Current Trends in Teen Drug Abuse

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- Licensed Psychologist in Georgia since 1995
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- Developed, opened and ran Substance Abuse I/P and O/P Units
- Certificant in Psycoactive Substance Use Disorders, American College of Professional Psychology
- Developed Serenity – A Recovery Game to teach 12-step concepts
- Work with teens and adults with Substance Use/Abuse Issues
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Past Month Drug Use, 12-17 year olds, 2002-2013

The graph shows the percentage of past month drug use among 12-17 year olds from 2002 to 2013. The data is categorized into different types of drugs:

- **Illicit Drugs**: Represented by red circles. The percentage starts at 8.3% in 2002 and increases to 9.4% in 2013.
- **Marijuana**: Represented by blue diamonds. The percentage starts at 6.2% in 2002 and increases to 7.5% in 2013.
- **Cocaine**: Represented by green triangles. The percentage starts at 0.9% in 2002 and increases to 0.6% in 2013.
- **Hallucinogens**: Represented by purple stars. The percentage starts at 0.5% in 2002 and increases to 0.6% in 2013.
- **Psychotherapeutics**: Represented by black squares. The percentage starts at 2.7% in 2002 and decreases to 2.5% in 2013.
Past Month Drug Use, 12-17 year olds, 2002-2013

In 2013, 9.4 percent of youths aged 12 to 17 were current or recent illicit drug users:
7.1 percent used marijuana,
2.2 percent used prescription-type psychotherapeutics
0.6 percent used inhalants
0.5 percent used hallucinogens, and
0.6 percent used cocaine or other drugs of abuse.
First Specific Drug Associated with Initiation of Illicit Drug Use among Past Year Illicit Drug Initiates Aged 12 or Older: 2013

Marijuana (70.3%)

Pain Relievers (12.5%)

Inhalants (6.3%)

Tranquilizers (5.2%)

Stimulants (2.7%)

Hallucinogens (2.6%)

Sedatives (0.2%)

Cocaine (0.1%)

2.8 Million Initiates of Illicit Drugs
Alcohol
Alcohol is still the most popular drug of abuse

- 40 percent of those who started drinking at age 13 or younger developed alcohol dependence later in life. Ten percent of teens who began drinking after the age of 17 developed dependence.
- Teens who drink are 50 times more likely to use cocaine than teens who never consume alcohol.
Current, Binge, and Heavy Alcohol Use among Persons Aged 12 or Older, by Age: 2013
Alcohol

- Alcohol kills 6 ½ times more teenagers than all other illicit drugs combined.
- 63 percent of the youth who drink alcohol say that they initially got the alcohol from their own or their friend’s homes.
- Underage drinking costs the United States more than $58 billion every year.
Current Alcohol Use among Persons Aged 12 to 20, by Age: 2002-2013

![Graph showing percent using in past month by age group from 2002 to 2013.]

- 12 or 13: 4.3, 4.5, 4.3, 4.2, 3.9, 3.5, 3.4, 3.5, 3.2, 2.5, 2.2, 2.1
- 14 or 15: 16.6, 17.0, 16.4, 15.1, 15.6, 14.7, 13.3, 13.1, 12.4, 11.3, 11.1, 9.5
- 16 or 17: 32.6, 31.8, 32.5, 30.1, 29.8, 29.2, 26.3, 26.5, 24.6, 25.3, 24.8, 22.7
- 18 to 20: 51.0, 51.5, 51.1, 51.1, 51.6, 50.8, 48.6, 49.5, 48.5, 46.8, 45.8, 43.8
Alcohol Use by Grade, 2015

% who used in last 30 days

YEAR

PERCENT

8th Grade
10th Grade
12th Grade
Marijuana

Photo from High Times magazine website
Marijuana

• 20 percent of 8th graders report that they have tried marijuana.

• Approximately 60 percent of the kids who use drugs use only marijuana. Of the 14.6 million marijuana users in 2002, approximately 4.8 million used it on 20 or more days in any given month.

• Between 1991 and 2001, the percentage of 8th graders who used marijuana doubled from one in ten (10%) to one in five (20%).
Marijuana

• Each year, 100,000 teens are treated for marijuana dependence.
• Every year more teens enter treatment with the diagnosis of marijuana dependence than for all other illicit drugs combined.
• Sixty percent of teens admitted for treatment of addiction say that marijuana is their primary drug of choice.
Marijuana

• Regular marijuana use has been shown to be associated with poor academic performance.
• There is an association between an increase in marijuana use and a decrease in the likelihood of attaining at least a high school education.
• Students who smoke marijuana are more than twice as likely to cut class than those who don’t smoke.
Marijuana

- Marijuana use by youth showed a consistent decline up to the mid-1990’s, but prevalence rates increased more recently.
- Past-year use was reported by 11.8 percent of 8th-graders, 26.7 percent of 10th-graders, and 32.8 percent of 12th-graders.
- Perceived risk of regular use of marijuana decreased among 8th- and 10th-graders, although perceived availability decreased among 12th-graders.
- Marijuana affects memory, judgment, and perception. Teens who smoke marijuana on a regular basis start to lose interest in their appearance and how they are doing in school, at work, and at home.
Past Month Marijuana Use Ages 12-17 by Sex, 2012
Marijuana Use by Grade, 2015

Use
% who used in last 12 months

YEAR

PERCENT

8th Grade
10th Grade
12th Grade
Marijuana Substitutes - Salvia

• Salvia divinorum is a perennial herb in the mint family native to certain areas of the Sierra Mazateca region of Oaxaca, Mexico.

• Desired effects: perceptions of bright lights, vivid colors and shapes, as well as body movements and body or object distortions.

• Other effects include dysphoria (depression), uncontrolled laughter, a sense of loss of body, overlapping realities, and hallucinations (seeing objects that are not present).

• Adverse physical effects may include incoordination, dizziness, and slurred speech.

• It is estimated that 750,000 persons aged 12 or older used Salvia divinorum in the past year. Use was more common among young adults (18 to 25 years old) as opposed to older adults (>26 years of age). Young adults were 3 times more likely than youths aged 12 to 17 to have used Salvia in the past year.
Marijuana substitutes – “Spice” etc.

From the website: “Spice is an exotic herbal smoking blend that releases a rich and pleasing aroma when burned. The plants contained in Spice have been used for spiritual purposes by ancient cultures throughout the world....The uplifting aroma of Spice is acceptable anywhere and anytime. It is perfect whilst chilling out at home or hanging out with friends....This blend is not your typical herbal smoke. It is absolutely intoxicating and extremely potent.”

- The primary abusers are youth purchasing these substances from internet websites, gas stations, convenience stores, tobacco shops and head shops.
- CP-47,497 is a synthetic cannabinoid agonist without the classical cannabinoid chemical structure. It is used in scientific research as a tool to study the cannabinoid system.
- The main active ingredient of Spice, CP-47,497 and its homologues, were not controlled substances until recently.
Cocaine
Cocaine

- Cocaine is a powerfully addictive central nervous system stimulant that is snorted, injected, or smoked. Crack is cocaine hydrochloride powder that has been processed to form a rock crystal that is then usually smoked.
- 19.5% of 8th graders, 28.2% of 10th graders, and 38.9% of 12th graders reported that powder cocaine was "fairly easy" or "very easy" to obtain (Whitehouse Drug Policy, 2008).
- The 2015 Monitoring the Future Study showed that:
  - 1.8% of 8th graders,
  - 3.0% of 10th graders, and
  - 1.8% of 12th graders had abused cocaine in any form and
  - 0.7% of 8th graders,
  - 0.9% of 10th graders, and
  - 1.1% of 12th graders had abused crack at least once in the year prior to being surveyed.
Inhalants
Inhalants

• Readily available in your home: aerosols, paint/paint thinners, glues, and other household chemicals.
• The user sprays the substance into a paper bag or pours it onto a piece of cloth, then breathes in the chemical.
• The Monitoring the Future 2015 study reveals that approximately 4.5 percent of eighth-graders have abused inhalants in the last year; 3% of 10th graders, 2½% of 12th graders have.
• Even a single session of repeated inhalant abuse can disrupt heart rhythms and cause death from cardiac arrest or lower oxygen levels enough to cause suffocation. Regular abuse of these substances can result in serious harm to vital organs including the brain, heart, kidneys, and liver.
• Substances sold for the purpose of getting high include amyl nitrate, butyl nitrate, isobutyl nitrate, isosorbide dinitrate, nitroglycerin, isobutyl nitrite, “poppers”
Inhalant Use by Age, 2002-2014

Figure 16. Past Month Inhalant Use among People Aged 12 or Older, by Age Group: Percentages, 2002-2014
DXM
Dextromethorphan (DXM)

- Dextromethorphan (DXM) is an over-the-counter (OTC) cough suppressant found in cold medications. DXM is often abused in high doses by adolescents to generate euphoria and visual and auditory hallucinations.
- Illicit use of DXM is referred to on the street as “Robo-tripping” or “Skittling.” These terms are derived from the most commonly abused products, Robitussin and Coricidin (“Skittles”).
- The abuse of DXM is fueled by its OTC availability and extensive “how-to” abuse information on various web sites. The sale of the powdered form of DXM over the Internet poses additional risks due to the uncertainty of composition and dose.
Dextromethorphan (DXM)

- DXM abusers report a heightened sense of perceptual awareness, altered time perception, and visual hallucinations. The typical clinical presentation of DXM intoxication involves hyperexcitability, lethargy, ataxia, slurred speech, sweating, hypertension, and/or nystagmus.

Abusers of DXM describe four dose-dependent “plateaux:”

<table>
<thead>
<tr>
<th>Plateau</th>
<th>Dose (mg)</th>
<th>Behavioral Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1\textsuperscript{st}</td>
<td>100–200</td>
<td>Mild stimulation</td>
</tr>
<tr>
<td>2\textsuperscript{nd}</td>
<td>200–400</td>
<td>Euphoria and hallucinations</td>
</tr>
<tr>
<td>3\textsuperscript{rd}</td>
<td>300–600</td>
<td>Distorted visual perceptions and loss of motor coordination</td>
</tr>
<tr>
<td>4\textsuperscript{th}</td>
<td>500–1500</td>
<td>Dissociative sedation</td>
</tr>
</tbody>
</table>
Dextromethorphan (DXM)

• According to the American Association of Poison Control Centers, there were 52,991 case mentions and 40,229 single exposures related to DXM in 2008.

• The Drug Abuse Warning Network (DAWN ED) reports that an estimated 7,739 emergency department visits were associated with non-medical use of dextromethorphan in 2006, 10,410 visits in 2007 and 7,988 visits in 2008.

• The 2015 Monitoring the Future Study states that DXM abuse in the past year was admitted to by 1.6% of 8th graders, 3.3% of 10th graders and 4.6% of 12th graders.
MDMA ("Ecstasy," "Mollie")

- Similar to amphetamine and mescaline, MDMA increases motor activity, alertness, heart rate, and blood pressure. It also induces perceptual changes, including enhancement of tactile sensations.
- Other effects include: euphoria, increased energy, increased (sexual) sensual arousal, increased “need” to be touched (i.e., hugged) and increased need for stimulation.
- “Popped a Molly, I’m Sweatin’” is a lyric in a popular song

<table>
<thead>
<tr>
<th>2015 MTF</th>
<th>8th Graders</th>
<th>10th Graders</th>
<th>12th Graders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifetime %</td>
<td>2.3</td>
<td>3.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Past Year %</td>
<td>1.4</td>
<td>2.4</td>
<td>3.6</td>
</tr>
<tr>
<td>Past Month %</td>
<td>0.5</td>
<td>0.9</td>
<td>1.1</td>
</tr>
</tbody>
</table>
MDMA

- Studies suggest chronic use of MDMA can produce brain damage in humans. Brain imaging techniques have revealed a reduction in serotonin nerve terminals and transporters in former MDMA abusers.
- Clinical studies suggest that MDMA may increase the risk of long-term, perhaps permanent, problems with memory and learning.
Stimulants – Legal and Illegal

- In 1994, 0.8% of teens and children were prescribed stimulants; by 2005, 3.8% were on stimulants (Ritalin, Adderall, etc.)
- Many teens will share or sell their ADD medication to kids who will use it as a “study aid” or to get high. In 2013, 13% of teens reported taking stimulants not prescribed for them.

- Because it is similar to dopamine, Methamphetamine can change the function of any neuron that contains dopamine. It can also affect neurons that contain serotonin and norepinephrine.
- Even small amounts of Methamphetamine can cause a person to be more awake and active, lose their appetite, and become irritable and aggressive. Methamphetamine also causes a person's blood pressure to increase and their heart to beat faster.
Opiates
Oxycodone/Opiates

- In 1999, a total of approximately 1,469,000 persons began using opiates. This number has been increasing since the mid-1980s, when there were fewer than 400,000 initiates annually.
- Youths aged 12 to 17 constitute the majority of this increase, from 78,000 in 1985 to 722,000 in 1999. The number of young adult initiates aged 18 to 25 increased from 166,000 to 492,000 during the same period.
- Many youths who begin using opiates in pill form, “graduate” to injection and may step up to heroin use.
- (NSDUH, 2010). Among youth aged 12 to 17, 3.0 percent reported past-month nonmedical use of prescription medications.
Oxycodone/Opiates

Trends in Non-Medical Opiate Use
Monitoring the Future Survey: 2015

The percentage of the U.S. population receiving prescriptions for pain meds was 7.2% in 1994, and had risen to 9.0% in 2005.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Time Period</th>
<th>8th Graders</th>
<th>10th Graders</th>
<th>12th Graders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>Past Year</td>
<td>[0.30]</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>Narcotics other than Heroin</td>
<td>Past Year</td>
<td>-</td>
<td>-</td>
<td>5.40</td>
</tr>
<tr>
<td>Vicodin</td>
<td>Past Year</td>
<td>0.90</td>
<td>2.50</td>
<td>4.40</td>
</tr>
<tr>
<td>OxyContin</td>
<td>Past Year</td>
<td>0.80</td>
<td>2.60</td>
<td>3.70</td>
</tr>
</tbody>
</table>

* Data in brackets indicate statistically significant change from the previous year. [Previous MTF Data](#)
Opiates are still easy to get, even for teens

Figure 6. Past Month Nonmedical Use of Pain Relievers among People Aged 12 or Older, by Age Group: Percentages, 2002-2014
The Partnership Attitude Tracking Survey (PATS): Teens in Grades 7 – 12, 2015.

**Table 3. Reason for Using Prescription Pain Relievers:**

- Easy to get from parents' medicine cabinets ......................... 62%
- Are available everywhere .................................................. 52%
- They are not illegal drugs ................................................. 51%
- Easy to get through other people's prescriptions .................... 50%
- Teens can claim to have a prescription if caught ..................... 9%
- They are cheap ................................................................. 43%
- Safer to use than illegal drugs .......................................... 35%
- Less shame attached to using ........................................... 33%
- Easy to purchase over the Internet .................................... 32%
- Fewer side effects than street drugs .................................. 32%
- Can be used as study aids ................................................ 25%
- Parents don't care as much if you get caught ....................... 21%
In 2002, the FDA approved two buprenorphine products (Suboxone® and Subutex®) for the treatment of narcotic addiction.

Since 2003, diversion, trafficking and abuse of buprenorphine have become more common in the United States.

It is about 20-30 times more potent than morphine as an analgesic; and like morphine it produces dose-related euphoria, drug liking, pupillary constriction, respiratory depression and sedation.

The addition of naloxone in the Suboxone® product is intended to block the euphoric high resulting from the injection of this drug by non-buprenorphine maintained narcotic abusers.

Data from other countries indicate that buprenorphine has been abused by various routes of administration (sublingual, intranasal and injection) and has gained popularity as a heroin substitute and as a primary drug of abuse.
Tranquilizers
Tranquilizers/Benzodiazepines

Abuse of Tranquilizers (Xanax, Ativan, Valium, etc.)
Monitoring the Future Survey: 2015

In 1994, anxiety medication prescriptions were written for 2.3% of the U.S. population; by 2005, they were written for 4.5% (CDC)

2015 Monitoring the Future Study Tranquilizer Abuse Rates:

<table>
<thead>
<tr>
<th></th>
<th>8th grade</th>
<th>10th grade</th>
<th>12th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifetime</td>
<td>3.0</td>
<td>5.8</td>
<td>6.9</td>
</tr>
<tr>
<td>Past Year</td>
<td>1.7</td>
<td>3.9</td>
<td>4.7</td>
</tr>
<tr>
<td>Past Month</td>
<td>0.8</td>
<td>1.7</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Tranquilizers/Benzodiazepine Addiction

• Withdrawal symptoms can appear in as little as three weeks of continuous use. Symptoms of withdrawal can include insomnia, tremors, muscle spasms, fearfulness; it can lead to depression and suicidal behavior.

• Tolerance and dependence can develop rapidly. However, tolerance only builds against the beneficial effects of drugs as tranquilizers, anticonvulsants and muscle relaxants. Tolerance does not build against memory loss and the paradoxical effects.

• Poly-drug users that also abuse benzodiazepines have a higher mortality rate.

• 2013: Nine percent of teens (about 1.9 million) report having misused or abused benzodiazepine in the past year (up from 6 percent in 2008) and 6 percent of teens (1.3 million) report abuse of benzodiazepine in the past month (up from 4 percent in 2008)
GHB/Rohypnol
GAMMA HYDROXYBUTYRIC ACID

• GHB abuse became popular among teens and young adults at dance clubs and “raves” in the 1990s, and gained notoriety as a “date rape” drug.

• Scientific data suggest that GHB can function as a neurotransmitter or neuromodulator in the brain.

• It produces dose-dependent depressant effects similar to those of the barbiturates and methaqualone (“Quaaludes”).
GHB/Rohypnol
GAMMA HYDROXYBUTYRIC ACID

- Low doses of GHB produce drowsiness, nausea, and visual distortion.
- At high doses, GHB overdose can result in unconsciousness, seizures, slowed heart rate, severe respiratory depression, decreased body temperature, vomiting, nausea, coma, or death. Sustained use of GHB can lead to addiction.
- Chronic abuse of GHB produces a withdrawal syndrome characterized by insomnia, anxiety, tremors, marked autonomic activation (i.e., increased heart rate and blood pressure) and occasional psychotic thoughts.
- Currently, there is no antidote available for GHB overdose.
Hallucinogens

- LSD (“Acid”) was first synthesized in Basel, Switzerland, 1938. It was not until five years later that psychedelic properties were discovered.

- Psilocybin (“Shrooms”): There are approximately 190 species of psilocybin mushrooms. The Aztecs used a number of plant hallucinogens including psilocybin mushrooms (*teonanácatl*), morning glory seeds (*tlilitzin*), *Salvia divinorum*, *Datura* (*tlapatl* or *toloache*), *Peyote* (*peyotl*), and *mixitl* grain. Psilocybin mushrooms were used in ritual and ceremony, served with honey or chocolate at some of their holiest events.

- PCP (“Dust,” “Sherm”): Banned animal tranquilizer, a “dissociative anesthetic,” distorts sight and sound and produces feelings of detachment from one’s environment and self. Effects include sedation, immobility, amnesia, and marked analgesia.

- DMT: Usage associated with South American religious practices and rituals. DMT is present in a number of snuffs and brewed concoctions, like Ayahuasca. Also produced synthetically; the original synthesis was conducted by a British chemist in 1931.
Adolescence
Tasks of Adolescence

- Develop cognitively and interpersonally
- Learn to cope with frustration, anger and disappointment
- Delay gratification in the service of goals
- Learn to persist on tasks that are difficult
- Learn reciprocity and sensitivity in relationships
- Learn to express feelings
- Learn to take appropriate risks socially
- Learn to solve problems, work with authority
- Develop coherent and stable “sense of self”
Drugs Interfere with Developmental Tasks

• Encourage hedonism, narcissism
• Short-term thinking/Impulsivity
• Promotes lying, stealing, deception
• Reduces range of emotional awareness and expression
• Sabotages goal-directed behaviors
• Reduces social options/accepting peer groups
• Increases risks of death, addiction, legal problems
• Encourages adversarial relationship with authority
Treatment of Teen Drug Addiction

- Abuse vs. Addiction
- Overcoming parental denial can be the first hurdle
- Many teens enter treatment under coercion
- Abstinence is essential for treatment to work
- Use of drug testing can be helpful if done correctly
- Helping parents utilize available leverages is essential
- Support group of sober peers is essential for success
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