Addiction and Drug Abuse
Defined as continued involvement with a substance or activity despite its ongoing negative consequences.

When the individual eventually needs to consume the addictive substance or enact the behavior to feel normal.
Physiological/Psychological Dependence

- Tied together
- Addiction is based on four criteria:
  1. Withdrawal
  2. Dependence
  3. Tolerance
  4. Cravings
Defining Addiction

- Signs of Addiction
  - Addictions are characterized by four common symptoms
    1. Compulsion (or cravings or obsession) for the substance or behavior
    2. Loss of control to stop
    3. Negative consequences – jail, loss of job, financial ruin
    4. Denial that the behavior is self destructive

- Process Addictions
  - Behaviors known to be addictive because they are mood altering
Addictions

- Alcohol
- Drugs
- Exercise
- Gambling
- Pornography
- Sex
- Shopping/spending
- Technology
1. Compulsive or Pathological Gambling

- Cravings or highs similar to those experienced by drug users
- Often seek the excitement more than the money
2. Compulsive Spending

- On average, compulsive spenders are $23,000 in debt.
- Compulsive borrowing to help support addiction.
Exercise Addiction

- About 2 million people with anorexia nervosa and bulimia nervosa use exercise to purge instead of, or in addition to, self-induced vomiting.
- Try to meet needs for nurturance, intimacy, self-esteem, and self-competency that an object or activity cannot truly meet.
- Men are increasingly abusing steroids and overexercising to attain an ideal frame.
Technology Addictions

- Cell phones, video games, PDAs, networking sites, and the Internet can all be addictive.
- An estimated 5 to 10 percent of Internet users will likely experience Internet addiction.
- Symptoms include general disregard for one’s health, sleep deprivation, neglecting family and friends, lack of physical activity, euphoria when online, lower grades in school, and poor job...
Addiction Affects Family and Friends

- **Codependence**
  - Pattern of behavior
  - Person becomes “addicted to the addict”
  - Disregard personal needs in order to meet needs or desires of addict

- **Enabling**
  - Knowingly or unknowingly protects addict from consequences of behavior
  - Rarely conscious and generally unintentional
Drug Dynamics

- Abuse often associated with illegal drugs, but many people abuse and misuse legal drugs
  - **Drug misuse**—use for purpose not intended
  - **Drug abuse**—excessive use
Drug Dynamics

- How Drugs Affect the Brain
  - **Mesolimbic dopamine**—neurons relay messages about pleasure
  - **Psychoactive drugs**—affects chemical neurotransmission, either enhancing it, suppressing it, or interfering with it.
The Action of Cocaine at Dopamine Receptors in the Brain, an Example of Psychoactive Drug Action
Types of Drugs

- **Prescription**—more than 10,000 types sold in U.S.
- **Over-the-counter (OTC) drugs**—no prescription needed
- **Recreational**—alcohol, tobacco, coffee, etc.
- **Herbal preparations**—products of plant origin
- **Illicit (illegal)**—all are psychoactive
- **Commercial preparations**—household cleaners, pesticides, etc.
Routes of Drug Administration

- **Oral**
- **Injection**
  - Intravenous—into bloodstream
  - Intramuscular—into muscle
  - Subcutaneous—just under the skin
- **Inhalation**
  - through the nose or mouth
- **Inunction**
  - through the skin
- **Suppositories**
  - through the vagina or anus
Abuse of Over-the-Counter (OTC) Drugs

- Nonprescription medicine
- High doses can cause hallucinations, bizarre sleep patterns, mood changes, and sometimes death.
- Those most vulnerable to abusing OTC drugs are teenagers, young adults, and people over the age of 65.
- Cough syrups
- Aspirin
- Sudafed
Sleep Aids
- Excedrin PM, Sominex, Unisom, and Tylenol PM
- Can cause problems with the sleep cycle, weaken areas of the body, or induce narcolepsy

Cold Medicines
- Robitussin, Vicks, Coricidin, and NyQuil
- Dextromethorphan (DXM) can cause hallucinations, loss of motor control, and "out-of-body" sensations
- Pseudoephedrine is being used to illegally manufacture methamphetamine

Diet Pills
- Contain stimulants such as caffeine, amphetamines
15.2 million people over the age of 12 (6.2%) report abusing controlled prescription drugs in the past year.

Prescription drug abuse is particularly common among teenagers.

Abuse of opioids, narcotics, and pain relievers can result in life-threatening respiratory depression (reduced breathing).
- Vicodan, Codeine, Morphine

Abuse of depressants, including benzodiazepines, tranquilizers, barbiturates, and sedatives can result in seizures, respiratory depression, and decreased heart rate.
- Ativan, Xanax, Soma

Abuse of stimulants can cause elevated body temperature, irregular heart rate, cardiovascular
Discussion Questions

1. Do you believe the statistics about heavy drug use and binge drinking on campus?
2. Why do you think fraternities play a large role in the drug trade? Would this type of drug ring be successful in a different format on campus?
Reasons Why College Students Use Illicit Drugs or Controlled Prescription Drugs

- Reduce stress: 46%
- Get high: 40%
- Social pressure: 14%
- Experiment: 8%
- Help study: 8%
- Lose inhibitions: 5%
- Enjoyment: 4%
- Can’t stop: 2%
Illicit Drugs

- Why Do Some College Students Use Drugs?
  - Genetics and family history
  - Substance use in high school
  - Positive expectations
  - Mental health problems
  - Sorority and fraternity membership

- Why Do Some College Students Not Use Drugs?
  - Parental attitudes and behavior
  - Religion and spirituality
  - Student engagement
  - College athletics
  - No interest
### Table 7.1

<table>
<thead>
<tr>
<th>Drug Type</th>
<th>Full-Time College (%)</th>
<th>Others (%)</th>
<th>Full-Time College (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any illicit drug</td>
<td>35.0</td>
<td>35.4</td>
<td>6.9</td>
</tr>
<tr>
<td>Any illicit drug other than marijuana</td>
<td>17.3</td>
<td>21.1</td>
<td>3.7</td>
</tr>
<tr>
<td>Marijuana</td>
<td>31.8</td>
<td>31.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Inhalants</td>
<td>1.5</td>
<td>1.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>4.9</td>
<td>5.5</td>
<td>3.6</td>
</tr>
<tr>
<td>LSD</td>
<td>1.3</td>
<td>1.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Hallucinogens other than LCD</td>
<td>4.7</td>
<td>5.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Ecstasy (MDMA)</td>
<td>2.2</td>
<td>3.8</td>
<td>0.1</td>
</tr>
<tr>
<td>Cocaine</td>
<td>5.4</td>
<td>8.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Crack</td>
<td>0.6</td>
<td>1.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Other cocaine</td>
<td>5.3</td>
<td>7.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Heroin</td>
<td>0.2</td>
<td>0.8</td>
<td>0.2</td>
</tr>
<tr>
<td>With a needle</td>
<td>*</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Without a needle</td>
<td>0.2</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Narcotics other than heroin</td>
<td>7.7</td>
<td>10.5</td>
<td>62.6</td>
</tr>
<tr>
<td>OxyContin</td>
<td>2.8</td>
<td>4.5</td>
<td>30.7</td>
</tr>
<tr>
<td>Vicodin</td>
<td>6.7</td>
<td>10.6</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Stimulants

Cocaine

- White crystalline powder
- Derived from the leaves of the south American coca shrub
- Cocaine rapidly enters bloodstream
- Exposed fetus is likely to suffer damage
- Methods of use vary
  - Freebase cocaine
  - Crack
- Treatment for cocaine addiction involves mainly psychiatric counseling and 12-step programs.
Common Drugs of Abuse

- **Amphetamines**
  - Synthetic agents that stimulate the central nervous system (CNS)
  - **Ritalin and Adderall** are used for attention deficit/hyperactivity disorder (ADHD)
  - High potential for abuse
  - Diet Pills
College Students’ Stated Reasons for Nonmedical Use of ADHD Drugs

<table>
<thead>
<tr>
<th>Reason</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentrate better while studying</td>
<td>41.4%</td>
<td>19.9%</td>
<td>12.0%</td>
<td>12.0%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Feel less restless while studying</td>
<td>26.7%</td>
<td>21.0%</td>
<td>16.1%</td>
<td>13.4%</td>
<td>23.1%</td>
</tr>
<tr>
<td>Be able to study longer</td>
<td>26.3%</td>
<td>14.4%</td>
<td>12.8%</td>
<td>11.7%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Concentrate better in class</td>
<td>8.1%</td>
<td>9.7%</td>
<td>10.8%</td>
<td>10.8%</td>
<td>60.5%</td>
</tr>
<tr>
<td>Get high</td>
<td>3.8%</td>
<td>10.2%</td>
<td>9.1%</td>
<td></td>
<td>74.7%</td>
</tr>
<tr>
<td>Lose weight</td>
<td>7.0%</td>
<td>5.4%</td>
<td>1.1%</td>
<td></td>
<td>85.5%</td>
</tr>
</tbody>
</table>

Percentage of the total students who reported using ADHD drugs

Key:
- Always
- Often
- Sometimes
- Rarely
- Never
Common Drugs of Abuse

- Methamphetamine
  - Affects brain and CNS
  - Euphoria lasts 6 to 8 hours
  - Methods of use: snorted, injected, smoked, and ingested
Caffeine

- Most popular and widely consumed drug in the United States
- Caffeine is derived from the chemical family called xanthines, which are found in plant products such as coffee, tea, and chocolate.
- Enhance mental alertness and reduce feelings of fatigue
  - Espresso, energy drinks, sodas
- Side effects include wakefulness, insomnia, irregular heartbeat, dizziness, nausea, indigestion, jitteriness
- Caffeine meets the requirements for addiction: tolerance, psychological dependence, and withdrawal symptoms.
Marijuana and Other Cannabinoids

- Methods of Use and Physical Effects
  - People have been using these substances for 6,000 years
  - Derived from Cannabis sativa or Cannabis indica (hemp)
  - Tetrahydrocannabinol (THC) is the active ingredient
  - Hashish, a potent cannabis preparation, is derived from the resin of the plant.
  - Long-term studies have not been conducted in the United States.
  - Inhalation from smoking is harmful.
Common Drugs of Abuse

Marijuana and Medicine

- Helps with severe nausea and vomiting during chemotherapy
- Improves appetite of those with AIDS related wasting syndrome
- Aids those with multiple sclerosis by reducing pain and spasticity
- Reduces eye pressure of glaucoma
Common Drugs of Abuse

- **Depressants**
  - **Opiates**
    - Cause drowsiness, relieve pain, and induce euphoria
    - Called narcotics
    - Derived from opium
    - Include morphine, codeine, heroin, and black tar heroin
    - Depress CNS and lower heart rate, respiration, and blood pressure
    - Decrease sex drive
Heroin Addiction

- Heroin is a white powder derived from morphine.
- Black tar heroin is a sticky, dark brown, foul smelling form of heroin that is relatively pure and inexpensive.
- Heroin withdrawal is distinct, including an intense desire for the drug, sleep disturbances, dilated pupils, and muscle tremors.
- An estimated 3.7 million people have used heroin at one time in their lives.
- **Mainlining**—intravenous injection of powdered heroin mixed in a solution and is the most common route of administration.
Benzodiazepines and Barbiturates

- Benzodiazepines (tranquilizers)
  - The most common sedative–hypnotic drugs
  - Valium, Ativan, and Xanax
- Barbiturates
  - Sedative–hypnotic drugs
  - Amytal and Seconal
  - Less safe than benzodiazepines
- Synergistic effect when combined with alcohol, can lead to respiratory failure and death
- Can produce physical and psychological dependence in several weeks
- Cross–tolerance is a complication specific to sedatives
Treatment of Opiates

- Methadone
  - Blocks effects of opiates withdrawal
  - Potentially addictive itself
- Naltrexone (Narcan)
  - Opiate antagonist
  - Lose compulsion to use heroin
- Buprenorphine
  - Blocks cravings for heroin
  - Nonaddictive
Common Drugs of Abuse

- **Rohypnol**
  - A tranquilizer and “date rape” drug
  - Produces a sedative effect, amnesia, muscle relaxation, and slowed psychomotor responses
  - Has gained notoriety as a growing problem on college campuses as it has been added to punch and other drinks at parties in hopes of lowering women’s inhibitions and facilitating potential sexual conquests

- **Gamma-hydroxybutyrate (GHB)**
  - CNS depressant known to have euphoric, sedative, and anabolic (bodybuilding) effects
  - Another “date rape” drug
  - Side effects include loss of memory,
Ecstasy methylene-dioxymethamphetamine (MDMA)
- Most common club drug
- Side effects include hallucination, paranoia, and amnesia
- Causes death in some cases, especially when combined with alcohol
- Chronic use will damage the brain
Common Drugs of Abuse

- **Hallucinogens**
  - Scramble messages coming to reticular formation
    - **Synesthesia**—mixing of sensory messages
    - May “hear colors” and “smell tastes”
  - **Lysergic acid diethylamide (LSD)**
    - Also called acid
    - Common hallucinogen used to “unlock secrets” of the mind
    - Used to “turn on” and “tune out” world
    - In 1970 it was placed on controlled substances list
    - Over 11 million Americans have tried acid
    - Commonly sold as a “blotter” on paper
    - Flashbacks
Anabolic Steroids

Artificial forms of the male hormone testosterone that promote muscle growth and strength

“Performance-enhancing” steroid alternatives
  - Gamma-hydroxybutyrate (GHB)
  - Clenbuterol

The 2007 Mitchell Report investigated steroid use among Major League Baseball players, 89 of whom were alleged to have used steroids
Common Drugs of Abuse

- **Phencyclidine (PCP)**
  - May cause euphoria or dysphoria
  - Known to cause hallucinations, delusions, and overall delirium

- **Ketamine (Special K)**
  - Used as an anesthetic in many hospital and veterinary clinics
  - Causes hallucinations and sensory distortions
**Common Drugs of Abuse**

- **Inhalants**
  - Users inhale chemicals
  - Legal to purchase and not commonly recognized as drugs, though dangerous when used incorrectly
  - Includes: glue, paint thinner, and rubber cement
    - Cause cerebral embolism
- **Amyl Nitrate and Nitrous Oxide**
  - Commonly known as laughing gas
  - Imparts a “silly feeling”
  - An overdose of fumes from inhalants can cause
Treatment and Recovery

- **Detoxification**—an early abstinence period during which an addict adjusts physically and cognitively to being free from the addiction’s influence.
Treatment and Recovery

- **Treatment Approaches**
  - **Outpatient Behavioral Treatment**
    - Cognitive behavioral therapy
    - Multidimensional family therapy
    - Motivational interviewing
    - Motivational incentives (contingency management)
  - **Residential Treatment Programs**
    - Therapeutic communities (TCs) are highly structured programs in which addicts remain at a residence, typically for 6 to 12 months
  - **12-Step Programs**
    - Nonjudgmental treatment programs that aim to work on personal recovery
Discussion Questions

1. Do you think treating addiction with virtual reality is a viable form of treating addiction?
2. Could this type of behavior modification be used to treat other chemical dependencies?
3. What steps are necessary in order to overcome an addiction?
The financial burden of illegal drug use on the U.S. economy is around $180.9 billion per year.

**Possible Solutions to the Problem**
- **Scare tactics**—shown not to be effective
- **War on drugs**—laws and policies to reduce illegal drug trade
- **Multimodal approach**—most effective when young people are taught to differentiate drug use, misuse, and abuse
- **Harm Reduction Strategies**—practical approaches to reducing negative consequences of drug use