample (Witkiewitz et al., 2017).

Many individuals who meet the criteria for an AUD never receive treatment because they report a desire to continue drinking (Mann, Aubin, & Witkiewitz, 2017). In a project called MATCH, DSM-III-R criteria were used to ascertain individuals with AUD. For those people who were considered severely dependent (i.e., meaning they met more than six criteria out of nine), the likelihood of maintaining moderate drinking was lower than for those who drank moderately (defined as less than five standard drinks per occasion for men and less than four standard drinks per occasion for women; Mann et al., 2017). Together with the other research mentioned previously on reduced drinking, it appears that controlled drinking may be attainable for those who would be rated in DSM-5 as having an AUD with low or moderate severity (Mann et al., 2017; Margolis & Zweben, 2011). In other words, the individuals who can achieve moderation would not be viewed as “hard-core” individuals with AUD by most people's definitions. Instead, they are in a lower-risk category throughout their pattern of drinking.

A common belief is that AUD is a disease that develops from excess consumption of alcohol and not from an innate quality of

the individual (Gearhardt & Corbin, 2012). Nonetheless, the disease model of alcohol addiction has reduced stigma as it suggests that excessive alcohol intake is not a consequence emanating from lack of willpower or from an unwillingness to take responsibility for one's behavior (Gearhardt & Corbin, 2012).

Research suggests that there might be two types of individuals with AUD. A type I individual with AUD more likely develops alcohol problems later in life, whereas a type II individual with AUD develops AUD much sooner in life (late teens or early adulthood) and tends to be more violent (Brooks & McHenry, 2009).

Milkman and Sunderwirth (2010) described the stages of alcohol addiction according to Jellinek's research that was based on a questionnaire study of more than 2000 male individuals with AUD. Jellinek's stages are as follows:

1. Pre-alcoholic symptomatic phase. Individuals with AUD feel increasing tension about their drinking and drinking-related activities.
2. Prodromal phase. This phase begins with the onset of alcohol-related blackouts.
3. Crucial phase. During this stage, individuals experience a loss of control over their drinking. Even the taste of one drink seems to trigger full-blown drinking that continues until they feel too ill or too drunk to continue. The stage is also marked by increasing feelings of desperation and remorse and in some cases aggression.
4. Chronic phase. Prolonged periods of intoxication occur, often referred to as binges. Individuals with AUD often then drink with people who are "morally and intellectually inferior" (Milkman & Sunderwirth, 2010, p. 271) compared to their regular clique. Tolerance often diminishes in this phase and fears and physical tremors that seem to come out of nowhere develop. Withdrawal is avoided by drinking continuously.

Timko, Moos, and Finney (2016) reviewed longitudinal research on the various courses of AUD and addiction. As the authors noted, many people will experiment with alcohol and other drugs and then quit. But, for some, frequent use can lead to several different outcomes based on "onset, severity, and chronicity" (p. 54), and these are shaped by both personal and environmental influences. Seven long-term studies were based on community samples of men at follow-up periods ranging from 9 to 60 years. Remission rates varied from 27% to 69%. In a study of 420 middle-aged men in the Vietnam Era Twin Registry, four trajectories were noted in this sample as follows:

1. Severe chronic course (13% of the sample). Up to age 56, between 92% and 100% of these men were alcohol-addicted.
2. Severe nonchronic course (18%). These men were likely to have a diagnosis of alcohol dependence until age 41, after which the percentage declined to less than 10% to 20% between ages 51 and 56.
3. Young adult group (44%). Although these men were diagnosed as dependent at a young age, *none* received a

diagnosis of alcohol dependence at age 42. Interestingly, however, nearly 10% had diagnoses later up to age 56.

4. Late-onset course (25%). The rate of alcohol dependence increased to age 41 in this group, after which it declined to about 30% by age 56.

These results were replicated in a later study of 323 non-twin Vietnam-era veterans (Timko et al., 2016). Because these samples were based on men only, it is unclear how transferable these findings are to women. Results from these and other studies led Timko et al. to conclude that AUDs often peak in late adolescence and then gradually decline into the mid-20s.

Regarding mostly men who have received treatment for AUDs, Finney and colleagues (as cited in Timko et al., 2016) summarized the results from 14 studies with follow-up periods of between 8 and 20 years. Remission rates were defined differently across studies, making the remission rates of between 21% and 83% difficult to interpret. Women were also underrepresented in these studies.

So, what happens when a person becomes addicted to alcohol? First, more alcohol is needed to achieve the desired pleasure. Over time, drinking becomes much less about attaining pleasure and more so about avoiding a "crappy" feeling. By this stage, experiencing ecstasy no longer occurs (Milkman & Sunderwirth, 2010).

The pleasure from drinking that once occurred invariably turns into pain in those who have become dependent (Maté, 2008). Addicted individuals do not always experience fallout from excessive drinking at first, but, over time, the consequences develop and expand in severity (Lewis, 2015). But the havoc doesn't end there. The people close to addicted individuals also experience consequences from their growing irrationality as well. The toll from alcohol addiction becomes severe as every life area becomes affected (e.g., personal, interpersonal, financial, occupational).

There are multiple pathways and causes of AUDs (King, Hasin, O'Connor, McNamara, & Cao, 2016; Krishnan, Sakharkar, Teppen, Berkel, & Pandey, 2014). Sagarkar and Sakharkar (2017) suggested that AUDs result from complex interactions of a person's genetics and environmental factors. The environmental factors included those at the societal level and personal levels (e.g., exposure to prenatal and postnatal stress, exposure to other drugs of abuse).

Cicchetti and Rogosch (2018) wrote that substance use disorders (SUDs), including AUD, are developmental disorders that typically emerge during adolescence or later in adulthood. They provided illustrations showing how child maltreatment contributes to problematic substance use during adolescence. A factor analysis focused on demographic, temperamental, and cognitive measures provided further support that early life adversity plays a prominent role in increasing the risk for SUDs and AUDs (Acheson, Vincent, Cohoon, & Lovallo, 2018). The types of adverse childhood experiences do not seem to matter much either, whether it be sexual abuse, physical abuse, or exposure to parental domestic violence (Fuller-Thomson, Roane, & Brennenstuhl, 2016).

Cicchetti and Rogosch (2018) argued that child maltreatment leads to the unsuccessful resolution of major developmental tasks with consequences that continue throughout the lifespan (i.e., childhood maltreatment leads to increased vulnerability). Children who are mistreated are more likely to externalize and internalize behavioral problems, including the development of AUD and other substance use and abuse in adolescence

(Cicchetti & Rogosch, 2018). Although traumatized children have an exaggerated reaction to uncertain threats, this trait continues in problematic drinkers when sober (Gorka et al., 2016). Higher levels of impulsivity and problems regulating emotions are also associated with childhood maltreatment (Wardell, Strang, & Hendershot, 2016). Whiteside and Lynam (as cited in Wardell et al., 2016) conducted a factor analysis on impulsivity measures and identified four components of impulsivity: (a) difficulty persevering and staying focused, (b) impaired ability to act without forethought, (c) sensation seeking for new and exciting experiences, and (d) negative urgency, which is acting hastily when feeling negative emotions. A fifth factor has been added more recently called positive urgency, which is acting rashly in response to positive emotions.

The most common and consistent predictor of alcohol problems is negative urgency (Wardell et al., 2016). Anthenien, Lembo, and Neighbors (2017) hypothesized that increased drinking occurs because of strong desires to increase positive feelings and diminish negative ones.

Genetic factors predicting AUD are present in at least half of those diagnosed with an AUD (Rastegar & Fingerhood, 2016). Psychiatric disorders such as antisocial personality disorder, affective disorders, and other SUDs may also contribute to the development of AUD (Rastegar & Fingerhood, 2016). An extensive and consistent literature has revealed that, the more parents drink, the more consumption occurs among their sons and daughters (Rossow, Keating, Felix, & McCambridge, 2016). Young adults who have a stronger drinking identity are more likely to abuse alcohol and subsequently experience drinking-related problems compared to those who do not strongly identify as drinkers (DiBello, Miller, Young, Neighbors, & Lindgren, 2018).

Kuntsche, Rossow, Engels, and Kuntsche (2016) argued that the age at first drink, a concept often considered in alcohol research and prevention, is not as important in understanding AUD. Instead, they stressed the importance of the progression that occurs from infrequent and lower-quantity drinking to more detrimental patterns of consumption.

Is light or moderate consumption of alcohol beneficial? There is little doubt that this will be up for furious debate over the ensuing months. Griswold, Fullman, Gakidou, and the GBD 2016 Alcohol Collaborators (2018) released a study that used 694 data sources of both individual and population-level alcohol consumption together with 592 prospective and retrospective studies on the risk of alcohol use. The data used was amalgamated from 1990 to 2016, and it encompassed 195 countries and territories. Risk estimates of Griswold et al. were based on a combined study population of 28 million individuals and 649,000 registered cases of respective outcomes. They concluded, "Our results show that the safest level of drinking is none" (Griswold et al., 2018, p. 12). In other words, the level of alcohol consumption that minimizes health risk is zero. Their findings contrast with those found in other studies. The amount of data used for this study, however, is like none other. Consequently, results noted in the next two paragraphs may soon be under heavy scrutiny.

Light to moderate amounts of alcohol have beneficial effects for some individuals, particularly concerning prevention of thrombosis of the heart (Gronbaek, 2009). Many studies have suggested that the benefit of reducing the risk of cardiovascular disease is in the range of 25%–30%, and two large American studies found

that the protective effect is strongest among the elderly (Gronbaek, 2009). The benefits of alcohol have been described as following a J-shaped curve, meaning that up to one drink per day for women and up to two drinks per day for men can be beneficial, and, after that, the damaging effects of increased alcohol intake rise dramatically (Gronbaek, 2009). Low to moderate consumption can lower blood pressure and decrease the risk of diabetes. Most evidence suggests that the positive effects of drinking low to moderate amounts of wine or alcohol exceed the negative effects (Leighton Castro, Barriga, & Urquiaga, 1997). Moderate amounts of alcohol reduce the risk of kidney disease and possibly ischemic stroke (Rastegar & Fingerhood, 2016). Moderate drinking may also strengthen the immune system, thereby reducing the likelihood of catching a common cold (Barr, Helms, Grant, & Messaoudi, 2016).

Some alcohol intake does enhance emotional experiences and bonding with others (Sayette, Fairbairn, & Creswell, 2016). Consuming a moderate amount of alcohol after a mental stressor helps facilitate the recovery of the endocrine stress response by decreasing plasma ACTH and cortisol (Schrieke, Joosten, Klopping-Ketelaars, Witkamp, & Hendriks, 2016). In some families where there is AUD, alcohol helps the couple meld, avoid personal problems, and tolerate an otherwise dysfunctional marriage (Steinglass, as cited in Rosenberg, O'Connor, & Carnes, 2014).

The long-term effects of excessive alcohol consumption are covered later in the section called Physical Impacts (Long-Term Use). Here the short-term negative effects resulting from excessive drinking will be reviewed.

Alcohol is an interesting drug in that it first causes euphoria and disinhibition, qualities we often see with stimulants. At higher doses, however, it causes sedation as well as impairment in memory and coordination (Rastegar & Fingerhood, 2016). At still higher doses, overdose occurs, which is marked by drowsiness, cold and clammy skin, weak or rapid pulse, slurred speech, nausea, vomiting, and respiratory depression. If the dose is high enough, it may lead to sleep, coma, and death (Lewis, 2015; Rastegar & Fingerhood, 2016).

Some men become violent toward their partners or others following excessive drinking (Brem, Florimbio, Elmquist, Shorey, & Stuart, 2018; Subramani, Parrott, & Eckhardt, 2017). Others become increasingly suicidal. Sexual assaults are more likely to occur (Testa, Brown, & Wang, 2018; Wilhite, Mallard, & Fromme, 2018), and young women are more likely to engage in high-risk sexual activities such as not insisting that condoms be worn (Brown, Talley, Littlefield, & Gause, 2016).

Decision-making and other executive functions are affected, diminished working memory occurs, and discounting the negative consequences of excessive drinking increases in likelihood (Bo, Billieux, & Landro, 2016; Lechner, Day, Metrik, Leventhal, & Kahler, 2016; Spinola, Maisto, White, & Huddleson, 2017). For both perpetrators and victims, alcohol use is a risk factor for accidents of all kinds (Sethi et al., 2016; Storrøll, Moan, & Lund, 2016). In one study of 272 suicide attempters, every drink increased the risk of attempting suicide by 30% (Borges et al., 2017). Alcohol decreases inhibitions and increases impulsivity (Vera, Pilatti, Garimaldi, & Pautassi, 2018).

Experiencing hangovers is also a likely result of excessive drinking. Although many cures for hangovers have been proposed, none of them has sufficient evidence. Most recommended are simple analgesics (Rastegar & Fingerhood, 2016).

Approximately half of all Americans drink alcohol (Rastegar & Fingerhood, 2016). MacKillop et al. (2018) provided the prevalence rates for AUD symptoms from several large American studies. One of the largest of these studies was the NESARC. NESARC found that the lifetime prevalence for AUDs was just under 20% and the 12-month prevalence rate was 8.5%. AUDs were most prevalent among men, Native Americans, White individuals, younger and unmarried adults, and those with lower income. An estimated 20.8 million Americans, ages 12 and older, have an SUD, with 15.7 million experiencing an AUD (Nehring, 2018). Approximately 8% of youth aged 12–20 engage in binge drinking (Morris, Winters, & Wagner, 2018). In both mental health settings and medical facilities, between 25% and 40% of clients are likely to have an AUD as an aspect of their presenting concerns, so counselors should always assess for overt or covert AUDs (McCrary, 2014; Nehring, 2018). In 2016, consumption of alcohol “was the leading risk factor globally” for ages 15–49 (Griswold et al., 2018, p. 1). For all age brackets combined, in 2018, it was the seventh leading risk factor worldwide (Griswold et al., 2018).

Diagnostic and Assessment Considerations

Chao and Ashraf (2016) suggested that the alcohol screening process can begin with the following question: “Do you sometimes drink beer, wine, or other alcoholic beverages?” (p. 44). If the client answers “No,” screening can move on to other possible addictions. If the patient answers “Yes,” an additional question could be “How many times in the past year have you had five (for men)/four (for women) or more drinks in 1 day?” (p. 44). Although the validity of self-reports regarding drug use is generally very good, those with severe mental illnesses (e.g., psychotic or bipolar disorders) can be especially inaccurate in providing self-report (Earleywine, 2016).

In DSM-5, the section that includes drugs is called Substance-Related and Addictive Disorders. DSM-5 encompasses 10 separate classes of drugs.² The details of these are quite extensive, so the reader is referred to pages 481–585 of DSM-5 (American Psychiatric Association [APA], 2013). SUDs are defined as “a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems” (APA, 2013, p. 483).

Beresford, Wongngamnit, and Temple (2015) indicated that, in individuals with type I AUD (i.e., late-onset), it is typical that alcohol is the only drug used by the client. Conversely, in individuals with type II AUD (early-onset), polydrug dependence is more common.

Alcohol-related disorders are found on pages 490–503 of DSM-5 (APA, 2013) and include AUD, alcohol intoxication, alcohol withdrawal, other alcohol-induced disorders, and unspecified alcohol-related disorder. As is true for other substance disorders contained in DSM, in contrast to DSM-4, a diagnosis distinguishing between *substance abuse* and *substance dependence* no longer occurs. Instead, a substance disorder is diagnosed by severity (i.e., by the number of diagnosable symptoms) as follows: (a) *mild*: 2 or 3, (b) *moderate*: 4 or 5, or (c) *severe*: 6 or more. DSM-5 includes 11 listed criteria with two specifiers.

The overall diagnostic criteria for AUD is “A problematic pattern of alcohol use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring

within a 12-month period” (APA, 2013, p. 490). The specific criteria include (a) loss of control over use, (b) continued desire or inability to reduce use, (c) much time is spent trying to obtain alcohol, use it, or recover from it, (d) cravings or a strong desire to use alcohol, (e) recurring use results in failure to fulfill obligations at work, school, or at home, (f) continuing use despite persistent or recurring problems socially and/or interpersonally, (g) social, occupational, or recreational activities are stopped or reduced because of use, (h) continuing use in situations where it is physically dangerous, (i) continuing use despite having a persistent or recurrent psychological or physical problem in which alcohol caused or exasperated the condition, (j) tolerance, expressed as either a need for increasing amounts of alcohol or diminished effect from continuing use of the same amount of alcohol, and (k) withdrawal, expressed as the alcohol withdrawal diagnosis (begins on page 499) or alcohol or another related substance is taken to relieve or avoid symptoms of withdrawal. As noted earlier, there are two specifiers for this diagnosis. You can specify if the condition is an *early remission*, meaning between 3 months and 12 months, or in *sustained remission*, which requires 12 months or longer. You can also specify if the individual is *in a controlled environment*, meaning in a place where access to alcohol is difficult if not impossible. See Table 9.1 for DSM and ICD codes:

Slade et al. (2016) used DSM-IV and DSM-5 definitions of AUD and compared these using 31,367 respondents to the World Health Organization’s World Mental Health Survey Initiative. They found that the prevalence of DSM-5 lifetime AUDs was a little lower than the prevalence using the DSM-IV definition. Interestingly, a large number of people were inconsistently identified across the two DSM classifications.

In the United Kingdom, Day and Jheeta (2016) stated that the UK Department of Health recommended that a diagnosis of dependence should only be made if an individual has an AUDIT score (this is a test that will be described in the section called Available Measures) of 20 or more and at least three of the following symptoms:

1. A strong desire or sense of compulsion to drink alcohol (an essential characteristic).
2. Difficulties in controlling drinking behavior in terms of onset, termination, or levels of consumption.
3. A physiological withdrawal state when drinking ceases or is reduced, evidenced by the characteristic alcohol withdrawal syndrome or use of a closely related substance with the intention of relieving or avoiding withdrawal symptoms, e.g., benzodiazepines (p. 112).
4. Evidence of tolerance, such that increased quantities of alcohol are required to achieve the effects initially produced by lesser amounts.
5. Progressive neglect of alternative pleasures or interests because of alcohol consumption or increased amounts of time necessary to obtain or drink alcohol or to recover from its effects.
6. Persisting with drinking alcohol despite clear evidence of overtly harmful consequences, such as liver damage, depressive mood, or impaired cognitive functioning (pp. 111–112).

²The 10 categories include alcohol; caffeine; cannabis; hallucinogens; inhalants; opioids; sedatives, hypnotics, and anxiolytics; stimulants; tobacco; and other (or unknown) substances.

TABLE 9.1 DSM and ICD Codes

DSM Code	Number of Symptoms Required	ICD-10	ICD-11
305.00	Mild: 2 or 3 symptoms	F10.10	Varies*
303.90	Moderate: 4 or 5 symptoms	F10.20	Varies*
303.90	Severe: 6 or more symptoms	F10.20	Varies*

*The alcohol codes in ICD-11 vary substantially as evident from the following (this is a partial list providing codes an addiction counselor will be most likely to use. The complete list that includes co-occurring medical conditions can be found at [https://icd.who.int/ct11_2018/icd11_mms/en/release#/">https://icd.who.int/ct11_2018/icd11_mms/en/release#/](https://icd.who.int/ct11_2018/icd11_mms/en/release#/)):

#	Specific Entity	Specific ICD-11 CODE
1	Alcohol dependence, unspecified (includes alcoholism)	6C40.2Z
2	Dementia due to use of alcohol	6D84.0
3	Alcohol-induced delirium	6C40.5
4	Alcohol-induced psychotic disorder, unspecified	6C40.6Z
5	Harmful pattern of use of alcohol, unspecified	6C40.1Z
6	Alcohol intoxication	6C40.3
7	Alcohol withdrawal, unspecified	6C40.4Z
8	Alcohol-induced psychotic disorder with hallucinations	6C40.60
9	Fetal alcohol syndrome	LD2F.00
10	Harmful effects of or exposure to noxious substances, chiefly nonmedicinal as to source, not elsewhere classified (includes not elsewhere classified)	NE61
11	Special screening examination for mental or behavioral disorders (includes screening for alcoholism)	QA0A.3
12	Alcohol rehabilitation	QB95.2
13	Family history of mental or behavioral disorder (includes alcoholism in family)	QC65
14	Nonalcoholic steatohepatitis	DB92.1
15	Other alcohol-induced disorders	6C40.7
	Alcohol-induced mood disorder	6C40.70
	Alcohol-induced anxiety disorder	6C40.71
16	Harmful pattern of use of alcohol, continuous	6C40.11
17	Alcohol withdrawal, uncomplicated	6C40.40
18	Alcohol withdrawal with seizures	6C40.42
19	Disorders due to use of alcohol, unspecified	6C40.Z
20	Intentional self-harm by exposure to or harmful effects of alcohol	PD00
21	Exposure to or harmful effects of undetermined intent of alcohol	PH50
22	Contact with health services for alcohol use counseling or surveillance	QA11
23	Personal history of mental or behavioral disorder (includes history of alcohol abuse)	QC46
24	Hazardous alcohol use	QE10
25	Alcohol-induced psychotic disorder with delusion	6C40.61

SUDs are often undetected or misdiagnosed, and this occurs most commonly when the client is “employed, married, white, insured, or female” (Margolis & Zweben, 2011, p. 59). Nehring (2018) suggested that a score of 2 or higher on the four-item CAGE (also found under Available Measures) questionnaire is indicative of problematic drinking. Lewis (2015) reminded the reader that evaluating an SUD is an ongoing process as new information constantly arises. The counselor should also ask about family history regarding alcohol and other SUDs in addition to personal history and family history regarding psychiatric disorders (Nehring, 2018). Some drugs such as cocaine may produce an agitated depression if the addicted individual stops using abruptly, and, for some, this may precipitate suicidality. Consequently, it is important to assess for suicidal thoughts, gestures, and previous attempts.

Margolis and Zweben (2011) recommended that clients be assessed regarding the degree to which they experience impaired functioning in work, family, peers, social/recreational activities, education, legal issues, physical health concerns, and psychological issues (note that these areas and others are contained in the Personal Functioning Questionnaire; the questionnaire, the manual, and the pie chart are available as free downloads from <https://kevinalderson.ca/>). Furthermore, it is important to ask questions about the types and amounts of drugs used and the frequency of use. Medical detoxification is based on both the types of drugs and the amount and frequency of use (Margolis & Zweben, 2011). The following can be used as a guide:

1. Drugs that often require medical detoxification. Withdrawal from alcohol and other depressants (e.g., barbiturates and benzodiazepines) can be fatal. The benzodiazepines are slow-acting drugs, and withdrawal almost always requires medical detoxification as seizures can occur even 2 weeks after stopping use.
2. Drugs that can be stopped abruptly. These include opioids (except when other medical conditions worsen with stress), cocaine, and crack. Nonetheless, stopping these drugs creates an intense craving and physical discomfort. Medically supervised residential care is still recommended (Margolis & Zweben, 2011).

Differential Diagnosis

DSM-5 includes a section on page 496 regarding differential diagnosis. The book indicates that the symptoms of AUD are similar to those seen in individuals addicted to sedatives, hypnotics, or anxiolytics. Furthermore, individuals with antisocial personality and pre-existing conduct disorder also have AUD in most cases.

Wennberg, Bergman, and Berglund (2014) noted that alcohol problems are not a homogeneous syndrome. Their instrument, called the AVI-R2, is intended to help provide a differentiated diagnosis of alcohol problems.

Individuals who abuse alcohol often experience symptoms of anxiety and depression. Liappas, Paparrigopoulos, Tzavellas, and Christodoulou (2002) studied 28 individuals with AUD in Greece. They found that, following detoxification, all measures of psychopathology were substantially reduced. Consequently, it is important for counselors to distinguish between AUD and the psychological or psychiatric symptoms that it and other drugs may be creating within clients.

Comorbidity and Co-Addictions

Co-occurring disorders are the norm rather than the exception in individuals with an SUD including alcohol, and the relationship is bidirectional. Those with an SUD are likely to have a psychiatric disorder, and those with psychiatric disorders are likely to abuse substances (Margolis & Zweben, 2011). DSM-5 indicated that individuals with bipolar disorders, schizophrenia, or antisocial personality disorder have a markedly increased rate of AUD. Several anxiety and depressive disorders are also related to AUDs. AUD is comorbid with nicotine addiction and addiction to various other drugs (Milkman & Sunderwirth, 2010; Verplaetse & McKee, 2017). Furthermore, AUDs co-occur with gambling and other behavioral addictions (Maté, 2008). Individuals with posttraumatic stress disorder (PTSD) are more likely to become dependent on alcohol (Dworkin, Wanklyn, Stasiewicz, & Coffey, 2018). Individuals with ADHD or borderline personality disorder are more likely to develop an AUD (Margolis & Zweben, 2011).

Interaction effects are also important to note with AUDs. For example, mixing alcohol with barbiturates has an interaction effect that is several times stronger than either drug used alone at the same dosage, and this can be lethal (Brooks & McHenry, 2009). Most past-year drinkers consume only alcohol. Those who use other drugs are more likely to be male, younger, never or previously married, with lower income and education (Saha et al., 2018).

Available Measures

Hagman (2017) created a 13-item questionnaire that has demonstrated reliability and validity. It is called the Brief 13-Item DSM-5 Assessment (found in the Appendix of his article).

Connors, DiClemente, Velasquez, and Donovan (2013) suggested several websites where counselors can obtain many SUD questionnaires. Sites included the HABITS Lab at the University of Maryland, Baltimore County (<https://habitslab.umbc.edu/>); the Center on Alcoholism, Substance Abuse, and Addictions at the University of New Mexico (casaa.unm.edu); the Substance Use Screening and Assessment Instruments Database at the Alcohol and Drug Abuse Institute at the University of Washington (lib.adai.washington.edu/instruments); and the Healthy Lifestyles Guided Self-Change Program at Nova Southeastern Universities (NSU) Psychology Services Center (<http://www.nova.edu/gsc/index.html>). NIAAA also provides a free download of their publication called *Assessing Alcohol Problems: A Guide for Clinicians and Researchers* (2nd ed.; from <https://pubs.niaaa.nih.gov/publications/AssessingAlcohol/index.htm>).

National Institute on Drug Abuse (NIDA) provides several screening instruments, and they are available for free at <https://www.drugabuse.gov/nidamed-medical-health-professionals/tool-resources-your-practice/additional-screening-resources>

American Society of Addiction Medicine (ASAM) also provides several screening instruments. These are available at <https://www.asam.org/education/live-online-cme/fundamentals-of-addiction-medicine/additional-resources/screening-assessment-for-substance-use-disorders/screening-assessment-tools>

Chao and Ashraf (2016) reviewed several instruments including the CAGE, Alcohol Use Disorders Identification Test (AUDIT), and SMAST (Short Michigan Alcoholism Screening Test). They stated that the U.S. Preventive Services Task Force

recommended that all clients who are 18 years or older be screened for AUD and that they recommended the use of the CAGE. If the CAGE score is 2 or higher, it should be followed by the AUDIT. The following are a few selected questionnaires (note that there are many available):

1. CAGE Questionnaire (Ewing, 1984). The CAGE is comprised of only four questions, and it is a popular screening instrument for alcohol use problems. The four questions are as follows:
 - A. Have you ever felt a need to **C**ut down on your drinking? (C)
 - B. Have people **A**nnoyed you by criticizing your drinking? (A)
 - C. Have you ever felt bad or **G**uilty about your drinking? (G)
 - D. Have you ever had a drink first thing in the morning to steady your nerves to get rid of a hangover (**E**ye-opener)? (E)

A self-scoring version is available (unnecessary, however, as each “Yes” scores as 1 point) from <https://patient.info/doctor/CAGE-Questionnaire> and other sources.

2. TWEAK (Russell et al., 1994). Rastegar and Fingerhood (2016) suggested that the TWEAK questionnaire might be more useful for women than the CAGE questionnaire. TWEAK is also an acronym, and the questions are as follows:
 - A. (**T** = Tolerance). How many drinks can you hold? **O**R How many drinks do you need to feel high?
 - B. (**W** = Worried). Have close friends or relatives worried or complained about your drinking in the past year?
 - C. (**E** = Eye-openers). Do you sometimes take a drink in the morning when you first get up?
 - D. (**A** = Amnesia/blackouts). Has a friend or family member ever told you about things you said or did while you were drinking that you could not remember?
 - E. (**K**[C] = Cut Down). Do you sometimes feel the need to cut down on your drinking?

The test is scored on a 7-point scale. Questions 1 and 2 are scored either 1 or 2. For question 1, a tolerance-hold question scores 2 points if the respondent can hold 6 or more drinks. The tolerance-high question scores 2 points if three or more drinks are needed to feel high. For question 2, the respondent receives 2 points for a “yes” answer. A total score of 2 or higher indicates that clients are likely to be risk drinkers. A score of 3 or higher identifies harmful drinking or AUD (adapted from Rastegar & Fingerhood, 2016, p. 483).

3. CRAFFT. The CRAFFT can be used with children and teenagers under the age of 21. It is recommended by the American Academy of Pediatrics Committee on Substance Abuse for use with adolescents. Two or more positive items suggest the need for further assessment. Here are the six questions:

- A. Have you ever ridden in a **C**AR driven by someone (including yourself) who was “high” or had been using alcohol or drugs? (C)
 - B. Do you ever use alcohol or drugs to **R**ELAX, feel better about yourself, or fit in? (R)
 - C. Do you ever use alcohol/drugs while you are by yourself, **A**LONE? (A)
 - D. Do you ever **F**ORGET things you did while using alcohol or drugs? (F)
 - E. Do your family or **F**RIENDS ever tell you that you should cut down on your drinking or drug use? (F)
 - F. Have you gotten into **T**ROUBLE while you were using alcohol or drugs? (T)
4. Alcohol Use Disorders Identification Test (AUDIT). This is a 10-item paper-and-pencil test that was developed by the World Health Organization. Hagman (2016) found that it offered reasonable diagnostic proficiency when a score of greater than 8 and greater than 9 was used for females and males in college, respectively. A self-scoring version of the instrument is available from <https://patient.info/doctor/alcohol-use-disorders-identification-test-audit>
 5. Substance Abuse Subtle Screening Inventory (SASSI). According to their website (<https://www.sassi.com/>), the SASSI is a brief psychological questionnaire, available in both adult and adolescent versions, that can identify people with an SUD with a high degree of accuracy. There is a fee for this instrument. When I attended an addictions session at the American Counseling Association conference in 2017, several participants said that they used this questionnaire. It’s reported empirically tested accuracy is between 93% and 94% (according to https://pubs.niaaa.nih.gov/publications/AssessingAlcohol/InstrumentPDFs/66_SASSI.pdf).
 6. Alcohol Use Inventory (AUI; Horn, Wanberg, & Foster, 1986). The AUI is a 228-item multiple-choice questionnaire. It is easy to administer and score. Scores are compared to a clinical sample of people hospitalized for severe alcohol dependency.
 7. Addiction Severity Index (ASI; McLellan, Luborsky, Woody, & O’Brien, 1980). The ASI is a commonly used semistructured interview that addresses seven potential problem areas in substance-abusing patients. It takes about 1 hour with a skilled interviewer. The ASI is currently in its sixth version (ASI-6), and the ASI-MV (ASI-Multimedia Version) is the electronic version of it. The advantage of the ASI-MV is that it is administered by the client and it can be completed in a counseling setting or remotely, whereas the paper-and-pencil versions require a trained interviewer to administer (see https://www.hazelden.org/web/public/asimv_main.page for details). Hazelden Publishing also markets the Behavioral Health Index-Multimedia Version (BHI-MV), which overviews client functioning in several key life areas. Hazelden can be contacted by calling 800-328-9000. Denis, Cacciola, and Alterman (2013) compared ASI-6 with ASI-5 and found ASI-6 to cover more comprehensive content in its scales.

ASI-5 is available for free from http://ada1.washington.edu/instruments/pdf/Addiction_Severity_Index_Baseline_Followup_4.pdf

A free treatment planning manual based on this index is available from <http://jpwpl.moe.gov.my/download/phocadownload/terkini/2014/sppk/ucd/BahanLDPCOMBATDAPS/asi%20manual.pdf>

8. Michigan Alcoholism Screening Test (MAST; Selzer, 1971). The original test was 25 items. There are seven shorter versions available. The MAST is a commonly used self-report screening instrument and is ranked as the 41st most frequently used assessment instrument by professional counselors (Minnich, Erford, Bardhoshi, & Atalay, 2018). In their review of the instrument, Minnich et al. (2018) concluded that the MAST has good psychometric properties but cautioned that the cutoff score of 5 tends to overidentify men and underidentify

women with AUDs. A revised, 22-item version is available with online scoring from both <https://counsellingresource.com/quizzes/drug-testing/alcohol-mast/> and <https://www.the-alcoholism-guide.org/michigan-alcoholism-screening-test.html>

9. Alcohol Dependence Scale (ADS). The ADS is a 25-item test that is widely used in both research and in practice. Although the printed instructions suggest using the ADS over the past 12-month period, one can alter the instructions to use it as an outcome measure at selected intervals following treatment. Studies have found the ADS to be both reliable and valid. The test is available from http://www.emcdda.europa.eu/attachements.cfm/att_4075_EN_tads.pdf. More information about the test is available from https://pubs.niaaa.nih.gov/publications/AssessingAlcohol/InstrumentPDFs/10_ADS.pdf

HOW LIKELY IS YOUR CLIENT TO BE SUCCESSFUL AT ACHIEVING MODERATE DRINKING?

Most drinkers would prefer to learn to moderate their drinking instead of needing to become forever abstinent. In their book, *Controlling Your Drinking*, Miller and Munoz (2013) followed up drinkers over a period of up to 8 years, comparing those who had maintained moderate drinking with those who

became abstinent. They used the MAST and the ADS as measurements. Here is what they found (these two tables can be used to determine the likelihood that a drinker can successfully achieve moderation):

MAST SCORES AND MODERATION

People who scored in this range on the MAST . . .	Showed these outcomes with regard to abstinence and moderation
Low 0–10	These people were the most likely to moderate their drinking with few or no problems. They were less likely to stop drinking altogether, although one in six did ultimately decide to quit.
Medium 11–18	People in this group were about equally likely to abstain or to attain moderate and problem-free drinking. Others in this group reduced their drinking substantially but continued to experience some problems.
High 19–28	This group was most likely to become completely abstinent. Only one in 12 maintained moderate and problem-free drinking. Most who overcame their drinking problems did so by stopping completely.
Very high 29 or higher	These people had the most difficulty. Everyone in this group who overcame his or her drinking problems did so by abstaining. In our studies, no one with a score this high has ever succeeded in maintaining problem-free moderation.

ADS SCORES AND MODERATION

People who scored in this range on the ADS . . .	Showed these outcomes with regard to abstinence and moderation
Low 0–14	These people were the most likely to moderate their drinking with few or no problems. They were less likely to stop drinking altogether, although one in 12 did ultimately decide to quit.

People who scored in this range on the ADS . . .	Showed these outcomes with regard to abstinence and moderation
Medium 15–20	People in this group were about equally likely to abstain or to attain moderate and problem-free drinking. Others reduced their drinking substantially but continued to experience some problems.
High 21–27	People in this group were about twice as likely to abstain as to maintain problem-free moderation. Only one in five maintained moderate and problem-free drinking.
Very high 28 or higher	Everyone in this group who overcame his or her drinking problems did so by abstaining. In our studies, no one with a score this high ever succeeded in maintaining problem-free moderation.

From Miller, W. R., & Munoz, R. F. (2013). *Controlling your drinking, second edition: Tools to make moderation work for you* (2nd ed.). New York, NY Guilford Press. Both charts used with permission.

Clinical Interview Questions

Edelman, Oldfield, and Tetrault (2018) noted that NIAAA recommended that practitioners screen for unhealthy alcohol use with just one question: “How many times in the past year have you had five or more drinks in a day (for men) or four or more drinks in a day (for women)?” (the NIAAA screening guide is available from <https://pubs.niaaa.nih.gov/publications/Practitioner/PocketGuide/pocket.pdf>). Asking the four questions of the CAGE for men or the TWEAK for women (see the previous section) is also a great starting place to assess for a possible AUD. The NIAAA (2003) recommended that counselors ask three, four, five, or six questions (each question adds a little more information) regarding drinking. Their question sets act as a flowchart. Please visit <https://www.niaaa.nih.gov/research/guidelines-and-resources/recommended-alcohol-questions> for details.

NIAAA (2011) recommended a two-question screening process to identify adolescents at risk for AUD. Their intervention and practitioner’s guide is available at no cost (see reference at the end of the chapter). The question format changes somewhat depending on the age of the child. “Research indicates that the two age-specific screening questions (about friends’ and patient’s drinking) are powerful predictors of current and future alcohol problems in youth” (NIAAA, 2011, p. 8).

Brooks and McHenry (2009, beginning on p. 144) suggested that counselors should ask themselves the following questions to help ascertain important aspects of addiction:

1. Where is the addiction in the family?
2. Who is most affected by the addiction?
3. Is it really addiction?
4. In what phase is the drinking/drugging behavior?
5. What phase is the family in?
6. What phase of the life cycle is the individual with AUD in?
7. What does the family think about the addiction?
8. What solutions have the family already attempted?

9. What does the secrecy map look like?
10. What is the family history of addiction?
11. What patterns of over- and under-responsibility exist?
12. How is the power structure perceived in the family?

Generic Names and Street “Lingo”

Other names for alcohol include ethyl alcohol, ethanol, hard alcohol, liquor, spirits, intoxicants, adult beverage, booze, hooch, gut rot, rotgut, moonshine, the bottle, juice, sauce, liquid courage, hard stuff, brew, brewski, draft, suds, sixer, cold one, liquid bread, oats soda, tummy buster, 12-ounce curl, giggle juice, giggle water, vino, and redneck wine. Several other names are arguably less common.

Alcohol addiction is most commonly referred to as *alcoholism*. Other names for it include alcohol dependence and AUD. Throughout this chapter, AUD will be used in most instances because it is the diagnostic term used in DSM-5.

Neuroscience

Harris and Koob (2017) noted in their editorial that, over the past few years, a profound amount of research has occurred regarding AUD. Most notably, this is being evidenced in the integration of human research and neuroscience in the three areas of bingeing/intoxication, withdrawal and negative affect and preoccupation/anticipation.

Research suggests that between 48% and 66% of alcohol dependence is heritable (Mistral, 2016b). However, identifying the precise neurobiological mechanisms or the individual gene contributions underlying addictive disorders has remained unsuccessful (Mistral, 2016b; Sachs & Dodson, 2017). What is clear is that people do not directly inherit AUD (Maté, 2008).

Alcohol negatively affects nearly every human organ system and its effects on the brain are profound (Merlo, 2012). Heilig (2015) stated that addiction is “a malfunction of some of the most fundamental brain circuits that make us tick” (p. 8). Substance-related deficits occur in frontal lobe functioning, which in turn create problems with impulse control, delay of gratification, memory,

decision-making/reasoning, and planning. Together, these affect the ability to evaluate and cope with stressors rationally. Behavior is also impacted (Merlo, 2012).

Among the addictive drugs, alcohol is unique in that it does not bind with a high degree of affinity to any specific receptor or transporter (in contrast to drugs like opioids or stimulants). This explains why brain levels of alcohol need to be much higher than other addictive drugs to become psychoactive (Heilig & Spanagel, 2015).

Activation of the dopamine system occurs through all kinds of reinforcers in both animals and humans. In humans, for example, research has demonstrated that social attractiveness, sex, orgasm, and classical music in musicians can increase activity in the nucleus accumbens (Spanagel, Zink, & Sommer, 2013). Referring to alcohol, both the opioid and dopamine systems are affected, including the brain systems associated with dopamine release (e.g., ventral striatum, orbitofrontal cortex; Gearhardt & Corbin, 2012).

Alcohol cannot activate dopamine transmission nearly to the same extent as cocaine or amphetamine. At the same time, alcohol-induced activation of the nucleus accumbens becomes lower as alcohol problems worsen. Unsurprisingly, individuals with AUD report that the high they used to receive from alcohol diminishes through the course of their addiction (Heilig, 2015).

Besides dopamine, alcohol also affects the endorphin and the endocannabinoid systems (Heilig & Spanagel, 2015). The acute effects of alcohol result from its action on glutamatergic, GABAergic, and glycine-binding receptors in the brain. The effect of alcohol on these receptors creates central nervous system suppression. The rewarding properties of alcohol are believed to result from the release of endogenous opioids (Heilig & Spanagel, 2015).

The effect of alcohol varies among individuals. For example, genetic polymorphisms can lead to altered enzyme activity, which in turn leads to the slow elimination of acetaldehyde, which is toxic. About 10% of the Japanese population cannot tolerate alcohol, so, naturally, they are almost never diagnosed with alcohol addiction. The allele responsible for this is carried by around 50% of East Asian populations but is practically absent in White individuals (Spanagel et al., 2013).

AUD occurs because of complex interactions between an individual's genetic makeup and environmental interactions (Sagarkar & Sakharkar, 2017). As AUD develops, stress-related systems become dysregulated. Endocrine stress responses occur as the hypothalamus-pituitary-adrenocortical axis becomes involved. Several neurobiological systems become affected by alcohol (Heilig & Spanagel, 2015). Esel and Dinc (2017) concluded that the neurobiological changes that occur from occasional alcohol use to AUD result from the (a) downregulation of both the dopamine and gamma-aminobutyric acid systems, (2) upregulation of the glutamine system permanently, and (c) dysregulation of the stress systems (i.e., serotonin and corticotropin-releasing hormone). Norepinephrine has also been studied over the past few decades regarding its role in the development of AUD (Haass-Koffler, Swift, & Leggio, 2018).

Once AUD has developed, there is evidence that widespread morphological gray matter abnormalities occur, particularly in the prefrontal cortex (Groppe et al., 2016; Zhu et al., 2018). Alcohol dependence is also associated with "aberrant regional activities in multiple brain areas" (Tu, Wang, Liu, & Zheng, 2018, p. 847). Repetitive binge drinking might also produce long-lasting changes in neuroplasticity, which in turn contribute to the development of alcohol dependence (Loheswaran et al., 2016).

Physical Impacts (Long-Term Use)

"The clinical picture of alcohol is different for everyone, but there are consistent themes based on the pathophysiology of alcohol" (Johnson & Marzani-Nissen, 2012, p. 381). Many organ systems of the body may (but not necessarily) be affected by alcohol consumption. Some of the diseases that may result include anemia, gastritis, ulcers, and gastroesophageal reflux disease (GRD). Having a long history of GRD can lead to Barrett's esophagus, which is a well-known precursor lesion for esophageal cancer. Heavy drinking can also lead to esophageal tears, which can be life-threatening medical emergencies (Johnson & Marzani-Nissen, 2012).

AUD can also lead to pancreatitis, pancreatic cancer, and type II diabetes (in rare instances, type I diabetes). Head, neck, and liver cancers are associated with chronic and excessive alcohol use. Alcohol-related fatty liver disease and obesity are associated with advancement to cirrhosis. In the United States, approximately 33% of cases of cirrhosis are attributable to alcohol consumption. Both Alzheimer's or multi-infarct dementia can be caused or worsened by alcohol. Heavy drinking can lead to hypertension, cardiac arrhythmias, dilated cardiomyopathy, and stroke (Johnson & Marzani-Nissen, 2012; Rastegar & Fingerhood, 2016).

Alcohol suppresses the immune system, so heavy use of alcohol leads to increased likelihood of developing bacterial pneumonia, pulmonary tuberculosis, and HIV infection (Johnson & Marzani-Nissen, 2012; O'Halloran et al., 2016; Oldenburg et al., 2016). Alcoholic hepatitis (AH) is a major cause of hospitalization and mortality. Complications associated with AH have worsened in the United States, and drug therapy remains suboptimal (Nguyen, DeShazo, Thacker, Puri, & Sanyal, 2016).

Gout is associated with chronic excessive alcohol consumption (Johnson & Marzani-Nissen, 2012). Sleep problems are a common complaint of individuals with AUD (Chakravorty, Chaudhary, & Brower, 2016).

Brain damage can occur from long-term excessive consumption of alcohol (Lewis, 2015). Wernicke encephalopathy (WE) is caused by thiamine (vitamin B1) deficiency and is usually diagnosed by a cluster of three symptoms: gait ataxia, characteristic eye motions called *oculomotor abnormalities*, and global confusion. WE is not just found in individuals with AUD but also in those who are malnourished or are undergoing renal dialysis (Johnson & Marzani-Nissen, 2012). Korsakoff's syndrome (KS) is believed to be a residual disorder that develops in individuals who have WE. Individuals with KS experience "anterograde and retrograde amnesia, executive dysfunction, confabulation, apathy, as well as affective and social-cognitive impairments" (Arts, Walvoort, & Kessels, 2017, p. 2875). In their critical review, Arts et al. (2017) concluded that there is no convincing evidence that there is a progression from WE to KS, however. Nonetheless, those with WE tend to acquire KS (Johnson & Marzani-Nissen, 2012).

Women are at higher risk of developing some physical disorders from chronic excessive alcohol consumption. This includes liver disease, heart disease, muscle disease, brain damage, and mortality (Agabio, Campesi, Pisanu, Gessa, & Franconi, 2016).

Of all the drugs that are abused by women, alcohol is the most harmful to the fetus (Rastegar & Fingerhood, 2016). Pregnant women who drink might deliver babies who have fetal alcohol spectrum disorder, which includes fetal alcohol syndrome (Johnson & Marzani-Nissen, 2012). Several American medical groups (e.g., Centers for Disease Control and Prevention, U.S. Surgeon

General) have issued statements that no amount of alcohol can be safely consumed during pregnancy (Chao & Ashraf, 2016). Prenatal exposure to alcohol is the leading cause of intellectual disability in the United States (Chao & Ashraf, 2016).

Males with AUD are much more likely to experience permanent impotence compared with males who do not have AUD (O'Farrell, Kleinke, & Cutter, 1998). Men who drink are also more likely than women to develop atrial fibrillation (Rastegar & Fingerhood, 2016).

Besides the increased rate of the previous diseases that occur in individuals with chronic AUD, there is, of course, an increased likelihood of mortality from vehicular accidents, self-harm, and violence (Agardh et al., 2016; Rastegar & Fingerhood, 2016). Of those between ages 15 and 24, 46% of deaths are caused by alcohol-related accidents (Milkman & Sunderwirth, 2010). Overall, alcohol causes a higher death rate than all illegal drugs combined in the United States (Milkman & Sunderwirth, 2010).

Withdrawal symptoms from any drug, including alcohol, tend to be a mirror image of the acute effects caused by that drug. A hangover, for example, often results in anxiety, shakiness, insomnia, and other symptoms caused by the nervous system re-creating homeostasis following consumption of a depressant (Heilig, 2015).

Withdrawal from alcohol *dependence*, however, is a whole different matter and needs to be medically monitored. Chao and Ashraf (2016) included directives on how to recognize withdrawal. They wrote that alcohol withdrawal begins 6–48 hours after the last drink, generally peaking after 24 hours. Withdrawal symptoms include tremulousness, profuse sweating, insomnia, increased blood pressure and heart rate, nausea/vomiting, loss of appetite, headache, anxiety, and irritability. Chao and Ashraf suggested using the Clinical Institute Withdrawal Assessment for Alcohol Scale, Revised (CIWA-Ar; Sullivan, Sykora, Schneiderman, Naranjo, & Sellers, 1989). The scale is available for free and scored online at <https://www.merckmanuals.com/medical-calculators/CIWA.htm>

Seizures occur in about 3% of those who are physically dependent on alcohol, occurring 12–48 hours following the last drink. Delirium tremens (DTs) occur in about 5% of physically dependent individuals, occurring within 48–72 hours after the last drink (Chao & Ashraf, 2016). DTs are characterized by delirium, tremors, autonomic instability (e.g., fever, tachycardia, high blood pressure), agitation or stupor, and tactile and/or visual hallucinations. Without treatment, DTs incur about a 20% mortality rate (Chao & Ashraf, 2016). The treatment of choice for DTs are benzodiazepines administered at very high doses to achieve sedation (Rastegar & Fingerhood, 2016).

The HAMS Harm Reduction Network (2015) estimated the likelihood of an individual with AUD going through life-threatening withdrawal. They wrote that an individual will not go through withdrawal if they have never drunk for 2 days in a row. They estimated that a woman of average weight having six standard drinks a day every day for a month would have a 50-50 chance of experiencing minor withdrawal that will not likely be life-threatening (the equivalent for men of average weight will be eight standard drinks a day for a month). If the same woman had been drinking 11 standard drinks a day for a month, the risk increases to 50-50 for going through major life-threatening withdrawal (the equivalent for men of average weight will be 13 standard drinks a day for a month). There remains little chance of withdrawal for anyone who has been drinking less than 3 days in a row. Although the chart available at <http://hams.cc/odds/> is a helpful indicator, the author makes clear

that these are ballpark guesstimates as the type of experiments needed to test this empirically would not pass ethics review boards.

Mental, Emotional, and Spiritual Impacts

One of the most important traits linked to alcohol-related problems/dependence is negative urgency, which is the impulsive risk-taking that occurs during times of experiencing extremely negative emotional states (VanderVeen et al., 2016). Alcohol use itself is associated with increases in impulsivity (Trull, Wycoff, Lane, Carpenter, & Brown, 2016). A vicious cycle is further perpetuated by the fact that alcohol can create negative emotional states, thus leading to further alcohol consumption.

As Milkman and Sunderwirth (2010) explained, beneath the surface of an individual with chronic AUD who might appear to be “happy-go-lucky” is a person who suffers from deep feelings of worthlessness and despair. Maté (2008) noted that individuals with all addictions (substances and behavioral) experience cravings and shame. Drinking lowers inhibitions, which means that the perception of what constitutes appropriate behavior is affected. Inappropriate behaviors (verbal and physical) engaged in while intoxicated can lead to further shame, guilt, and worry.

When individuals with AUD are intoxicated, they may switch between bouts of crying and hysteria to anger, followed by verbal or physical abuse. Their moods are highly erratic and often unpredictable. When they try to stop drinking, they feel anxious and depressed. Alcohol can exacerbate existing problems with depression, irritability, and anxiety/uncontrollable worry (Pape & Norstrom, 2016). Alcohol problems are also associated with suicidal ideation, and this link has been recently replicated in Alaskan undergraduates (DeCou & Skewes, 2016).

Low sodium levels in blood plasma is a common electrolyte disturbance that occurs in individuals with AUD. Michal et al. (2016) found that individuals with AUD who have the lowest concentration of sodium in their blood also experienced the worst mental health, impulsivity, and neuroticism compared to those with less-severe electrolyte imbalance.

Following withdrawal from alcohol, negative affects often continue for several weeks. Fatigue and tension often persist for up to 5 weeks, anxiety up to 9 months, and, in approximately 20%–25% of individuals with AUD, anxiety and depression continue for up to 2 years postwithdrawal (Mason & Higley, 2012).

Nakash, Nagar, Barker, and Lotan (2016) conducted a study on 110 young men who identified as either Orthodox or secular Jews. The Orthodox participants drank less alcohol and reported fewer alcohol cravings compared to the secular group. They also found that religion provided a sense of meaning, which the authors concluded was a protective factor against alcohol craving. Furthermore, a factor associated with a religious lifestyle (i.e., low exposure to mass media) was also concluded to serve as a protective factor for alcohol use and craving.

Ransome and Gilman (2016) analyzed data from Wave 2 of the NESARC ($N = 26,784$) and concluded that attending religious services, religiosity, and spirituality acted as protective factors against developing AUDs. Chartier et al. (2016) arrived at similar conclusions in their study of African-American, European-American, and Hispanic American adults ($N = 7716$; 53% female). Religious involvement was negatively associated with the number of lifetime alcohol addiction symptoms and the maximum number of drinks consumed.

Psychosocial Impacts (Relationships, Career/Work, Legal, Financial)

“Alcoholism is a chronic disease that negatively affects family relationships” (de Oliveira Manguieira & de Oliveira Lopes, 2016, p. 2401). For example, rates of separation and divorce are up to seven times higher than the general population. Spousal violence occurs at a higher rate for both men and women with AUDs. The children and spouses of individuals with AUD are more likely to experience emotional and behavioral problems (McCrary, 2014). The individual with AUD in the family is often disrespected and seen as untrustworthy, unreliable, and unworthy. Family members may be forced to “tiptoe” around the house, afraid of unintentionally provoking the individual with AUD.

Some individuals with AUD will drink when they’re alone or in secret. This may include hiding alcohol in unusual places with the hope that others will not find their stash. The individual with AUD may also begin losing interest in other activities and either become socially isolated or begin to pull back from others who do not drink. Either way, AUD creates substantial social consequences.

AUDs can impact many areas of peoples’ lives such as their socioeconomic status and employment (Nehring, 2018). Besides the cost to the individuals with AUD themselves, the cost to society is substantial in areas, including “violence, criminality, accidents, workplace, education, early exposure, social benefits, early retirement, and mortality” (Morales & Becker, 2017, p. 393).

Individuals with AUD may experience problems with the legal system due to driving under the influence (DUI), involvement with the child welfare system, drug-related charges, and alcohol-related offenses such as assault (McCrary, 2014). Voas, Tippetts, Bergen, Grosz, and Marques (2016) looked at that those DUI offenders who had ignition interlock devices (i.e., a breath alcohol ignition device that acts as a breathalyzer inside an individual’s vehicle) installed in their vehicles. If offenders attempted to drive their vehicle while intoxicated on three occasions, they were required to enter treatment. Voas et al. concluded that the program was effective as it resulted in one third lower DUI recidivism following the mandatory treatment program.

The children of individuals with AUD (CoAs) are also affected. The published literature regarding CoAs is voluminous: Keller, Gilbert, Haak, and Bi (2017) mentioned that there are thousands of studies on this topic. The most studied outcome for CoAs is their substantially increased risk for developing drinking problems themselves with a recent meta-analysis suggesting a small to moderate relationship. CoAs are at higher risk of developing problems with general drug abuse and dependence. They are more likely to experience externalizing problems, ADHD, oppositional defiant disorder, conduct disorder, and antisocial behavior. They also experience a higher incidence of internalizing symptoms such as low self-esteem, loneliness, behavioral inhibition, feelings of shame and guilt, PTSD, depression, suicidality, and numerous other anxiety disorders (Keller et al., 2017). Approximately one in four children in the United States has grown up in a family dealing with AUD or dependence (Brooks & McHenry, 2009).

Working with Diverse Populations

Sex Differences

“Substance use and abuse [is] ‘almost inevitable’ for women and girls coping with abusive experiences” (Milkman & Sunderwirth, 2010, p. 106).

In the book, *Lady Lushes*, McClellan (2017), a medical historian, used several sources to demonstrate the belief that using alcohol was antithetical to having an idealized feminine role, thereby bringing substantial stigma to females with AUD from the late 19th through the 20th century. Despite this stigma, women also develop AUDs (Anthenelli et al., 2018).

Anthenelli et al. (2018) examined some of the neuroscience underlying these differences. They found differences between women and men in their serotonergic and peripheral mechanisms that mediate stressor-specific endocrine responses, regardless of alcohol dependence history. Salvatore, Cho, and Dick (2017) found in their review of evidence that, although there are substantial sex differences for many alcohol outcomes, most evidence suggests that the source and extent of genetic influences on both alcohol consumption and AUDs are the same across sexes.

Windle (2016) found that 8th-grade females reported more alcohol use and AUDs compared to boys in the past 30 days and past year. Although alcohol use by the sexes converged by 10th grade, more males by 12th grade reported binge drinking in the past 2 weeks and being drunk in the past year compared with females.

The gap between the sexes has been narrowing in recent decades regarding the prevalence of AUDs, especially among adolescents (Agabio et al., 2016). Overall, analyses of 16 surveys from 10 countries found that males and females are similar in their likelihood of being a current drinker (Wilsnack, Vogelantz, Wilsnack, & Harris, 2000). Although women are more likely to drink alcohol because of stress and negative emotions, men are more likely to drink to enhance positive emotions (Agabio et al., 2016).

Erol and Karpyak (2015) reviewed the research found in several databases and concluded that more women than men are lifetime abstainers, they drink less, and they are less likely to engage in problem drinking or develop alcohol-related disorders. For women who drink excessively, however, they are more likely to develop medical problems compared with men. In a study of emergency department data from 18 countries ($N = 14,026$), injuries attributable to alcohol were higher for males than females, as were injuries resulting from violence (Cherpitel et al., 2015). Women, on average, constitute about 30% of admissions into treatment for a substance abuse disorder (Grella, 2013). A cohort of 850 outpatients (19% women) was followed up prospectively 20 years later (Bravo, Gual, Lligona, & Colom, 2013). Bravo et al. (2013) found that the women did better while under treatment and achieved better long-term drinking outcomes as well.

The consistent sex differences that have been found include the following:

1. Males report drinking more frequently and in larger amounts.
2. Males have higher rates of heavy episodic drinking.

3. Males are more likely to develop behavioral problems in consequence of drinking.
4. Females tend to eliminate alcohol faster than males, although, because of having lower antidiuretic hormone levels, they initially have higher blood alcohol concentration.
5. Women are at higher risk than men for adverse medical and psychosocial consequences of substance use.
6. Women are more likely than men to have a primary mental health disorder that precedes the development of an AUD.
7. According to DSM-5, the 12-month prevalence of AUD in males is 17.6% and 10.4% for females.
8. Males have higher mortality from alcohol compared with females. Worldwide, 7.6% of male deaths and 4.0% of female deaths were due to alcohol in 2012 (Brady & Maria, 2015; Nehring, 2018; Nolen-Hoeksema, 2013; Salvatore et al., 2017).

In interviews with 189 individuals seeking alcohol detoxification (27% female), Stein et al. (2016) found that men were significantly more concerned than women about money, drug use, transmissible diseases, and physical illness. Krentzman (2017) conducted a study with 92 men and 65 women who entered abstinence-based treatment for drinking. She found that women scored higher for forgiveness of others but lower than men for negative religious coping (i.e., having an insecure relationship with a higher power and believing that higher power to be punishing).

Adolescents and Youth

Alcohol-related accidents constitute 46% of young adult deaths between ages 15 and 24 (Milkman & Sunderwirth, 2010). Although alcohol use among adolescents in the United States peaked in 1979, it has declined since then but remains the most used substance among teenagers (Morris et al., 2018). Furthermore, in their study of 24,445 youth (ages 12–20), Richter, Pugh, Peters, Vaughan, and Foster (2016) found that, on all measures of potentially risky drinking (PRD), underage drinkers exceeded the rates of PRD found in adults.

Rates of AUDs peak in late adolescence and decrease substantially into the mid-20s. Nonetheless, using data from the British Cohort Study ($N = 6515$), Percy and McKay (2015) found that alcohol consumption patterns established at age 16 remained consistent at least to age 26. Copeland et al. (2012) used prospective data on 1420 children who were followed into late adolescence and young adulthood. The researchers concluded that it was symptoms of alcohol abuse and not dependence that best predicted long-term continuance of alcohol problems. Research has also shown that self-reports of the amount of drug use, including alcohol, by adolescents are valid except in settings where it is not in their best interest to disclose (e.g., juvenile justice system; Margolis & Zweben, 2011).

Liang and Chikritzhs (2015) used data from Wave I, Wave III, and Wave IV of the National Longitudinal Study of Adolescent Health in the United States and looked at the age when young

people started drinking and the likelihood that they would be a heavy alcohol user in adulthood. Their sample included 2316 participants who were first tested in grade 7 (age 11 or 12), again in grade 12 (age 17 or 18), and again at the average age of 29. They found that, the younger the participants used alcohol (under age 18), the higher the risk of heavy alcohol use in adulthood. Regarding these findings, they recommended abstinence from alcohol until the age of 18 years as a strategy for reducing the risk of alcohol problems in adulthood. The researchers did not, however, factor in the influence of parental supervision of light drinking during childhood/adolescence.

Neurologically, adolescence is a period where critical structural and functional developments occur in the brain (Elofson, Gongvatana, & Carey, 2013; Silveri, 2012). Epigenetic factors exert an influence in linking the expression of genes with stress and external experiences during brain development (Guerrini, Quadri, & Thomson, 2014). In her review, Silveri (2012) concluded that adolescents' brains are vulnerable to the effects of alcohol. Heavy alcohol use in adolescence is associated with several deficits that may persist. Kaarre et al. (2018) found evidence that long-term alcohol use in adolescence, even when not meeting diagnostic criteria for an AUD, is related to changes in connectivity and cortical excitability. Other research found that grey matter volume was significantly smaller in several brain regions among a sample of 35 drinking young adults, ages 22–38, when compared to 27 control subjects (Heikkinen et al., 2017).

Grigsby, Forster, Unger, and Sussman (2016) reviewed 52 studies published between 1990 and 2015 to determine risk and protective factors of having negative consequences from alcohol among adolescents. They found that negative consequences were related to the following:

1. Intrapersonal factors (e.g., personality traits, depression, drinking motives).
2. Interpersonal factors (e.g., exposure to violence, usage by parents and peers).
3. Attitudinal factors (e.g., exposure to media advertising alcohol, religiosity).

Grigsby et al. concluded that all of these were risk factors for developing negative consequences from drinking, and they concluded that more research was needed regarding protective factors. Another study found that spending time with antisocial peers and siblings predicted a higher likelihood of heavy drinking and harm from alcohol for 13-year-olds ($N = 1833$) in Victoria, Australia (Kim et al., 2017). Treloar and Miranda (2017) studied frequent heavy drinkers aged 15–24 years (44 males, 42 females) and found that the degree to which youth report greater reductions in craving and tension while drinking relative to times when not drinking is linked with the severity of AUD (i.e., less craving and tension when drinking equals greater alcohol problems).

Poor sleep quality and psychiatric symptoms among college students are associated with heavy drinking patterns (Miller et al., 2017). Stressors during adolescence increase the risk for problematic alcohol use (Casement, Shaw, Sitnick, Musselman, & Forbes, 2015). Having an anxiety disorder is associated with developing alcohol problems in adolescence (Wolitzky-Taylor et al., 2015).

A prospective birth cohort study suggested that “problematic alcohol use in adolescence [age 16] predicts vulnerability to hypomanic or manic symptoms [at age 23]” (Fasteau, Mackay, Smith, & Meyer, 2017, p. 232).

Lee, Chassin, and Villalta (2013) used data from a longitudinal study of familial AUD to look at how some adolescent drinkers “mature out” of drinking in adulthood. Their analyses classified participants during late adolescence (ages 17–22), young adulthood (ages 23–28), and again in adulthood (ages 29–40). The researchers found that maturing out was most common among initial high-risk drinkers, but they did not typically become abstainers; instead, most became moderate-risk drinkers.

It is often believed that participation in sports will reduce the use of substances, including alcohol, consumed by adolescents. Veliz, Boyd, and McCabe (2015) used a large national sample of 8th- and 10th-grade students ($N = 21,049$) and found that adolescents who participated in high-contact sports (i.e., football, wrestling, hockey, and lacrosse) had a higher likelihood of using substances during the past 30 days and beginning substance use at earlier ages. Furthermore, adolescents who participated in noncontact sports (i.e., cross-country, gymnastics, swimming, tennis, track, and volleyball) had a lower probability of smoking cigarettes and marijuana during the past 30 days.

Race and Ethnicity

Caetano et al. (2015) analyzed data from the 2003–2011 National Violent Death Reporting System, which included 59,384 persons across U.S. ethnic groups who had committed suicide. The researchers found that the strongest determinant before suicide among *all* ethnic groups was the presence of an alcohol problem.

Luczak, Liang, and Wall (2017) compared 604 Chinese-, Korean-, and White-American college students regarding whether ethnicity and the ALDH2*2 variant allele moderated AUDs. The researchers found that being Chinese and Koreans with the ALDH2*2 allele were at lower risk for AUD symptoms. Asian Americans have a low prevalence rate of SUDs and AUD resulting from several biological, genetic, and environmental influences, some of which are related to the way in which they metabolize alcohol (Matsushita & Higuchi, 2017; Yalisove, 2010).

Bhala et al. (2016) assessed liver- and alcohol-related hospitalizations and deaths in Scotland between 2001 and 2010 using self-reported measures of ethnicity. The White Scottish population was the standard reference population. For all liver diseases, the Chinese had approximately 50% higher risks for men and women as did other South Asian men and Pakistani women. African-origin men, White British men and women, and other White women had lower risks for liver diseases. For alcohol-related deaths, White Irish men and mixed-background women had an almost twofold higher risk, whereas Pakistani and Chinese men and women had a lower risk.

Native Americans experience high rates of SUDs and multi-SUD (Enoch & Albaugh, 2017; Gilder, Stouffer, Lau, & Ehlers, 2016), including twice the expected rate of AUD compared to White individuals (Yalisove, 2010). They are also seven times more likely to die from AUD compared to the average American (Yalisove, 2010). PTSD and AUD are overrepresented in American Indians and Alaskan Natives (AIAN; Emerson, Moore,

& Caetano, 2017). Emerson et al. (2017) found that AIAN exposed to PTSD were more likely to experience AUD than non-Hispanic Whites and the general U.S. population. Nehring (2018) noted that Native Americans eliminate alcohol more quickly compared with European Americans.

White college students are more likely to drink at a higher frequency and quantity compared to African-American students (Wade & Peralta, 2017). Wade and Peralta (2017) found that African-American students were more likely to abstain and less likely to engage in heavy episodic drinking compared to their White counterparts.

American adults who report greater public religiosity are at lower risk for AUD. This may be particularly important for non-Hispanic Blacks, whereas intrinsic religiosity may be especially important for non-Hispanic Whites (Meyers, Brown, Grant, & Hasin, 2017). Non-Hispanic Blacks have lower-than-expected AUD risk compared with non-Hispanic Whites, despite experiencing greater stress, stressors, and socioeconomic disadvantage. Ransome and Gilman (2016) used data from Wave 2 of the NESARC ($N = 26,784$) and concluded that the difference between Black and White individuals is mostly the result of attending religious services, subjective religiosity, and spirituality.

Zapolski, Pedersen, McCarthy, and Smith (2014) noted the paradox that, although African Americans report later initiation of drinking and lower rates of use at almost all age levels compared to Whites, they have higher levels of alcohol problems compared to European Americans. Zapolski et al. suggested that the lower rates might be because African-American culture has norms against heavy drinking and intoxication. African Americans are also more likely to experience legal difficulties from drinking compared to European Americans, and this may lead to reduced consumption. Nonetheless, low-income African-American men appear to be at the highest risk for AUD and related problems.

Notwithstanding the previous report, Williams et al. (2016) stated that AUDs have worse consequences for racial/ethnic minority groups compared with Whites. In their study of veteran patients, Williams et al. found that the prevalence of AUDs was highest among Black men and women and lowest among White men and Hispanic women. Furthermore, employment disadvantages have a worse effect on minority groups regarding heavy drinking compared to Whites (Lo & Cheng, 2015).

Kerr and Greenfield (2015) analyzed data from 8553 respondents who drank alcohol and drove a car in the past year. In comparison to White drinkers, Black and Hispanic drinkers reported a higher number of standard drinks before perceiving that they were impaired. The researchers concluded that this might suggest that Black and Hispanic drinkers are more likely to underestimate reporting of impaired driving. Potentially, their findings also suggest that they may drive under a higher severity of impairment.

Levy, Catana, Durbin-Johnson, Halsted, and Medici (2015) reviewed the charts of 791 patients with alcoholic liver disease who were admitted or followed as outpatients at the University of California Davis Medical Center between 2002 and 2010. After controlling for several variables, they found that Hispanic patients presented 4–10 years earlier than White patients. The proportion of individuals presenting with severe alcoholic hepatitis was similar in Hispanic and White patients but lower in African-American patients.

Nonpsychiatric Disabilities

Most research has found that disabled individuals have a higher prevalence of an SUD compared to people without disabilities (Glazier & Kling, 2013). Glazier and King (2013) examined 9 years (i.e., 2002–2010) of nationally representative data from the National Survey on Drug Use and Health. They compared 316,746 individuals without disabilities to 20,904 people with disabilities and found that alcohol abuse (as defined by binge drinking, i.e., five or more drinks at one sitting) was lower for the disabled sample.

Alternatively, people with mild to borderline intellectual disabilities (i.e., IQ scores between 50 and 85) have a higher likelihood of developing AUD compared to individuals without intellectual disabilities (van Duijvenbode, Didden, Korzilius, Trentelman, & Engels, 2013). Those who have experienced traumatic head injuries or spinal cord injuries often experience higher rates of having an SUD than those with intellectual disabilities (Weiss, 2017). It has also been found that prisoners with intellectual disability are also more likely to have abused alcohol and other substances. In a study of 33 sentenced prisoners, McGillivray and Newton (2016) found that most reported a state of intoxication when committing their offense.

Mothers who drink during their pregnancy may birth children who experience fetal alcohol spectrum disorders (FASDs). Domeij et al. (2018) reviewed the results from 18 qualitative studies of individuals with FASD and found that these individuals experience a variety of disabilities “ranging from somatic problems, high pain tolerance, destructive behavior, hyperactivity, and aggressiveness, to social problems with friendship, school attendance, and maintenance of steady employment. . . . [they also] feel different from others” (p. 741). Individuals with FASD must learn to cope with a myriad of medical, cognitive, behavioral, and social deficits throughout their lives (Wilhoit, Scott, & Simecka, 2017).

Lesbian, Gay, Bisexual, and Transgender (LGBT)

Compared with their heterosexual counterparts, lesbian, gay, and bisexual (LGB) individuals are more likely to use and abuse alcohol (Allen & Mowbray, 2016). Allen and Mowbray (2016) used data from the National Epidemiologic Survey on Alcohol-Related Conditions. Their sample consisted of individuals who had disclosed an AUD at some point in their lifetime ($N = 10,874$ heterosexual, 182 gay or lesbian, and 126 bisexual individuals). Allen and Mowbray found that LGB individuals reported higher rates for AUD severity compared with the heterosexual individuals in the sample.

LGB individuals in a Canadian study reported that their lives were more stressful, they felt fewer links to a supportive community, and they experienced higher odds of having adverse mental health outcomes compared to the heterosexual respondents ($N = 222,548$; Pakula, Carpiano, Ratner, & Shoveller, 2016). Youth who experience same-sex attraction report higher prevalence of substance use (Bowring, Vella, Degenhardt, Hellard, & Lim, 2015). Bowring et al. (2015) noted that several studies have found that sexual identity, sexual behavior, and sexual attraction do not always correspond, especially with young people. Consequently,

researchers should not assume that these aspects of sexuality are consistent within individuals.

In another study, it was found that discrimination based on sexual orientation was associated with AUDs, especially among bisexuals, Hispanics, and less-educated sexual minority adults (Slater, Godette, Huang, Ruan, & Kerridge, 2017). In most studies, the highest rates of substance use are found among bisexual individuals (Parnes, Rahm-Knigge, & Conner, 2017).

Transgender individuals also experience a high prevalence of hazardous drinking. A review of 44 studies found, however, that the estimates varied widely across studies. Many of the studies were found to be methodologically weak, and few attempts were made to separate sex and gender (Gilbert, Pass, Keuroghlian, Greenfield, & Reischer, 2018).

War Veterans

Combat has always had negative effects on enlisted personnel, but it remains uncertain if these sequelae have varied historically. For example, Frueh and Smith (2012) estimated the rates of suicide, AUD, and probable psychiatric illness within Union Forces during the U.S. Civil War. Suicide rates ranged from 8.74 to 14.54 per 100,000 during the war and then surged to 30.4 the year following the war. The rate for African-Americans ranged from 17.7 in the first year that they entered the war (1863) to 0 in their second year, followed by 1.8 in the year following the war. Back then, rates for chronic AUD were extremely low (<1.0%) by today's standards.

McNally (2012) commented on the research by Frueh and Smith (2012), and, interestingly, very low rates of mental disorders were found, and there was no reported syndrome comparable to what we now call PTSD. McNally offered two reasons for this. First, the proportion of soldiers who served in combat roles was 90% during the Civil War, whereas it was 30% during World War II and 15% during the Vietnam War. Second, the death rate during the Civil War from combat and disease was very high (higher than in World War II and the Vietnam War). The explanation that McNally offered was that, during the Civil War, military doctors were very reluctant to call a soldier psychologically unfit for duty. Consequently, what might have been called malingering may have been a true psychiatric illness. The other possibility was that the doctors were treating soldiers facing severe physical injuries and they may have failed to record mental disorders.

What is clear today is that American military personnel and veterans have a higher likelihood of abusing alcohol in general compared to Americans who have not served (Allen, Crawford, & Kudler, 2016; Walker et al., 2017). Veterans of the wars in Afghanistan and Iraq are more likely to drink excessively and to meet criteria for PTSD and major depressive disorder (Cadigan, Klanecky, & Martens, 2017). Herrold, Pape, Li, and Jordan (2017) referred to probable AUD as “endemic” among veterans returning from Iraq and Afghanistan (p. e1712).

Those who have developed PTSD are at a much higher probability of developing an AUD than those who have never enlisted (Cucciare, Weingardt, Valencia-Garcia, & Ghaus, 2015). Furthermore, those personnel who have experienced the highest combat exposure have significantly higher rates of heavy and binge drinking compared to those with lower exposure (Bray, Brown, & Williams, 2013).

Experiencing both alcohol dependence and PTSD results in a worse prognosis than if only one or the other were present (Ralevski et al., 2016). Veterans may drink to cope while at the same time they often avoid seeking help for alcohol-related problems due to the perceived stigma (Miller, Pedersen, & Marshall, 2017). Nonetheless, most veterans receiving their healthcare from the Veterans Health Administration who drink excessively report that they have been advised to reduce or abstain from drinking (Farmer, Stahlman, & Hepner, 2017). Work stress has also been suggested as leading to poor sleep quality and alcohol-related problems among U.S. Navy members during deployment (Bravo, Kelley, & Hollis, 2016).

Based on an online study of 702 women veterans (36% lesbian/bisexual), prevalence and severity of AUD were higher among the sexual minority sample compared with their heterosexual counterparts (Lehavot, Williams, Millard, Bradley, & Simpson, 2016). In a study of 1065 veterans who had become HIV-positive from having had sex with men, more than 10% reported engaging in consistent and long-term AUD (Marshall et al., 2015).

Williams et al. (2016) studied racial/ethnic differences in patients from the U.S. Veterans Health Administration. Their sample consisted of 810,902 (17.4%) African Americans, 302,331 (6.5%) Hispanics, and 3,553,170 (76.1%) White patients. The overall prevalence of AUDs was 6.5%. Furthermore, the prevalence was 9.8% among African Americans, 7.1% among Hispanics, and 5.7% among White patients. Although you might recall reading earlier that the prevalence of AUD is lower in African Americans compared to the general American adult population, this study suggests that, in veterans today, it is highest in African Americans, followed by Hispanics in second place and Whites in third place.

Fuehrlein et al. (2016) analyzed data from the National Health and Resilience in Veterans Study. This nationally representative American sample included 3157 veterans aged 21 years and older. The researchers found that more than 40% of U.S. military veterans have experienced a lifetime history of AUD. Many have also experienced other psychiatric disorders together with elevated rates of suicidal ideation and attempts.

In countries faced with armed conflict, it is not just military personnel and veterans who are affected, of course. Civilians living in war-torn countries face considerable risk of developing an AUD. To date, “the humanitarian response and research on this issue are inadequate” (Roberts & Ezard, 2015, p. 889).

Medications and Other Relevant Physical Interventions

Holt and Tobin (2018) provided a review of the pharmacotherapy for AUD, and this section is mostly drawn from their work. Despite the destructiveness caused by AUD, most individuals with AUD do not seek treatment. In 2015, only 8.2% of individuals with AUD over the age of 12 received treatment of any kind for their addiction. For example, in 2012, of all privately insured individuals with AUD in the United States, only 3% received pharmaceuticals for AUD. Holt and Tobin cautioned that most studies had focused predominantly on male patients and consequently may not be as generalizable to women.

A sample of 475 physician-completed surveys focused on their use of pharmacotherapy for AUD. The study focused on family medicine physicians and psychiatrists. Although most of the physicians had used medications to treat AUDs (74.7%), the family physicians who prescribed FDA-approved medications reported their limited success in actual treatment (Ponce Martinez, Vakkalanka, & Ait-Daoud, 2016).

Medications Approved by the Food and Drug Administration (FDA)

Three medications have been approved to date. The FDA has approved no additional medications since 2004 (Campbell, Lawrence, & Perry, 2018).

Disulfiram.

This medication is commonly called Antabuse, and the FDA first approved it in 1948. Individuals who take this medication daily will have an extremely unpleasant reaction if they begin drinking alcohol. Because it is a deterrent medication, the individual taking it needs to be sufficiently motivated. Disulfiram works as an acetaldehyde dehydrogenase inhibitor. As acetaldehyde accumulates in the body, it creates the disulfiram reaction: flushing, headache, nausea, vomiting, lightheadedness, and excessive perspiring. In some cases, it will lead to substantial changes in blood pressure, which can be life-threatening. When taken consistently, disulfiram is of substantial benefit in fostering abstinence.

Acamprosate.

The precise action of how this drug works is still uncertain. The FDA approved it in 2004. It is shown to be effective in maintaining abstinence and in reducing heavy drinking days. It can also be used by individuals experiencing moderate liver disease.

Naltrexone.

Naltrexone is a potent opioid antagonist. It is thought to work by blocking the endorphin pathway, thereby making drinking alcohol less pleasurable. The oral version of naltrexone was approved in 1995, and it is safe for drinkers with advanced liver disease but contraindicated in those taking opioids. The FDA approved an extended-release injectable version of the drug in 2006.

Medications Not Approved by the FDA (Off-Label Use)

Topiramate.

This anticonvulsant has been studied for over 15 years with those who are alcohol-dependent. A meta-analysis noted by Holt and Tobin (2018) found that it created a small to moderate effect size when compared to placebo in promoting abstinence and in reducing heavy drinking days.

Gabapentin.

Gabapentin is another anticonvulsant that has shown promising results. Studies have shown that it promotes abstinence and reduces heavy drinking days. The evidence is also building that it may be useful in outpatient management of alcohol withdrawal syndrome.

Varenicline (also known as “Chantix” and “Champix”).

Recent evidence has suggested that varenicline is helpful in reducing cravings for both alcohol and nicotine. This drug is known as a nicotine receptor partial agonist and has been used primarily in the treatment of tobacco use disorder.

Medications Not Approved by the FDA (Off-Label Use) With Little Evidence of Efficacy

These medications currently only have weak evidence supporting their effectiveness with AUD. They include zonisamide, pregabalin, ondansetron, and baclofen. The opioid antagonist nalmefene has been approved for the treatment of AUD, but it is not currently available in the United States. Several meta-analyses support nalmefene’s efficacy in lowering alcohol consumption (Mann et al., 2016). An indirect meta-analysis found that nalmefene was more effective than naltrexone for reducing alcohol consumption (Soyka, Friede, & Schnitker, 2016).

Specific Counseling Considerations

ROLEPLAY SCENARIOS

Roleplay in dyads with one of you acting as the counselor and the other as the counselee. If roleplay is not possible, work individually in writing out a list of your suggestions.

Roleplay #1

Abey, age 20, belongs to the Omaha tribe. She tells you that she grew up on a reservation but left to begin college. Now in her second year, Abey is studying to become a counselor. According to Abey, socializing with other American Indians has not been good for her. They drink every night, and it gets worse on weekends. Although Abey doesn’t believe that she has a drinking problem, she is concerned because of the amount of alcohol that she is consuming.

Psilocybin (“Magic Mushrooms”)

Bogenschutz and Forcehimes (2017) reported that they were conducting a trial of psilocybin-assisted treatment for AUD. Their program involved two therapists and consisted of 19 sessions with high-dose psilocybin administered before three of the sessions. The manualized behavioral treatments were referred to as Motivational Enhancement and Taking Action. The results of this study have not yet been published.

Nonpharmaceutical Treatments

Transcranial magnetic stimulation (TMS) is a noninvasive technique that is currently FDA-approved for clients who have found little benefit from antidepressant medications. Electromagnetic induction is targeted at some regions of the brain. With individuals with AUD, some success at reducing cravings has been attained with TMS that has targeted the prefrontal cortex (Campbell et al., 2018). Transcranial direct current stimulation is another noninvasive technique where mild to direct current is applied to the brain area of interest for several minutes. With individuals with AUD, the brain region targeted has again been the prefrontal cortex. An invasive procedure has been tried called deep brain stimulation. This requires implanting electrodes into targeted brain regions. The technique has support for some participants who reported that alcohol cravings were reduced for up to 8 years (Campbell et al., 2018).

Roleplay #2

Roy is a 58-year-old unemployed bartender who has just received his third DUI. The court has mandated him to see you. You find Roy to be obstinate and difficult. He tells you more than once to mind your own business in a derogatory fashion, and you feel offended by his language. Nonetheless, you keep this to yourself in hopes that you can develop a working alliance with him. After two sessions, it appears that he is trusting you as he tells you that, on average, he drinks more than 12 drinks a day. This pattern has persisted for 20 years. He is concerned that he won’t be able to stop drinking, and he also wonders how bad withdrawal will be if he tries to quit “cold turkey.”

Goals and Goal Setting

American Society of Addiction Medicine (ASAM; 2018) criteria are required for use in over 30 states, and it has become the most widely used and comprehensive set of guidelines for

placement. ASAM criteria use six dimensions for service planning and treatment across services and levels of care: (a) acute intoxication and/or withdrawal potential, (b) biomedical conditions and complications, (c) emotional, behavioral, or cognitive conditions and complications, (d) readiness to change, (e) relapse, continued

HOW WOULD AN ADDICTION COUNSELOR HELP THIS PERSON??

You are working as a professional counselor. Becky, age 24, comes to see you alone at first because of several problems she is experiencing. She tells you that she struggles with fully accepting herself as a lesbian woman, even though she has always had strong sexual attractions for women and experiences little to no attraction for men. As you collect

her history, you find out that she was raised within a strict Mormon family. Her mother and father have disowned her and have told her she is not welcome back at home unless she renounces her lesbian identity and her partner, Sara, whom she has been involved with for the past 4 years. Becky and Sara have lived together now for about 18 months.

Note: Remember to view clients within their environmental contexts, keeping in mind societal, parental/familial, cultural/spiritual, and peer influences. Specifically, become aware of the impact that the following influences have and continue to have in your clients' lives: race, language, religion and spirituality, gender, familial migration history, sexual/affectional orientation, age and cohort, physical and mental capacities, socioeconomic situation and history, education, and history of traumatic experience.

1. What defines this person's environment, past and present?
2. Who is this person sitting in front of me, taking into account environmental and personal characteristics?
3. What defines the problem that he or she is presenting in his or her multicultural milieu?

to use, or continued problem potential, and (f) recovery/living environment. There is a cost associated with the materials needed for the ASAM criteria. These can be purchased from <https://www.asam.org/resources/the-asam-criteria>

Based on the six dimensions of multidimensional assessment, treatment decision-making and goal setting are based on five broad levels of care (i.e., numbered 0.5, 1, 2, 3, 4). These numbered levels are as follows:

- 0.5 = Early intervention.
- 1 = Outpatient services.
- 2 = Intensive outpatient/partial hospitalization services.
- 3 = Residential/inpatient services.
- 4 = Medically managed intensive inpatient services.

These broad levels are further broken down into sublevels (e.g., 2.1, 2.5, 3.3). For details, visit ASAM's website at <https://www.asam.org/resources/the-asam-criteria/about> Based on several studies, Miller (2016) concluded that the ASAM criteria have failed at matching clients to levels of treatment intensity. Instead, he advocates that individuals should "make informed choices from a menu of evidence-based options" (p. 94).

Clients have their own goals, and, as counselors, it is our job to work collaboratively with them. Controlled drinking is attainable by some who are low to moderate in their severity of drinking (see the section earlier called Background Information for details).

Kadden and Skerker (1999) noted that some clients would want to achieve controlled drinking even when abstinence is recommended. Kadden and Skerker suggested an approach for dealing with this request. The counselor and client can agree that the client will consume only a certain amount of alcohol daily (e.g., two or three drinks) without exception for weeks. Many alcohol-addicted individuals are unable to meet such an expectation. The intent is that this feedback of being unable to manage controlled drinking will help the client realize that abstinence is the only viable goal. Hodgins, Leigh, Milne, and Gerrish (1997) offered individuals with AUD seeking treatment the choice of either abstinence or reduced drinking. Half of the participants initially chose reduced drinking, but, after 4 weeks, two thirds chose abstinence.

What cutoff regarding the number of drinks is associated with the likelihood of successfully attaining controlled drinking? Sanchez-Craig, Wilkinson, and Davila (1995) investigated this and found that, for men, those who could manage consuming no more than four drinks per day and 16 drinks per week (for women, three drinks per day and 12 drinks per week maximum) were more likely to succeed at continuing controlled drinking. Those who exceeded these amounts continued to experience social problems related to excessive drinking.

Other goals that clients may bring to counseling fall under the category of harm reduction. Examples include the following:

1. Reduce cravings for alcohol (Holt & Tobin, 2018).
2. Lower the quantity of alcohol consumed (Holt & Tobin, 2018; e.g., only purchase two minibottles, leave credit cards at home, and just take \$10 to the bar).

3. Lower the number of heavy drinking days (Holt & Tobin, 2018).
4. Reduce the number of visits to the emergency department with fewer hospitalizations (Holt & Tobin, 2018).
5. Practice safer sex when drinking.
6. Avoid DUIs by having a designated driver or taking a taxi/Uber home.
7. Use alternative substances considered less harmful such as coffee or marijuana (Earleywine, 2016).
8. Attend fewer bars and nightclubs (Nordfjaern, Bretteville-Jensen, Edland-Gryt, & Gripenberg, 2016).

An eye-opening example of harm reduction was offered by Earleywine (2016). A person attending AA who was teased about his excessive coffee and cigarette use retorted, “Coffee and cigarettes never made me wake up broke and naked” (p. 38).

Stages of Change Strategies

The processes of change mentioned are based on those outlined by Connors, DiClemente, Velasquez, and Donovan (2013) and Prochaska, Norcross, and DiClemente (1994). The definitions for the various processes can be found in Chapter 6. Besides these processes, other strategies are included that have separate citations.

The University of Rhode Island Change Assessment Scale (URICA) is a helpful scale to determine where a client is currently regarding the stages of change model. There are 24-, 28-, and 32-item versions of the scale.

A 24-item version is published for alcohol or drug problems. The scale, however, is generic and can be easily adapted for use with other addictions. It is available with norms as a free download from https://www.guilford.com/add/miller11_old/urica.pdf.

Specific precontemplation strategies.

Please visit the section called Relevant Mutual Support Groups, Websites, and Videos for free or low-cost information and resources that may help someone move out of precontemplation.

Watching movies focused on AUD may help some individuals in the precontemplation phase begin considering change. A few good choices are

1. *Smashed* (2012).
2. *Days of Wine and Roses* (1962).
3. *Leaving Las Vegas* (1995).
4. *Barfly* (1987).
5. *The Spectacular Now* (2013) (likely best suited for adolescents).

Some individuals who have developed an AUD can be encouraged to read a book that speaks to their dependency. A few good choices are

1. *Alcohol Explained* (by William Porter, 2015). This book is described as “the definitive, ground-breaking guide to alcohol and alcoholism” on the Amazon.com website.

It provides a layperson’s explanation of how AUD develops and how to overcome it. The author himself had earlier suffered from AUD.

2. *Beyond Recovery: A Journey of Grace, Love, and Forgiveness* (by Shawn Langwell, 2016). The author provides a “front row seat to what it looks like to hit bottom” as quoted on the Amazon.com website. Shawn describes his downward spiral into AUD.
3. *The Big Book of Alcoholics Anonymous* (by Bob Smith and Bill Wilson, 2013, paperback edition). This is the original 1939 basic text that is used in AA meetings worldwide. The book describes how to recover from AUD and is written by the founders of AA: “Bill W.” and “Dr. Bob” as they are known.
4. *SMART Recovery* (by William Abbot, Jim Braastad, John Frahm, Randy Lindel, Richard Phillips, Henry Steniberger, and Rosemary Hardin, 2013, 3rd edition workbook). The handbook is written in a simple, straightforward manner. It includes many exercises, techniques, and strategies to help individuals who are addicted using the Self-Management Addiction Recovery Program (SMART).
5. *Rational Recovery: The New Cure for Substance Addiction* (by Jack Trimpey, 1996, paperback edition). In this book, the founder of Rational Recovery explains his approach.
6. *Controlling Your Drinking: Tools to Make Moderation Work for You* (by William R. Miller and Ricardo F. Munoz, 2013, 2nd edition). This book is written by distinguished clinician-researchers who have spent more than 40 years studying moderation.

The Substance Abuse and Mental Health Services Administration (SAMHSA; 1999–2012) offered suggestions that may help clients move from the precontemplation stage. They suggested that clients need information that shows them the connection between their use of substances and their problems. A brief intervention, for example, might involve educating the person about the adverse consequences of developing an SUD. Motivational efforts include establishing rapport, asking permission, and building trust. The intent is to help the client develop awareness of how substance use is creating difficulties.

Some strategies are as follows:

1. Help clients look at the meaning behind events that led to them seeking treatment.
2. Have clients talk about their perception of their problem.
3. Provide clients feedback regarding the results of the assessment.
4. Encourage clients to look at the pros and cons of substance use.
5. Explore the discrepancies between the client’s perception of the problem and the perception of others.
6. If possible, agree on the direction or the next step for clients to take after leaving the session.

7. Tell clients that you are concerned and that your door is open for further discussion/exploration at another time.
8. Commend clients for attending the session.

Specific contemplation strategies.

For some addicted individuals, the contemplation stage lasts for many years. They may move forward to the preparation stage or revert to the precontemplation stage. Consequently, it is important to use nonconfrontational methods during the contemplation stage.

During this stage, SAMHSA (1999–2012) recommended that clients explore their feelings of ambivalence and the conflicts between their values and their SUD. Some of the motivational techniques here include the following:

1. Help clients realize that their ambivalence is normal.
2. Assist clients in deciding on change by weighing the pros and cons of their SUD; helping them move from extrinsic to intrinsic reasons to quit or reduce use; clarifying their values concerning change; and emphasizing their free choice, self-efficacy, and responsibility for making change.
3. Focus again on feedback from previous assessments.
4. Encourage clients to make statements regarding their intent and commitment to change.
5. Help clients talk about their self-efficacy and their expectations regarding counseling.
6. Provide a summary of self-motivational statements to clients.
7. Display curiosity about clients, which helps strengthen the working alliance. This might also help them feel comfortable talking about other problems.
8. When clients make a negative statement, put a positive spin on it.

Although it is important to acknowledge the extrinsic reasons for pushing clients to change, the goal is to help them find internal reasons that change is important. A good question to ask in this stage is, “If you were to make a change, what would it be or what would it look like?” The idea of trying abstinence for a specified period could also be raised as a possibility with the client.

Some individuals with AUD in this stage would benefit from attending a mutual support group (MSG). This could include attending AA, SMART Recovery, or Rational Recovery.

Specific preparation strategies.

Clients have reached the preparation stage once they decide that change is important to them. An important aspect of this stage is planning steps toward recovery. Strengthening their commitment toward this goal is important. A list of the options for treatment might be handed to the client and then each option could be discussed with the goal of deciding collaboratively on the best choice.

SAMHSA (1999–2012) recommended the following motivational strategies during the preparation stage:

1. Help clients clarify their own goals and strategies to make the change.
2. Offer clients the list of options for treatment.

3. Provide clients with expertise and advice after first asking their permission.
4. Work at creating a change or treatment plan with details regarding implementation.
5. Lower barriers to change as much as possible.
6. Assist the client in soliciting social support for the change.
7. Discuss treatment expectations and expectancies and the clients’ responsibilities in the process.
8. Dialogue with clients what has worked for them in the past or for others whom they know.
9. Problem solve with the client regarding finances, childcare, transportation to work, and other potential barriers.
10. Encourage clients to tell significant others about the plan to change.

Skills training should also occur during this stage. For example, if clients are unable to avoid others who are continuing to drink, they need to learn and practice assertion skills repetitively. Clients need to have a plan for dealing with their high-risk situations, which differ somewhat from person to person. For example, if they always drive home from work and pass their favorite liquor store, they should change their route to get home. Other ideas to implement *before* their chosen quit day (i.e., preparation strategies) can be found in Appendix B.

Specific action strategies.

While drinkers try out their new behaviors, none of these is stable yet. Continuing to practice skills began in the preparation stage is important. It is during the action stage that clients take steps to accomplish their goal. The following are a few examples:

1. Enter a treatment program as previously decided in the preparation stage.
2. Begin to moderate drinking, implementing strategies for doing so as decided in the preparation stage.
3. Begin abstinence from alcohol, implementing strategies for doing so as decided in the preparation stage.
4. Implement relapse prevention strategies that were decided in the preparation stage.

As clients implement their action stage, it is important that they remain willing to revise their action plans as they proceed. For example, clients may need to implement more strategies to moderate drinking or maintain abstinence that were not considered initially or possibly even thought of initially. Provide clients help in executing their action plans and help them practice the skills needed to maintain moderate drinking or abstinence.

Some of the SAMHSA (1999–2012) recommended motivational strategies during the action stage include the following:

1. Maintain a strong working alliance and reinforce the criticalness of remaining in recovery.
2. Help clients appreciate that change happens in small steps. If they are unsuccessful, help them explore the reasons and either alter the strategies or change the goal.

3. Acknowledge clients' hesitance and difficulties during the early stages of change.
4. If not accomplished during the preparation stage, help clients identify their high-risk situations and develop strategies for dealing with them.
5. Guide clients in helping them find new activities that help them feel positive.
6. Assist the client in ascertaining whether they have healthy family and social support.

Evidence-based therapies are consistent in recommending that treatment for AUD should be based on cognitive-behavioral therapy (CBT), motivational interviewing (MI) or motivational enhancement therapy (MET), 12-step support or other MSGs, and contingency management (Campbell et al., 2018). Given that the effect size reported in most of the meta-analyses regarding treatment for AUD is small, one can conclude that psychosocial interventions alone are insufficient (Campbell et al., 2018). This is also true regarding meta-analysis of interventions for adolescents and young adults (Tanner-Smith & Risser, 2016). The latest Cochrane review suggested that brief therapies have a modest effect at best (Kaner et al., 2018), and this includes brief interventions used in emergency departments (Schmidt et al., 2016). Kaner et al. (2018) also concluded that longer durations of counseling likely have little additional effect.

A recent meta-analysis based on 48 studies and encompassing 8984 participants focused on answering the question of whether the duration of therapy matters regarding AUD (Schmidt, Bojesen, Nielsen, & Andersen, 2018). The researchers found that the number of planned weeks, the duration of sessions, the frequency of sessions per week, and the actual number of attended sessions were associated with long-term alcohol use outcomes. This meta-analysis provides further support to the modest gains realized by alcohol treatment programs.

Morrison, Lin, and Gersh (2018) suggested that treatment of AUD should be supplemented with pharmacotherapy and other treatments. Morrison et al., for example, suggested integrative treatments. These may include acupuncture, yoga, exercise, mindfulness, hypnosis, biofeedback, neurofeedback, music and art therapy, and herbal therapies. A book by Mistral (2016a) focused on integrated approaches with drug and alcohol problems.

As impulsivity and distress tolerance are key features in the development and maintenance of SUDs, Greenberg, Martindale, Fils-Aime, and Dolan (2016) suggested that treatments should focus on emphasizing distress tolerance skills, particularly the appraisal of aversive emotions. Eye movement desensitization and reprocessing (EMDR), which is a psychotherapy treatment involving eight phases (see <http://www.emdr.com/what-is-emdr/> for details) that was originally designed to treat traumatic memories, has been suggested following the initial phase of treatment (Marich, 2017), and so has transcendental meditation (Gryczynski et al., 2018). Klostermann (2016) stated that marital and family approaches are also efficacious regarding prevention and treatment of SUDs. Although interest is strong in the family therapy field for working with AUDs, there are few models for working with whole families (McCrary, 2014).

Couples counseling can be helpful for individuals with AUD who are in a primary relationship (MacKillop et al., 2018;

McCrary & Epstein, 2015). Couples counseling should focus on clients and their partners' communication skills, rebuilding trust, and working through negative feelings like guilt, resentment, and anger (Merlo, 2012). Individuals with AUD are also encouraged to change their social support to those who are nondrinkers (Milkman & Sunderwirth, 2010), and research has demonstrated the benefit of creating an abstinent social support network (Litt, Kadden, Tennen, & Kabela-Cormier, 2016).

Fowler, Holt, and Joshi (2016) conducted a systematic review of technology-based interventions for adult drinkers. Eight studies met their inclusion criteria. Despite the interventions varying in design, most of the studies found that positive effects resulted from the mobile technology-based interventions. Campbell et al. (2018) concluded that, whereas computer-based and app-based programs have demonstrated many benefits and are cost-effective, it remains questionable whether they are efficacious as interventions. Social networking sites have also shown promise in reducing alcohol intake during festive occasions (Flaudias et al., 2015).

As noted by Rastegar and Fingerhood (2016), clients often experience a "honeymoon period" where they come to believe that their drinking problem is behind them and that continuing sessions is no longer necessary. During these honeymoon periods, clients are at the highest risk of relapse. Clients need ongoing support during the early stages of their treatment. Individuals with severe AUD will often benefit the most from an intensive, specialized program that occurs over a more extended period (Merlo, 2012).

Gearhardt and Corbin (2012) reported that consuming sugar has been helpful to some individuals with AUD in recovery. They stated that about one fourth of males with AUD report that consumption of high-sugar foods helps them refrain from drinking.

McCrary (2014) wrote an excellent step-by-step guide for treating people with AUD (her chapter is recommended reading). Her approach takes into consideration seven areas: (a) severity of the problem, (b) other life problems besides addiction, (c) client expectations, (d) the working alliance and the client's motivation, (e) variables that maintain the current drinking pattern, (f) the client's social support systems, and (g) maintaining change. Regarding severity, McCrary stated that a brief motivational intervention (BMI) may be sufficient for those at the mild end but more intensive interventions will be required for those who are moderate or severe in their AUD. Clients have expectations, and it is important to discuss these and provide honest feedback. For clients who are more severe in their addiction, McCrary tells them that about 25% of clients maintain abstinence for at least 1 year after treatment, whereas another 10% will use alcohol moderately. Furthermore, most clients following treatment will reduce the amount they drink by about 87%, and alcohol-related problems will diminish by about 60% (based on research by Miller et al., as cited in McCrary, 2014).

Brief interventions have also been developed for clients with AUD. DiClemente, Bellino, and Neavins (1999) noted that there are three motivational treatment approaches available to counselors: (a) BMI, (b) MI, and (c) MET. BMI involves an intervention of between one and four sessions (with each session lasting from 10 to 60 min) that relies on direct advice and information on the adverse consequences that result from abusing alcohol. The approach is generally regarded as more relevant for problem drinkers than for those who are dependent. The goal is often reduced drinking and not abstinence.

MI is often used with less-motivated clients (DiClemente, Bellino, & Neavins, 1999), and it is described in Chapter 6 with an example provided later in this chapter. MET was initially developed for Project MATCH, which was an 8-year national and multisite trial that began in 1989. MET is comprised of four treatment sessions over 12 weeks. It combines MI techniques but in a briefer, less-intensive format. Preceding MET is an extensive assessment. In session 1, the counselor provides individualized feedback to clients regarding their drinking pattern. In session 2, the counselor uses MI techniques to help increase clients' commitment to change. During sessions 3 and 4, the counselor reviews client progress and further explores the remaining ambivalent feelings that clients may still possess regarding change. Other ideas to implement *beginning* their chosen quit day (i.e., action strategies) can be found in Appendix B.

Specific maintenance strategies and relapse prevention.

Note: Maintenance strategies and relapse prevention are also, for many, partly facilitated by regular attendance at relevant MSGs. A list of such MSGs and helpful websites is found in an upcoming section entitled Relevant Mutual Support Groups, Websites, and Videos.

In the maintenance stage, addicted individuals establish and practice new behaviors long term. Clients need help in this stage with relapse prevention. Celebrating clients' success and reassuring them maintains a positive working alliance. Present actions may need to be evaluated and long-term goals redefined.

SAMHSA (1999–2012) recommended several motivational strategies:

1. Help clients explore and try out alternative activities.
2. Affirm clients' resolve and self-efficacy beliefs.
3. Practice new coping strategies with clients to ensure that they know how to use these appropriately.
4. Maintain ways of continuing as a support to clients (e.g., book sessions periodically, follow-up phone calls at regular intervals, assuring clients that you are there for them).
5. Normalize relapse. It is estimated that between 45% and 75% of individuals with AUD who have received treatment will relapse within 3 years (Hauser, Wilden, Batra, & Rodd, 2017), and most relapse occurs within 90 days of abstinence (Brooks & McHenry, 2009). Develop a lapse and relapse plan with clients so they know what to do should this occur.

The book called *Living Sober* by AA (available through Amazon.com) includes the famous HALT formula for helping to avoid relapse. HALT is an acronym that consists of four reasons that individuals with AUD often relapse. Individuals with AUD should avoid staying **H**ungry, **A**ngry, **L**onely, or **T**ired.

In their sample of 171 participants, Mo and Deane (2016) found that their most consistent finding was that craving predicted relapse, whereas change in negative affect predicted the severity of alcohol problems. It is critical that clients learn that lapses or relapses should be viewed as learning opportunities. They provide clients with feedback that allows them to "tweak" their maintenance

program, whether it be through developing or practicing coping skills or finding new ways to deal with high-risk situations.

Relapse often follows a predictable sequence. Rastegar and Fingerhood (2016) stated that the following often occurs: (a) denial becomes reactivated, (b) the addicted individual progressively isolates, becomes defensive, and builds a crisis to justify the progression of symptoms (e.g., depressed mood, loss of control over behavior), and (c) relapse back to drinking.

Pekala (2017) reviewed hypnosis within the addictions field. He concluded that suggestions for increasing self-esteem, serenity, and decreasing anger and impulsivity provided an adjunctive method for helping clients deal better with their drug and alcohol problems and maintain abstinence. Individuals with a history of impulsivity who have gone through many previous detoxifications for alcohol dependence are the highest relapse risk (Czapla et al., 2016).

Engel et al. (2016) conducted a follow-up study 5 months after individuals with AUD had gone through detoxification. Using an instrument called the SCL-90-R, they determined that high levels of psychological distress substantially increases the risk of relapse. Interventions aimed at teaching clients soon after detox to reduce their experience of psychological distress are warranted. Other ideas for relapse prevention can be found in Appendix C.

Motivational Interviewing

Becker, Jones, Hernandez, Graves, and Spirito (2016) studied 97 adolescent drinkers who presented to emergency departments. These adolescents completed a 3-month assessment. The authors concluded that motivation-enhancing treatments worked best if the teenagers were under 16 years of age. Older teenagers demonstrated substantially worse drinking outcomes than younger teenagers regardless of whether they received motivation-enhancing treatments.

There is research indicating that MI is not always effective (Bertholet, Palfai, Gaume, Daepfen, & Saitz, 2014). Overall, however, MI has been used successfully to one extent or another with several populations of adult drinkers. Some examples include patients who are low functioning intellectually (Borsari, Apodaca, Yurasek, & Monti, 2017), depressed individuals (Satre, Delucchi, Lichtmacher, Sterling, & Weisner, 2013), pregnant women (Rendall-Mkosi et al., 2013), incarcerated drinkers (Owens & McCrady, 2016), soldiers (Walker et al., 2017), HIV+ individuals (Myers et al., 2017), and drinkers 60 years of age and older (Andersen et al., 2015).

MI has also been used successfully with young adults. Examples here include American Indian and Alaska Native youth (Dickerson, Brown, Johnson, Schweigman, & D'Amico, 2016), homeless young adults (Tucker, D'Amico, Ewing, Miles, & Pedersen, 2017), and socially anxious college drinkers (Hu, 2016). A Cochrane review concluded that MI produced modest yet beneficial effects with young adults (Grant, Pedersen, Osilla, Kulesza, & D'Amico, 2016).

Furthermore, clients experience MI positively. They appreciate its nonconfrontational approach, affirmation, the development of discrepancies between beliefs and behavior, and the positive working alliance (Jones, Latchford, & Tober, 2016).

The telephone has been successfully used to provide motivational interventions aimed at reducing drinking among college students (Borsari et al., 2014). Videoconferencing has also been

used successfully to deliver a BMI to reduce heavy drinking among patients in emergency department settings (Celio et al., 2017).

Here is an example of how MI could be used to help an addicted individual decide that counseling might be the best first step to take in recovery. (Pertaining to Chapter 6's description of MI, the following is an example of the process called *focusing*. It also includes creating a discrepancy. This example represents the third session.)

- Counselor: Hi, David. It's good to see you again.
- Client: Likewise. It's been a tough couple of weeks.
- Counselor: What has been happening, David?
- Client: Well, I was successful in reducing my drinking for about 10 of the past 14 days, but I got absolutely drunk on 3 or 4 other days. I feel terribly hung over today in fact.
- Counselor: I understand how challenging this is. I do need to clarify something, however. In our first two sessions, you told me that you know that you need to stop drinking altogether because of the medical problems heavy drinking has already created for you. If your goal is to reduce drinking, I simply need to be on the same page with you.
- Client: You're right in pointing that out, and I guess I'm thinking I might've changed my goal without telling you.
- Counselor: You are certainly entitled to change your goal. To what extent do you think a goal of reduced drinking is realistic for you?
- Client: Ah, what do you mean?
- Counselor: I recall you telling me that you have tried to reduce your drinking for the past 10 or more years, and you have never been successful in achieving this for more than 2 weeks.
- Client: Right, I did tell you that. And, honestly, I cannot disagree with you. I just don't think I can stop altogether right now. My wife is hounding me like never before, and I have two teenage daughters who are driving me mad.
- Counselor: It sounds like the stresses in your life are affecting your decision-making.
- Client: I know what you're saying. I just can't imagine living without alcohol in my life.
- Counselor: I know how challenging it can be when you have stresses at home. Let me work with you on the goal that makes the most sense to you right now.
- Client: I know the goal that makes the most sense is complete abstinence. I know that without any doubt. I just don't think I can succeed.
- Counselor: You're saying that you know what the best choice is but you don't have much confidence in succeeding at it. Yet, every time I see you, I witness your strength of character. You also have a bachelors degree in business administration. How do you make sense of the discipline and tenacity that you have demonstrated in several areas of your life and the part of you that doesn't feel capable of remaining abstinent?

- Client: I need to think about that. I am successful in business, and I do have a good home life for the most part.
- Counselor: You have demonstrated success in both business and in your relationships with important family members. You have shown time and time again that you can succeed at what matters to you.
- Client: Thank you for believing in me. I don't know why I lose touch with my strengths. I clearly want to choose abstinence, and I need your help more than ever to do it.

Insight-Oriented Interventions

Early psychoanalytic theory stressed pleasurable and aggressive drives to explain the appeal of alcohol and drugs. Freud, for example, focused heavily on libidinal drives such as oral and erotic impulses. A contemporary perspective focuses greater emphasis on intolerable pain and/or confusing emotions that drive addiction (Khantzian, 2003). According to Khantzian (2003), over the past 30 years, the psychodynamic approach has focused on four considerations:

1. Addictions represent a special adaptation to a range of human problems.
2. It is motivated by an attempt to self-medicate against unbearable painful emotions.
3. The overarching problem is an inability to self-regulate.
4. The disorder is driven by a disordered personality that predisposes and keeps individuals engaged in addictive behaviors.

Sweet (2012) focused on how alcohol and drugs can reduce or help avoid feelings of intense anxiety and, in turn, create "manic grandiosity" (p. 116). Addiction occurs in response to a fragile and fragmented self, deluged with problems together with a primitive superego. Self-reproach and recrimination are pronounced, and, in some cases, violent aggression occurs, more typically leading to self-harm and sometimes suicide. Addiction results from disordered attachments and the foreclosure of symbolization. The internal object relations of an addicted individual were damaged in childhood. Object relations refers to the attachments that people form with significant others, generally beginning with their attachment toward parents.

Spiritual Interventions

Spirituality has been linked with having a sense of meaning and purpose in life, and it does not require believing in a higher power. Nonetheless, research has found that religious people consume less alcohol and have fewer problems related to alcohol (Lucchetti, Koenig, Pinsky, Laranjeira, & Vallada, 2014; Meyers et al., 2017). Greater religiousness appears to act as a form of positive coping (Jankowski, Meca, Lui, & Zamboanga, 2018). Some Hispanic Roman Catholic Priests practice juramento with individuals who need to abstain from alcohol. *Juramentos* are pledges that people make to abstain from alcohol use. Most of the priests surveyed in Cuadrado's (2014) study reported that juramentos were effective.

Chaplain in the military and Veterans Affairs also play a positive role in the treatment of alcohol dependence (Allen, Nieuwsma, & Meador, 2014).

Participants who attended a residential 12-step treatment program demonstrated increased spirituality upon completion (Ranes, Johnson, Nelson, & Slaymaker, 2017). Hodge and Lietz (2014) wrote about how spiritual beliefs and practices can be incorporated into CBT.

Johnson and Kristeller (2013) recommended that counselors discuss how their clients' faith traditions might help ascertain the type of help that should be provided, including attendance in mutual help groups. Indigenous individuals may also find support through attending the Native American Church (Prue, 2013).

Krentzman, Webb, Jester, and Harris (2018) conducted a 30-month longitudinal study of 364 individuals with alcohol dependence. They focused on the degree to which participants forgave themselves and others, taking measures every 6 months. Krentzman et al. found that, over the 30 months, participants experienced an increase in forgiveness for themselves but particularly an increase in the forgiveness of others. The authors provided ideas for facilitating forgiveness in alcohol treatment.

Cognitive-Behavioral Therapy

CBT can be facilitated using the triple column technique. It can be used both by counselors in their work with clients and by clients alone. The full instructions for using the technique are found in Chapter 6. The following are some of the cognitions that can be problematic for clients with alcohol addiction.

Regardless of which interventions counselors use, the working alliance (the relationship that develops between the counselor and client) remains sacrosanct. This is also true in CBT (Maisto et al., 2015). Maisto et al. (2015) recommended that future research look at the changes that occur in the working alliance throughout treatment for AUD to see how this affects outcomes over time.

Behavioral approaches and CBT have been extensively studied regarding their usefulness in working with clients who have AUD. Croxford, Notley, Maskrey, Holland, and Kouimtsidis (2015) stated that there is a consensus that detoxification from alcohol dependency should be planned. They offered a 6-week CBT group intervention and then evaluated it. Croxford et al. concluded that the intervention was well accepted and that it adequately prepared participants for detoxification.

Budney, Brown, and Stanger (2013) focused on behavioral approaches to SUDs. They acknowledged that the distinction between behavioral approaches and CBT approaches is somewhat arbitrary. In their chapter, they focused on cue exposure training, aversion therapy, the community reinforcement approach, and contingency management. These approaches are explained in Chapter 6.

Harrell, Pedrelli, Lejuez, and MacPherson (2014) wrote about some of the established CBT interventions for an AUD. Social learning theory (SLT) has had a significant influence on CBT-based approaches (see Chapter 3 for a closer look at SLT). This theory hypothesizes that alcohol use begins because of socialization and continues because of operant conditioning while being maintained by environmental influences and cognitive factors. CBT interventions based on SLT are targeted at improving coping

Automatic Thought or Belief	Questioning it	Healthier Thought or Belief
I cannot live without alcohol. Life without it is unbearable.		The basic needs in life do not include alcohol. Drinking is bad for me, and I must change this pattern. I can learn to live without alcohol and find meaning and purpose in life.
Everyone I know drinks. I cannot manage without having friends.		Over time, I will learn to say no to alcohol. Until that time, I can make some new friends who are abstinent from alcohol.
I cannot resist entering a store that sells liquor. There is no way I can avoid alcohol.		I will learn coping strategies to avoid purchasing alcohol.
I am filled with shame, guilt, and doubt when I am not drinking.		When I become abstinent from alcohol, I can get help to overcome these feelings.
Life is boring and unsatisfying. Without alcohol, I never feel euphoric. Instead, I am depressed and wish I were dead.		Life has only become boring and unsatisfying because of poor choices. I need to find activities that are meaningful and fulfilling. I will take full responsibility for improving my life.

skills, increasing self-efficacy, looking at expectancies for the effects of alcohol use, and learning to manage cravings and triggers associated with alcohol cues.

Harrell et al. (2014) also looked at the relapse prevention model and CBT interventions based on it. An important cognitive strategy is for clients not to see lapses and relapses as treatment failures but instead as part of their recovery from an AUD. The intent behind relapse prevention is focused on helping clients develop coping strategies to prevent a slip or lapse from turning into a full-blown relapse. Some strategies used include skills training, cognitive restructuring, and lifestyle balance.

Regarding treatment approaches, Harrell et al. (2014) looked at functional analysis (considering the environmental factors maintaining a behavior including antecedents and consequences),

coping and social skills training, cue exposure, behavioral couples therapy, and behavioral self-control training. Meta-analyses have shown that social skills training, behavioral contracting, and behavioral marital therapy have the strongest support (Burdenski, 2012; Harrell et al., 2014). Behavioral couples therapy has the most research support for helping couples deal with the difficulties of recovery (Burdenski, 2012).

Other approaches used in CBT include problem-solving, understanding patterns of substance use, and identifying and changing cognitive distortions (Mastroleo & Monti, 2013). Mastroleo and Monti (2013) outlined that coping skills usually concern four major themes: (a) interpersonal skills for creating stronger bonds with others, (b) cognitive and emotional coping strategies for mood regulation, (c) coping skills for enhancing daily living and for dealing with stressful life events, and (d) coping in environments where substance use cues occur.

Rational emotive behavior therapy, which is one approach to CBT, can be used with addictions. For example, Albert Ellis' ABC approach is used in Self-Management and Recovery Training (SMART) recovery programs (Gerstein & Ellis, 2014).

CBT has proven helpful with many problems faced by alcohol-dependent individuals. CBT has been used successfully to help participants cope with or moderate cue-induced craving using cognitive strategies (Naqvi et al., 2015). CBT has been effective in reducing intimate partner violence perpetrated by both men with AUDs (Satyanarayana et al., 2016) and women with AUDs (Wupperman et al., 2012). Women receiving a specific approach designed for them (i.e., female-specific CBT) reported satisfaction with the program and substantial reductions in drinking (Epstein et al., 2018). CBT programs have successfully helped alcohol-addicted individuals to improve their sleep (Brower, 2015; Kaplan, McQuaid, Batki, & Rosenlicht, 2014; Zhabenko et al., 2016). CBT has also been found helpful to some extent with individuals who experience both chronic depression and alcohol dependence (Penberthy et al., 2014; Riper et al., 2014).

Nyamathi et al. (2017) compared a program of dialectical behavior therapy (DBT) with a program based on health promotion (HP). They found that the DBT program was more effective

than the HP program in maintaining drug and alcohol abstinence at the 6-month follow-up.

The United Nations Office on Drugs and Crime (2007) created a leaders' guide for cognitive behavioral and relapse strategies. It contains several good ideas (please see reference list for website).

Following an outpatient group CBT program, Rose, Skelly, Badger, Naylor, and Helzer (2012) offered an automated telephone program focused on self-monitoring, skills practice, and feedback. They offered the telephone program for 90 days, and, at the end of it, participants ($N = 21$) reported that it increased their self-awareness, and they particularly found the therapist feedback component helpful.

Web-based interventions have also become increasingly popular. Kiluk et al. (2016) compared a computer-based delivery of CBT for individuals with AUD with those receiving their standard CBT treatment. The authors concluded that their preliminary trial showed that their computer-based program appears to be safe, feasible, and efficacious.

Wiers et al. (2015) tested an online program focused on helping individuals with AUD change their cognitive biases. Although 615 participants were initially screened into the study, 314 initiated training, but only 136 completed the pretest, four sessions of computerized training, and a posttest. Despite this high attrition, the authors concluded that online interventions are helpful in reducing drinking.

Johansson et al. (2017) created a web-based CBT program with eight modules delivered over 10 weeks. The program was offered to 4165 potential participants who scored in the hazardous use category or higher on the Alcohol Use Disorders Identification Test (AUDIT). At follow-up, 1043 participants had fully engaged in the program, and these individuals were ranked as having lower AUD severity.

Mellentini, Nielsen, Nielsen, Yu, and Stenager (2016) created a cue exposure treatment as a smartphone application. The app is intended as aftercare for individuals with AUD following attendance at group sessions. This study is under way but has not yet released results. A similar study focused on modifying attentional bias with both alcohol- and cannabis-dependent individuals is similarly under way (Heitmann et al., 2017).

RELEVANT MUTUAL SUPPORT GROUPS, WEBSITES, AND VIDEOS

Mutual Support Groups

For the Addicted Individual

1. SMART Recovery – Self-Management and Recovery training. <http://www.smartrecovery.org/>

Quoted from their website:

SMART Recovery is the leading self-empowering addiction recovery support group. Our participants learn tools for addiction recovery based on the latest scientific research and participate in a world-wide community

which includes free, self-empowering, science-based mutual help groups.

SMART Recovery, a non-profit corporation, was originally named the Rational Recovery Self-Help Network and was affiliated with Rational Recovery Systems, a for-profit corporation owned by Jack Trimpey. In 1994, the nonprofit changed its name to SMART Recovery and ended all affiliation with Trimpey. This change occurred because of disagreements between Trimpey and the non-profit's

- board of directors about the program of recovery to be offered in the self-help groups.
2. Rational Recovery. <https://rational.org>
Quoted from their website:
The combined mission of Rational Recovery Systems, Inc., is (1) to disseminate information on independent recovery from addiction through planned, permanent abstinence, (2) to make self-recovery a viable option to all addicted people everywhere, and (3) to make informed consent to addiction treatment and recovery group participation available to all addicted people.
 3. LifeRing Secular Recovery. <https://lifering.org/>
Quoted from their website:
LifeRing Secular Recovery is an abstinence-based, worldwide network of individuals seeking to live in recovery from addiction to alcohol or other non-medically indicated drugs. In LifeRing, we offer each other peer-to-peer support in ways that encourage personal growth and continued learning through personal empowerment. Our approach is based on developing, refining, and sharing our own personal strategies for continued abstinence and crafting a rewarding life in recovery. In short, we are sober, secular, and self-directed.
 4. Secular Organizations for Sobriety. <http://www.sossobriety.org/>
Quoted from their website:
Secular Organizations for Sobriety (SOS) is a nonprofit network of autonomous, non-professional local groups, dedicated solely to helping individuals achieve and maintain sobriety/abstinence from alcohol and drug addiction, food addiction and more. Watch the award-winning short documentary about SOS! “No God at the Bottom of a Glass” is an award-winning short documentary produced by Sarah Barker of Creative Media Hub. The film tells the story of Secular Organizations for Sobriety (SOS), the brainchild of founder, James Christopher.
 5. Women for Sobriety. <https://womenforsobriety.org/>
Quoted from their website:
Women for Sobriety (WFS) is an organization whose purpose is to help all women find their individual path to recovery through discovery of self, gained by sharing experiences, hopes and encouragement with other women in similar circumstances. We are an abstinence-based self-help program for women facing issues of alcohol or drug addiction. Our “New Life” Program acknowledges the very special needs women have in recovery – the need to nurture feelings of self-value and self-worth and the desire to discard feelings of guilt, shame, and humiliation.
 6. Alcoholics Anonymous. <https://www.aa.org/>
Quoted from their website:
Alcoholics Anonymous is an international fellowship of men and women who have had a drinking problem. It is nonprofessional, self-supporting, multiracial, apolitical, and available almost everywhere.
 7. Dual Recovery Anonymous. <http://www.draonline.org/>
Quoted from their website:
Dual Recovery Anonymous™ is a Fellowship of men & women who meet to support each other in our common recovery from two No-Fault illnesses: an emotional or psychiatric illness and chemical dependency.
 8. Addiction.com. <https://www.addiction.com/get-help/for-yourself/treatment/self-help-support-groups/>
Quoted from their website:
Like most any other problem in life, it can help a lot to talk to people who know exactly what you’re dealing with because they’ve been there, too.
- For the Partner and/or Family*
- These groups are intended to help family members refrain from behaviors that may trigger the addict. They also target underlying maladaptive thoughts and behaviors of the co-addict. Lastly, they focus on facilitating spiritual growth.
1. Al-Anon/Alateen. <https://al-anon.org/>
Quoted from their website:
Al-Anon and Alateen members are people just like you and me—people who have been affected by someone else’s drinking. They are parents, children, spouses, partners, brothers, sisters, other family members, friends, employers, employees, and coworkers of alcoholics.
 2. Adult Children of Alcoholics. <http://www.adultchildren.org/>
Quoted from their website:
The program is Adult Children of Alcoholics. The term “adult child” is used to describe adults who grew up in alcoholic or dysfunctional homes and who exhibit identifiable traits that reveal past abuse or neglect.
 3. Codependents Anonymous (CODA). <http://www.codependents.org/> This site takes you to their subscription page for individuals to receive their emails.
 4. Recovering Couples Anonymous (RCA). <http://www.recovering-couples.org/>
Quoted from their website:
Ours is a fellowship of recovering couples. We suffer from many addictions and dysfunctions, and we share our experience, strength, and hope with each other that we may solve our common problems and help other

recovering couples restore their relationships. The only requirement for membership is the desire to remain committed to each other and to develop new intimacy.

Websites

1. <http://www.aabigbook.com/> has online access to the Big Book, AA, Cocaine A, Crystal Meth A, Recovery Organizations, Debtors A, Gamblers A, Marijuana A, Narcotics A, Overeaters A, Sexaholics A.
2. <http://www.alcoholscreening.org/Home.aspx> has alcohol screening.
3. <http://www.alcoholhelpcenter.net/> has alcohol screening and resources.
4. <http://www.downyourdrink.org.uk/> is an alcohol self-help site.
5. <http://www.drinkerscheckup.com/> has alcohol screening.
6. <http://www.thecounselors.com/> offers online counseling.
7. <https://thrivehealth.org.au/university-of-queensland-health-service/survey.php> is an alcohol site mainly for students.
8. National Institute on Alcohol Abuse and Alcoholism. <https://www.niaaa.nih.gov/>

9. National Institute on Drug Abuse. <https://www.drugabuse.gov/drugs-abuse/alcohol>
10. Help Guide.org. <https://www.helpguide.org/articles/addictions/alcoholism-and-alcohol-abuse.htm>
11. Addictions and Recovery.org. <https://addictionsandrecovery.org/alcohol.htm>

Videos

1. The Truth About Alcohol - BBC Documentary. <https://www.youtube.com/watch?v=PNq-JcVIYD4>
2. HBO Documentary: Risky Drinking (2015). https://www.youtube.com/watch?v=_1gQ4iM6N4M
3. Addiction and Recovery: A How to Guide | Shawn Kingsbury | TEDxUIDaho. https://www.youtube.com/watch?v=2E6vZt_DC5I
4. Wasted: Beating Alcohol Addiction Through Evidence-Based Treatment. <https://www.youtube.com/watch?v=fezqA2uUebY>
5. Alcohol Will Kill You. . . The Documentary You Must See! <https://www.youtube.com/watch?v=ySbeSUE2XHE&t=769s>

RELEVANT PHONE APPS

Generic Addiction Apps

Note: Generic apps are described in Chapter 6.

This list is not exhaustive. New apps are continually being developed. Do an Internet search to find out the latest apps available. Most are for specific addictions but some, such as these four, are generic.

1. I Am Sober. <https://play.google.com/store/apps/details?id=com.thehungrywasp.iamsober>
2. Sober Time. <https://play.google.com/store/apps/details?id=com.sociosoft.sobertime>
3. Pocket Rehab: Get Sober & Addiction Recovery. <https://play.google.com/store/apps/details?id=com.getpocketrehab.app>
4. Loop Habit Tracker. <https://play.google.com/store/apps/details?id=org.isoron.uhabits>

Specialized Apps

1. 12 Steps AA Companion. This app is available for both IOS and Android systems. It follows the 12-step program of AA. There is a small fee for this app.

2. Stop Drinking with Andrew Johnson. This app may help individuals with AUD who have cravings. The app provides positive messages, tools for relaxing, and even hypnotherapy. There is a small fee for this app.
3. Twenty-Four Hours a Day. This app is available for both IOS and Android systems. Designed by the Hazelden Betty Ford Foundation. Hazelden is world renowned, and this is an excellent app. There is a small fee for this app.
4. SoberToolPro. This app is available for both IOS and Android systems. There is a small fee for this app.

Quoted from their website:

This App has also been useful for treatment centers, alcoholism and addiction counselors, psychiatrists, and 12 Step Sponsors for the alcoholic or addicted individual who need a resource for finding answers to common issues experienced by the alcoholic and addict.

5. Addiction-Comprehensive Health Enhancement Support System (A-CHESS). <https://www.chess.health/>

Quoted from their website:

Providers and payers use the A-CHESS Platform to improve the recovery outcomes of their patients and

members through evidence-based technology that offers a continuous connection between patients and their peers and care team, builds social relatedness, enhances coping competence, and develops their motivations.

6. https://www.moderatedrinking.com/home/default_home.aspx?p=register_login NOTE: THIS IS A WEB APP. There is a moderate monthly or annual fee for this app. Quoted from their website:

This web app is for people who want to change their drinking by moderating or cutting back. Its effectiveness has been demonstrated in a randomized clinical trial funded by NIH/NIAAAA. It is also listed on SAMHSA's National Register of Evidence-based Programs and Practices.

7. Ray's Night Out. This app is available for both IOS and Android systems, and there is no cost.

Quoted from their website:

Ray's Night Out is an app designed to help young people learn safe drinking strategies and important facts about alcohol. Users of 'Ray's Night Out' take Ray the panda for a night out, buying drinks and food, dancing and playing bar trivia. Users collect good vibe points to unlock rewards and take selfies with Ray while taking

care that he doesn't cross his 'stupid line' for drinking – the point where a good night out turns bad. . . . The app is targeted to young people aged 15 to 25. However, it is also a great resource for clinicians, teachers, practitioners, and parents to help guide young people's understanding of alcohol use and its limits.

8. A-Chess. <http://techwonderz.com/best-addiction-recovery-apps-2018/>

Quoted from their website:

This is a brand new mobile app that has been developed by researchers. In fact, A-CHESS was highly recommended by a scientist named Kathleen Boyle who has described it as the most effective alternate innovation in the technology field because it provides extensive support in the recovery of the alcoholics. This helps only alcoholic from relapse, after leaving the recovery program. The main feature of this app is that if the alcoholic is near a liquor store or at some place where alcohol is consumed, it will take the location and other details and warns if there is a possibility of danger. So if you found at such a place, the phone will call off and you can do instant FaceTime with a counselor. There are some additional features such as it offers relaxation strategies and motivational thoughts and assess the risk of a relapse.

JOURNALS AND CONFERENCES

Journals

There are innumerable journals that publish articles about alcohol addiction. The following is, therefore, an incomplete list of 19 journals that publish in the addictions field. Please visit their websites for further details.

1. *Addiction*. <https://onlinelibrary.wiley.com/journal/13600443>

Quoted from their website:

Addiction is the official journal of the Society for the Study of Addiction, and has been in publication since 1884. The journal publishes peer-reviewed research reports on pharmacological and behavioural addictions, bringing together research conducted within many different disciplines.

2. *Alcohol Research & Health* (ARH). ARH is the official journal of the National Institute on Alcohol Abuse and Alcoholism. https://pubs.niaaa.nih.gov/publications/arh341/toc34_1.htm
3. *Psychology of Addictive Behaviors*. A journal of the American Psychological Association. <http://www.apa.org/pubs/journals/adb/index.aspx>

4. *Alcoholism: Clinical and Experimental Research*. <https://onlinelibrary.wiley.com/journal/15300277>

5. *American Journal on Addictions*. <https://onlinelibrary.wiley.com/journal/15210391>

Quoted from their website:

As the official journal of the American Academy of Addiction Psychiatry, *The American Journal of Addictions* provides a forum for the dissemination of information in the extensive field of addiction, including topics ranging from codependence to genetics, epidemiology to dual diagnostics, etiology to neuroscience, and much more.

6. *American Journal of Drug and Alcohol Abuse*. <https://www.tandfonline.com/toc/iada20/current>
7. *Addiction Research & Theory*. <https://www.tandfonline.com/loi/iart20>
8. *Addictive Behaviors*. <https://www.journals.elsevier.com/addictive-behaviors/>
9. *Journal of Addiction Medicine*. <https://journals.lww.com/journaladdictionmedicine/pages/default.aspx>

10. *Substance Use & Misuse*. <https://www.tandfonline.com/loi/isum20>
11. *Journal of Substance Use*. <https://www.tandfonline.com/loi/ijisu20>
12. *Journal of Substance Abuse Treatment*. <https://www.journals.elsevier.com/journal-of-substance-abuse-treatment/>
13. *Addictive Disorders & Their Treatment*. <https://journals.lww.com/addictiondisorders/pages/default.aspx>
14. *Alcohol and Alcoholism*. <https://academic.oup.com/alcac/>
15. *Alcohol*. <https://www.journals.elsevier.com/alcohol/>
16. *Alcoholism Treatment Quarterly*. <https://www.tandfonline.com/toc/watq20/current>
17. *Drug and Alcohol Dependence*. <https://www.journals.elsevier.com/drug-and-alcohol-dependence/>
18. *Drug and Alcohol Review*. <https://onlinelibrary.wiley.com/journal/14653362>
19. *International Journal of Mental Health and Addiction*. <https://www.springer.com/public+health/journal/11469>
3. National Institute on Drug Abuse lists several conferences. Details can be found at <https://www.drugabuse.gov/news-events/meetings-events>
4. National Institute on Alcohol Abuse and Alcoholism (NIAAA). Details of meetings and conference can be found at <https://www.niaaa.nih.gov/>
5. National Conference on Alcohol & Addiction Disorders. This conference used to be known as the National Addiction Conference. They provided notice of the name change on March 8, 2018. Please type the name of the conference into Google for the latest conference details.
6. International Society of Addiction Medicine (ISAM). See <http://www.isamweb.org/annual-meetings/> for details.
7. National Association for Alcoholism and Drug Abuse Counselors (NAADAC). This is the Association for Addiction Professionals. Details of their annual conference can be found at <https://www.naadac.org/annualconference>
8. Canadian Society of Addiction Medicine. Details of their annual conference can be found at <https://www.csam-smca.org/>

Conferences

1. American Society of Addictive Medicine hosts an annual conference. Details can be found at <https://www.asam.org/education/live-online-cme/the-asam-annual-conference>
 2. Substance Abuse and Mental Health Services Administration lists several conferences. Details can be found at <https://www.samhsa.gov/>
- A couple of additional conferences worth checking out are as follows (check their websites for details):
9. International Conference on Addictive Disorders and Alcoholism.
 10. International Conference on Addiction Research & Therapy.

INDIVIDUAL EXERCISES

1. Attend a bar on a busy night (likely Friday or Saturday is best). Do one of the following:
 - If you are with friends, decide that you will either remain abstinent and be the designated driver or, if you choose to drink, drink only a small amount. Pay attention to your friends who drink more. What characterizes the change in their behavior as they consume increasing amounts of alcohol? What do you like about their behavior and what do you dislike?
 - If you go by yourself, sit somewhere close to people who are drinking excessively. Without appearing obvious, take notice of their behavior. What characterizes people who drink heavily?
2. Attend an AA meeting. You will need to check on the web for meetings that are scheduled in your area. Be sure to pick one that is an open meeting, which means that anyone can attend. Take note of the adverse consequences that alcohol has created for members who speak at the meeting.
3. Skim or read *The Big Book*. What most stands out for you in the way this book is written? Which parts of the 12 steps do you agree with and which parts strike you the wrong way? Ask yourself why you have this reaction.

CLASSROOM EXERCISES

1. Prohibition occurred in the United States between 1920 and 1933. During that time, there was a nationwide ban on alcohol production, importation, transportation, and sale. Have the class split into two for debate. One side of the class takes the position that prohibition should be re-enacted and the other half of the class takes the perspective that the drinking age should be lowered to 18 as it is in some Canadian provinces.
2. Have your students split into two groups based on whether they have ever gotten drunk or intoxicated. Create groups of four ensuring that at least one student who has ever gotten drunk or intoxicated is in each group. Have the student(s) who has consumed alcohol excessively in each group tell the others about the pros and cons of his/her/their experience. Furthermore, what advice would this student(s) provide the other students in her/his/their group regarding consumption of alcohol?
3. Invite a speaker from SMART Recovery, Rational Recovery, or AA to attend your class and share his or her experience with excessive drinking. At a class before the speaker is scheduled, ensure that the students have questions that they would want to ask the speaker.

CHAPTER SUMMARY

Alcohol use has a long history dating back approximately 20,000 years, but its consequences today are staggering. There are more than 85,000 deaths each year due to alcohol in the United States. The societal cost annually to the United States is estimated at more than \$249.0 billion. *Addiction* involves a compulsive and excessive use of drugs and alcohol with subsequent negative consequences. Binge drinking is defined as more than four drinks a day and not more than 14 drinks in a week for men, and more than three drinks a day and not more than seven drinks in a week for women. Relapse is common for those who become dependent on alcohol. Although most individuals with AUD would prefer to learn how to moderate their drinking, it is unlikely that most can do so who have become severely dependent on alcohol. The course of AUD does vary, however, from person to person.

An important cause of AUD and drug addiction is child maltreatment. Others, however, may have a strong genetic predisposition to developing an AUD. Still others may become

dependent because of what they initially perceive to be the positive effects of drinking such as becoming less inhibited, less stressed or depressed, and more sociable. Over time, however, those who become dependent begin to experience adverse consequences in several areas of their lives.

The beneficial effects of light to moderate drinking remain controversial. Recent global research has suggested that there is not a safe amount of alcohol that can be consumed regularly.

Therapies for alcohol addiction include three medications that have been approved by the FDA. These include disulfiram, acamprostate, and naltrexone. Counseling approaches have mostly focused on behavioral methods, CBT, MI, and contingency management. Couples counseling, group counseling, and in some cases family counseling have been recommended. Some have suggested integrative treatment that also includes acupuncture, yoga, exercise, mindfulness, hypnosis, biofeedback, neurofeedback, music and art therapy, and herbal therapies.

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