October 19, 2021

Alcohol, Marijuana & the Teenage Brain

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This resource was developed with funding from a Coalitions Organizing for Prevention grant from the Colorado Department of Public Health and Environment, a grant from Community First Foundation and a Drug-Free Communities grant from the Office of National Drug Control Policy and Centers for Disease Control. The views, policies and opinions expressed are those of the authors and do not necessarily reflect those of the grant providers.
Changing our narrative about "drugs"

YOU are bad if you use drugs.

Drugs really aren’t THAT bad.

DRUGS are bad for you.
Alcohol & Marijuana Negatively Impact the Adolescent Brain

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The adolescent brain is vulnerable.
Adolescent Alcohol Use Causes Long Term Problems

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Ethyl alcohol, or ethanol, is a central nervous system (CNS) depressant, which means it slows down neurotransmission in the brain.

Adolescent alcohol use...

- May increase reward responsiveness of the dopamine system to alcohol later in life
- Is associated with long term increases in impulsivity and risk-taking
- The development that should be happening cannot-- and these effects have been shown to last at least a month beyond the drinking
- Disrupts adolescent brain development, potentially through neuroinflammation, with long-lasting neural and behavioral effects into adulthood
- Results in more grey matter (less pruning) & less white matter (mylonation).
Because their brains are NOT adult brains, drunk adolescents are different than drunk adults

- The prefrontal cortex (used for decision making, impulse control) is less developed (citation)
- Adolescents often don’t have the same obvious “drunkenness” as adults at the same level of impairment-- sleepiness, loss of balance, wooziness (citation)
- But they are even more impaired in terms of memory formation, judgements, and functioning (citation)
Yes, drunk driving is DANGEROUS. But so is:
1. Damage to long term brain development
2. Alcohol use disorder, alcohol dependance
3. Depression, anxiety & suicide risk
4. Unprotected sex & multiple partners
5. Black outs & alcohol overdose or poisoning
6. Assault & homicide
7. Used as a rape drug

Parents who let kids drink IF they don’t drive are NOT being safe.
"WE DRINK TO GET DRUNK"

The poison is in the dose…

and teens in Jeffco:

- Use stronger alcohol & marijuana
- Report that the whole point of consumption is inebriation (data source)
- Binge drink: 1 in 5 Jeffco High School seniors had 4 or more drinks in a couple hours (data sources)

Plus, teens have developing brains, along with less inhibition and smaller bodies.
...letting them use with me so they don’t use it without me?

...telling them I know they’ll do it, & I just don’t want them to lie?

...if I tell them it’s okay to use a little-- but not a lot?

...letting them use at home so they don’t use in less safe places?

...if I take the car keys?
**DELAY FIRST USE**

<table>
<thead>
<tr>
<th>Age of First Use of Alcohol</th>
<th>Lifetime Prevalence of Alcohol Dependence</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 years+</td>
<td>10.6%</td>
</tr>
<tr>
<td>18 years</td>
<td>18.6%</td>
</tr>
<tr>
<td>12 years or younger</td>
<td>40.6%</td>
</tr>
</tbody>
</table>

*(citation)*
Parents & Alcohol

Decreases likelihood of alcohol problems

- Parents who are stricter about alcohol. (citation)
- Parents who know where their child is and who they are with when they aren’t home. (citation)
- Parents discourage alcohol use (in a non-judgemental & factual way). (citation)

Increases likelihood of alcohol problems

- The more normal parents think it is and the more children see it being used. (citation)
- Parents providing alcohol to children. (citation)
- The earlier a child has their first drink (just one!). (citation)
A “just don’t drink too much” MESSAGE DOESN’T WORK.

Many Jeffco adults agree that 3+ drinks are unsafe for young people.

Is it harmful for youth to consume ________ servings of alcohol on a single occasion

<table>
<thead>
<tr>
<th>Servings</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>57%</td>
</tr>
<tr>
<td>3-4</td>
<td>85%</td>
</tr>
<tr>
<td>5+</td>
<td>94%</td>
</tr>
</tbody>
</table>

Among Jeffco high school seniors who drank, **68%** had 3+ drinks in a couple of hours. (data sources)
### ALCOHOL IS USED in JEFFCO HOMES

**Jeffco CTC 2021 Youth Town Hall**

**ALCOHOL LOCATIONS**

<table>
<thead>
<tr>
<th>Location Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>At someone's house during a party with more than 15 people</td>
<td>85%</td>
</tr>
<tr>
<td>At someone's house during a small gathering of 5 to 15 people</td>
<td>85%</td>
</tr>
<tr>
<td>At someone's house with a group of 2 to 5 people</td>
<td>85%</td>
</tr>
<tr>
<td>At someone's house alone</td>
<td>60%</td>
</tr>
<tr>
<td>In a car</td>
<td>40%</td>
</tr>
<tr>
<td>In a public indoor place (mall, restaurant, store)</td>
<td>30%</td>
</tr>
<tr>
<td>Outside at a public park or open space, or on a trail</td>
<td>25%</td>
</tr>
<tr>
<td>Inside the school building</td>
<td>20%</td>
</tr>
<tr>
<td>Outside on school grounds</td>
<td>20%</td>
</tr>
</tbody>
</table>

(data sources)
### ALCOHOL SOURCES

<table>
<thead>
<tr>
<th>Source of Alcohol</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taken WITHOUT permission from adult at home</td>
<td>85%</td>
</tr>
<tr>
<td>Provided at a party</td>
<td>80%</td>
</tr>
<tr>
<td>Provided by adult at home, WITH their knowledge</td>
<td>65%</td>
</tr>
<tr>
<td>Purchased with a fake ID by someone underage</td>
<td>65%</td>
</tr>
<tr>
<td>Purchased by a friend/plug who’s old enough to buy</td>
<td>65%</td>
</tr>
<tr>
<td>Stolen from a store</td>
<td>60%</td>
</tr>
<tr>
<td>Ordered and then delivered to home</td>
<td>25%</td>
</tr>
<tr>
<td>Sold by a drug dealer to a youth</td>
<td>20%</td>
</tr>
<tr>
<td>Don't have any idea where it comes from</td>
<td>20%</td>
</tr>
</tbody>
</table>

60% of Jeffco Teens report that alcohol is easy or very easy to get.
Marijuana is No Longer “Just Smoking Weed”

www.twelvetalks.com
CBD & THC

CBD: Cannabidiol

● Does NOT create a high
● No known negative health effects (beside usually mild side effects) or addictive potential (citation)
● Medical applications/ potential applications, but generally very poorly regulated or researched (citation); (citation)

THC: Tetrahydrocannabinol

● Creates the high by attaching to cannabinoid receptors in the brain (citation)
● The amount of THC in available marijuana products has gone from 2-4% to as much as 95% in the last 30 years (citation)
Cannabinoid receptors (CB1) are designed to receive naturally occurring neurotransmitters that regulate stress, fear, anxiety, mood, appetite & pain. Replacing these with THC may also delay brain maturation.

(citation) (citation)
MARIJUANA IS ADDICTIVE

1. Difficulty with attention, memory & coordination
2. Driving while intoxicated
3. Addiction
4. Psychosis or schizophrenia in vulnerable individuals
5. Loss of IQ
6. Paranoia, anxiety
7. Associated with depression & anxiety
8. Associated with suicidality

1 in 6 adolescents who repeatedly use marijuana become addicted.
**MARIJUANA 101**

Flower or bud: 15-28% THC

Concentrates: up to 80%+ THC
MARIJUANA 101

Smoking

Inhaling

Eating & Drinking
MARIJUANA IS (also) EASY TO GET

Our teens get their marijuana from adults who buy it for them.

<table>
<thead>
<tr>
<th>Jeffco CTC 2021 Youth Town Hall MARIJUANA SOURCES</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taken WITHOUT permission from adult at home</td>
<td>45%</td>
</tr>
<tr>
<td>Sold by a drug dealer to a youth</td>
<td>35%</td>
</tr>
<tr>
<td>Purchased by a friend/plug who's old enough or has a prescription to buy</td>
<td>35%</td>
</tr>
<tr>
<td>Provided at a party</td>
<td>20%</td>
</tr>
<tr>
<td>Stolen from a store</td>
<td>20%</td>
</tr>
</tbody>
</table>

49% of Jeffco Teens report that marijuana is easy or very easy to get.

(data sources)
Jefferson County Adults Need to Make Healthy = “Normal”

www.twelvetalks.com
We did it with nicotine -- now let's do it with THC

51% of our Jeffco youth think regular use of marijuana causes little or no harm.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth use of edible marijuana</td>
<td>70%</td>
</tr>
<tr>
<td>Youth smoking of marijuana</td>
<td>75%</td>
</tr>
<tr>
<td>Youth dabbing high potency marijuana</td>
<td>77%</td>
</tr>
<tr>
<td>Youth vaping of marijuana</td>
<td>80%</td>
</tr>
<tr>
<td>Youth use of e-cigarette/vapes</td>
<td>93%</td>
</tr>
<tr>
<td>Youth cigarette smoking</td>
<td>97%</td>
</tr>
</tbody>
</table>

(data sources)
Marijuana smoke contains carcinogenic combustion products **which are JUST as unhealthy as tobacco smoke.** And… it’s often inhaled deeper & held in the lungs for longer.
How Can We Send Clear Messages?

But Without Being too* Unchill

*Being somewhat unchill is inherent to being a responsible & healthy adult, however.

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1. TALK and then TALK some more

- HOPEFULNESS & COPING
- MARIJUANA
- VAPE & TOBACCO
- SEX & CONSENT
- BOUNDARIES
- DATING
- IDENTITY
- ALCOHOL
- MENTAL HEALTH
- FRIENDS
- PRESCRIPTION DRUGS
- SOURCES OF STRENGTH

twelvetalks.com
2. Make sure they know that it’s definitely NOT “everyone”

<table>
<thead>
<tr>
<th>Substance</th>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>RX Pain Med Misuse</td>
<td>5%</td>
<td>6%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>Marijuana</td>
<td>15%</td>
<td>20%</td>
<td>25%</td>
<td>30%</td>
</tr>
<tr>
<td>Vape</td>
<td>25%</td>
<td>30%</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>Alcohol</td>
<td>20%</td>
<td>25%</td>
<td>30%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Data sources: 2019 Healthy Kids Colorado Survey, Jefferson County

Jeffco youth reporting use of substances in the prior 30 days*

Less than HALF of Jeffco teens use substances

[data sources]
2. Make sure they know that it’s definitely NOT “everyone”
3. Reduce Access

If you have alcohol, marijuana or other drugs in your home*

1. Lock
2. Monitor
3. Dispose

*It might not be YOUR teen that you need to worry about.
4. REDUCE PLACES TO DRINK

House parties are common in Jefferson County & are a high risk setting where youth are taught to binge drink, vape, dab, etc.

- Know where you kids are and who they are with. Check in with other parents.
- If you go out of town, don’t leave your teens alone-- but if you have to, take steps to monitor them.
- Tell other parents that you don’t let your teen drink or use marijuana.
5. Demand safety for our kids

Contact city & county officials and request

● Tell your city council you are NOT okay with house parties in our community-- and adults allowing them should be held responsible through social host laws [citation]

● Ask for advertising regulations for alcohol & marijuana [citation]; [citation]

● Limit new locations, hours & delivery options for alcohol & marijuana stores-- and keep them away from our schools [citation]
Sending clear messages

1. Talk and then talk some more.  
2. Make sure teens know it’s definitely not “everyone.”  
3. Actively demonstrate that it’s not safe. Lock it up. Dispose of it.  
4. Prevent house parties.  
5. Demand policy changes to increase safety for our kids.
Adults Need to Know Alcohol & Marijuana

- Alcohol & marijuana interfere with brain development.
- Marijuana is addictive for youth.
- Most teens are NOT using marijuana or alcohol.
- You are rarely really using “a little” or “are being safe.”
- Younger use increases likelihood of addiction.
- Supplying to kids is putting them in danger.
Our Teens Deserve to Know about Alcohol & Marijuana

- It doesn’t help anxiety or depression.
- Substance use won’t lead to real friendships.
- Alcohol & consent… NOT possible.
- You can cope in other ways.
- Most teens are NOT using marijuana or alcohol.
- Supplying other kids-- introducing other kids-- is not okay.
Changing our narrative about “drugs”

YOU are bad if you use drugs.

Drugs really aren’t THAT bad.

DRUGS are bad for you.
THANK YOU

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Questions?
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Links

Slide 4: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2989000/
Slide 7: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7183385/
Slide 12: https://pediatrics.aappublications.org/content/144/1/e20191357