14.8: Risk Factors

Many factors influence the development of substance use disorders, including developmental, environmental, social, and genetic factors, and co-occurring mental health disorders. Other conditions called protective factors protect people from developing a substance use disorder or addiction. The relative influence of these factors varies across individuals and the life span.

Whether an individual ever uses alcohol or another substance and whether that initial use progresses to a substance use disorder of any severity depends on a number of factors including the following:

- A person’s genetic makeup and biological factors
- The age when substance use begins
- Psychological factors related to a person’s unique history and personality
- Environmental factors, such as the availability of drugs, family and peer dynamics, financial resources, cultural norms, exposure to stress, and access to social support.

Early Life Experiences

The experiences a person has early in childhood and in adolescence can set the stage for substance use and sometimes escalate to substance use disorder. Early life stressors (referred to as adverse childhood experiences) include physical, emotional, and sexual abuse; neglect; household instability (such as parental substance use and conflict, mental illness, or incarceration of household members); and poverty. Review information on adverse childhood experiences in the "Mental Health and Mental Illness" section of Chapter 1.

Adolescence is a critical vulnerable period for substance misuse and the development of substance use disorders.
because a characteristic of this developmental period is risk taking and experimentation. For some young people, this includes trying alcohol, marijuana, or other drugs. Additionally, the brain undergoes significant changes during this life stage, making it particularly vulnerable to substance exposure. For example, the frontal cortex, a region in the front part of the brain that includes the prefrontal cortex, does not fully develop until the early to mid-20s. Research shows that heavy drinking and drug use during adolescence affects development of this critical area of the brain.\[3\]

Approximately 74 percent of 18- to 30-year-olds admitted to treatment programs began using substances at the age of 17 or younger. Individuals who start using substances during adolescence often experience more chronic and intensive use, and they are at greater risk of developing a substance use disorder compared with those who begin use at an older age. In other words, the earlier the exposure, the greater the risk.\[4\]

Genetic and Molecular Factors

Genetic factors are thought to account for 40 to 70 percent of individual differences in risk for addiction. Although multiple genes are likely involved in the development of addiction, only a few specific gene variants have been identified that either predispose to or protect against addiction. Some of these variants have been associated with the metabolism of alcohol and nicotine, while others involve receptors and other proteins associated with key neurotransmitters and molecules involved in all parts of the addiction cycle. Genes involved in strengthening the connections between neurons and in forming drug memories have also been associated with addiction risk. Like other chronic health conditions, substance use disorders are influenced by the complex interplay between a person’s genes and environment.\[5\]

Concurrent Mental Health Disorders

In 2020, 17 million adults (6.7%) had both a substance use disorder (SUD) and any mental health illness (AMI) as illustrated in Figure 14.10.\[6\] The relationship between SUDs and mental disorders is known to be bidirectional, meaning the presence of a mental health disorder may contribute to the development or exacerbation of an SUD, or an SUD may contribute to the development or exacerbation of a mental health disorder. The combined presence of SUDs and mental health disorders results in greater functional impairment; worse treatment outcomes; higher morbidity and mortality; increased treatment costs; and higher risk for homelessness, incarceration, and suicide.

![Figure 14.10 Concurrent Mental Illness (AMI) and Substance Use Disorder (SUD) in Adults in 2020. Used under Fair Use.](https://med.libretexts.org/Bookshelves/Nursing/Nursing%3A_Mental_Health_and_Community_Concepts_(OpenRN)/14%3A_…)

The reasons why substance use disorders and mental health disorders often occur together are not clear, but there are...
three possible explanations. One reason may be because certain substances may temporarily mask the symptoms of mental health disorders (such as anxiety or depression). A second reason may be that certain substances trigger a mental health disorder that otherwise would not have developed. For example, research suggests that alcohol use increases risk for PTSD by altering the brain's ability to recover from traumatic experiences. A third possible reason is that both substance use disorders and mental health disorders are caused by overlapping factors, such as particular genes, neurobiology, or exposure to traumatic or stressful life experiences. [7]

Mental health disorders and substance use disorders have overlapping symptoms, making diagnosis and treatment planning challenging. For example, people who use methamphetamine for a long period of time may experience paranoia, hallucinations, and delusions that can be mistaken for symptoms of schizophrenia. [8]

### Gender

Some groups of people are more vulnerable to substance misuse and substance use disorders. For example, biological males tend to drink more than biological females and are at higher risk for alcohol use disorder. However, biological females who use cocaine, opioids, or alcohol may progress from initial use to a substance use disorder faster than males. Compared with biological males, biological females also exhibit greater withdrawal symptoms from some drugs such as nicotine and have higher levels of the stress hormone cortisol. [9]

### Race and Ethnicity

Neurobiological factors contributing to differential rates of substance use disorders across racial and ethnic groups have been researched. A study using functional magnetic resonance imaging (fMRI) found that African American smokers showed greater activation of the prefrontal cortex upon exposure to smoking-related cues than did White smokers, an effect that may partly contribute to the lower smoking-cessation success rates among African Americans. [10]

Alcohol research on racial and ethnic groups has shown that approximately 36 percent of East Asians carry a gene variant that alters the rate of alcohol metabolism, causing a buildup of acetaldehyde, a toxic by-product that produces symptoms such as flushing, nausea, and rapid heartbeat. Although these effects may protect some individuals of East Asian descent from alcohol use disorder, those who drink despite the effects are at increased risk for esophageal and head and neck cancers. [11]

### Individual, Family, and Community Level Risk Factors

An individual’s risk factors for developing SUD include the following [12]:

- **Early initiation of substance use**: Engaging in alcohol or drug use at a young age
- **Early and persistent problem behavior**: Emotional distress, aggressiveness, and “difficult” temperaments in adolescents
- **Rebelliousness**: High tolerance for deviance and rebellious activities
• Favorable attitudes toward substance use: Positive feelings towards alcohol or drug use; low perception of risk
• Peer substance use: Friends and peers who engage in alcohol or drug use
• Genetic predictors: Genetic susceptibility to alcohol or drug use
• Academic failure beginning in late elementary school: Poor grades in school
• Lack of commitment to school: When a young person no longer considers the role of being a student as meaningful and rewarding or lacks investment or commitment to school

Risk factors at the family level for an individual developing SUD are as follows:\[13\]:

• Family management problems: Poor parental management practices, including failure to set clear expectations for children’s behavior, failure to supervise and monitor children, and excessively harsh or inconsistent punishment
• Family conflict: Conflict between parents or between parents and children, including abuse or neglect
• Favorable parental attitudes: Parental attitudes that are favorable to drug use and parental approval of drinking and drug use
• Family history of substance misuse: Persistent or generalized substance misuse by family members

These are the risk factors at the community level for individuals developing SUD:\[14\]:

• Low cost of alcohol: Low alcohol sales tax, happy hour specials, and other price discounting
• High availability of substances: High number of alcohol outlets in a defined geographical area or per a sector of the population
• Community laws and norms favorable to substance use: Community reinforcement of norms suggesting alcohol or drug use is acceptable for youth
• Low neighborhood attachment: Low level of bonding to the neighborhood
• Community disorganization: Living in neighborhoods with high population density, lack of public places, physical deterioration, or high rates of adult crime
• Low socioeconomic status: Parents’ low socioeconomic status, as measured through a combination of education, income, and occupation
• Transitions and mobility: Communities with high rates of mobility within or between communities
• Media portrayal of alcohol use: Exposure to actors using alcohol or drugs in movies or television

addiction in America: The surgeon general’s report on alcohol, drugs, and health. United States Department of Health and Human Services. [URL]


