

Choices Topic for April: Marijuana



Drugs & the Brain:

The adolescent brain is currently under construction, meaning that their prefrontal cortex is now in a development stage and will be until they are about 25 years old. So what happens to teenage brain development if teenagers introduce drugs or alcohol into their bodies? It's simple. While the chemicals are in their bodies, brain development is interrupted and emotional maturity is arrested. We call this arrested development. Drugs and alcohol shut off the use of our rational brain, which explains why it is hard for people to make good decisions when they are under the influence. It is important for teenagers and parents to understand that drugs and alcohol will literally stunt brain growth. If this continues until age 25 when adolescent brain development stops, the person can "age out." He will quite possibly be a grown man with the maturity level of a teenager... **Don't be that guy.**

How Harmful Is It?

THC (delta-9-tetrahydrocannabinol) is the addictive chemical in marijuana. THC passes from the lungs to the blood stream and then to the brain and entire body. A release of dopamine is triggered which creates the pleasurable "high" feeling. However, other core effects include change in perceptions, mood, lack of coordination, difficulty thinking and disrupted learning and memory.

Is it addictive? Yes. Marijuana is addictive. It can produce significant withdrawal and dependence. Out of 100 people who start using it below the age of 18, 17 will meet criteria for a severe cannabis dependence in their adult life.

But it's "natural"... Some believe because marijuana is "natural," it cannot be harmful. This is a MYTH! Marijuana today is genetically modified for THC potency that doesn't resemble "natural" marijuana at all.

Signs of Withdrawal:

Irritability, sleeplessness, lack of appetite, anxiety, craving,

Discussion Questions, Information, and Research

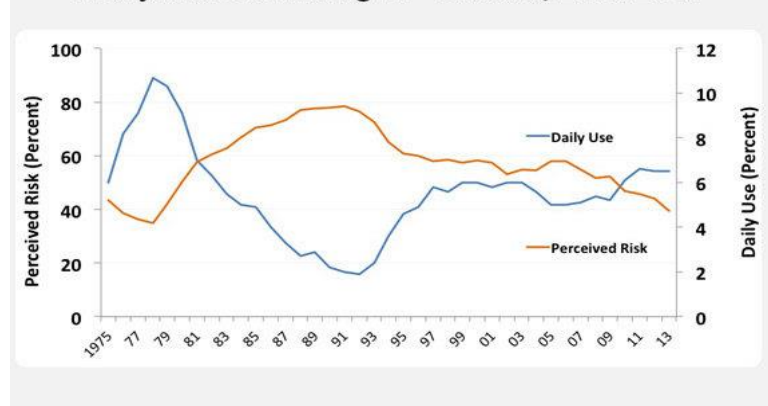
Students:

- Have you ever tried marijuana or synthetics and why?
- Do you know someone who uses? How has it affected them?
- What are the top three reasons adolescents use marijuana?
- How might you as a non-drug using teen encourage your peers not to use?
- What are healthy coping mechanisms for stress and anxiety that could replace using?
- What refusal skills do you use to remove yourself from a situation where others are using?
- If adolescents know the risks, why do they still use?



**9 OUT OF 10
PEOPLE WITH ADDICTION
STARTED USING SUBSTANCES
BEFORE THEY TURNED 18**

Daily Marijuana Use vs. Perceived Risk of Regular Marijuana Use among 12th Graders, 1975-2013



A change is taking place in our country that will cost millions...can you tell what it is?

Parents, Faculty and Staff:

- What is your family code about drugs? What are the consequences for drug use in your home?
- Do you base your parenting decisions regarding substances on the science, your own experience, both?
- Do you know what to say or where to turn for help if a student or a child uses or develops a problem with marijuana?
- If you find out that your student/child is smoking marijuana, should you be concerned about his or her use of other drugs?
- How and when should you talk to your students/children about drug use?

Resources:

<http://teens.drugabuse.gov/> <http://www.narconon.org/> <http://www.getsmartaboutdrugs.com/>;
<http://www.rmhidta.org/html/2015%20PREVIEW%20Legalization%20of%20MJ%20in%20Colorado%20the%20Impact.pdf>



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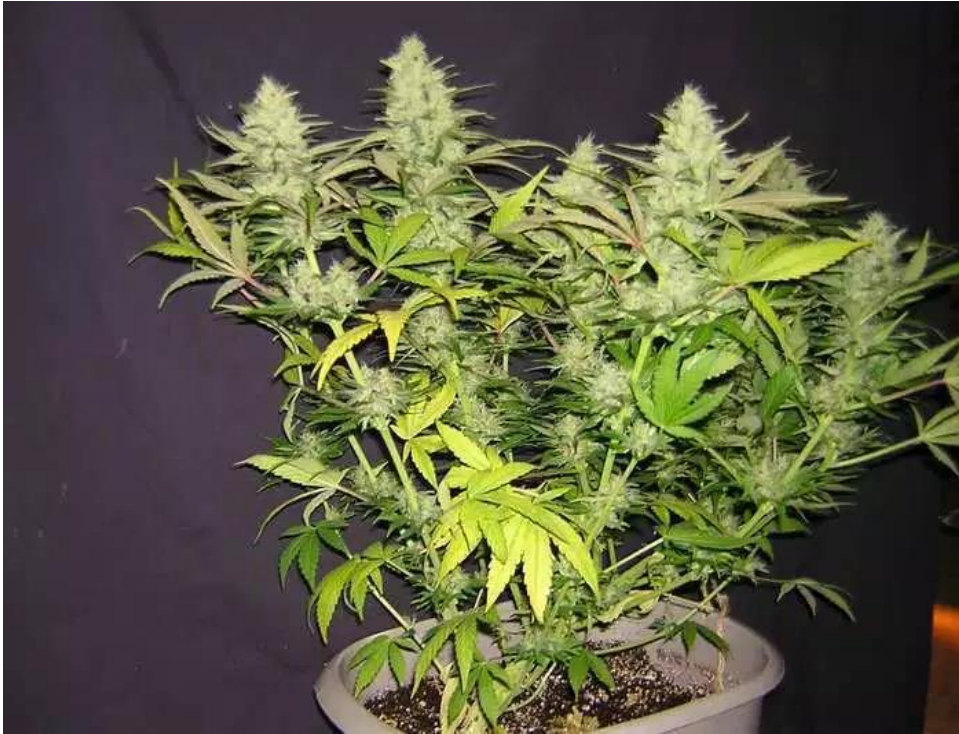
Marijuana

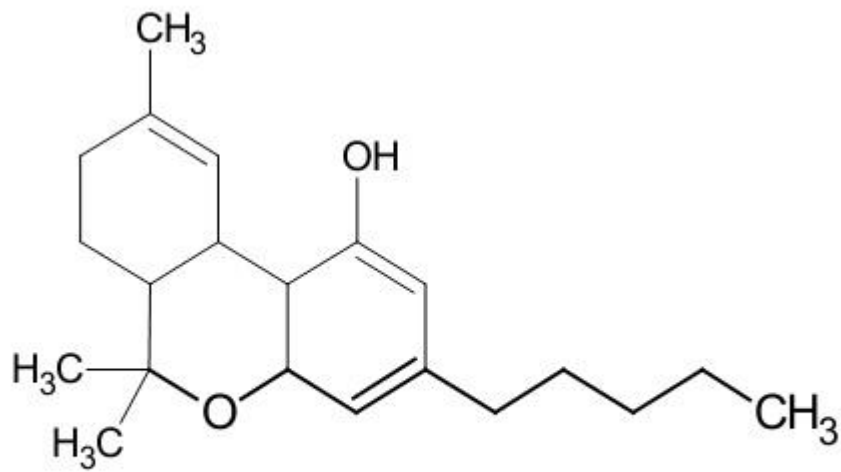
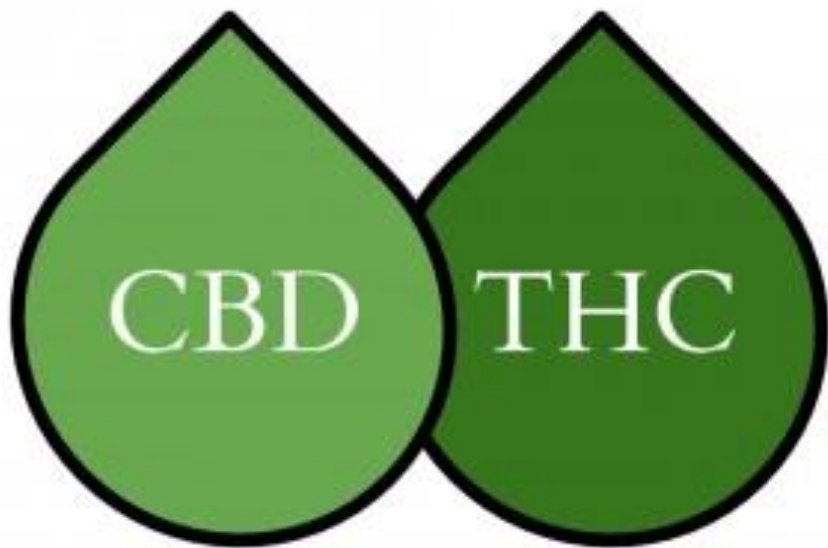
Effects of the New Social Experiment

Patrick Hagler, Choices Counselor
St. Thomas High School

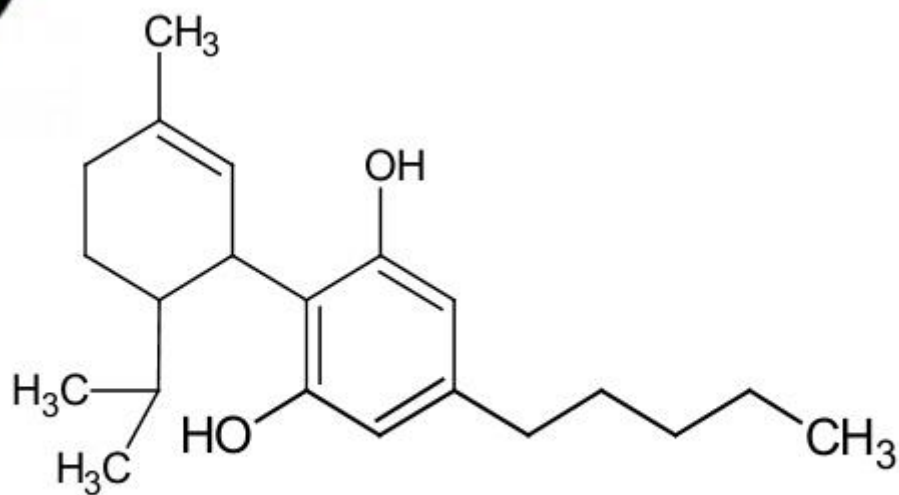


What is Marijuana?





Tetrahydrocannabinol (THC)



Cannabidiol (CBD)



<https://www.youtube.com/watch?v=oeF6rFN9org>

Dopamine

“Dopamine...is dopamine...is dopamine. Any substance or activity that spikes our dopamine levels beyond the normal range arrests the development of the adolescent brain.”

Crystal Collier, PhD, Director of Behavioral Health Institute, Houston Council on Recovery

Dopamine-Releasing Chemicals

- Alcohol & Sedative/Hypnotics
- Opiates/Opioids
- Cocaine
- Amphetamines
- Entactogens (MDMA)
- Entheogens/Hallucinogens
- Dissociants (PCP, Ketamine)
- Cannabinoids
- Inhalants
- Nicotine
- Caffeine
- Anabolic-Androgenic Steroids

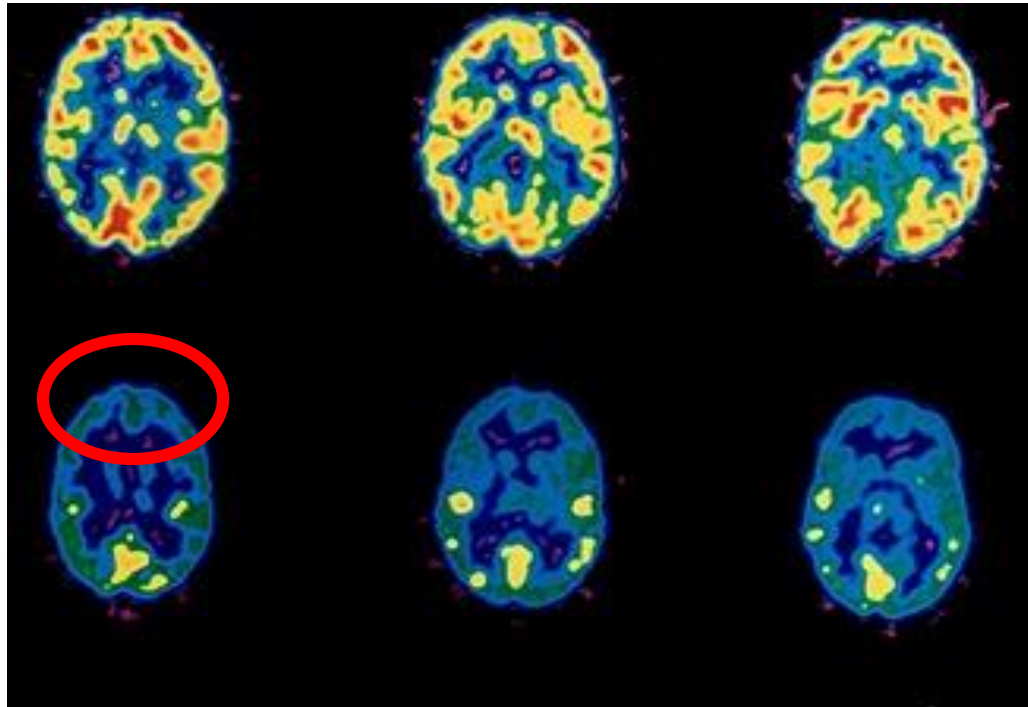


Dopamine-Releasing Behaviors



- Food (Bulimia & Binge Eating)
- Sex
- Relationships
- Other People (Codependency, Control)
- Gambling
- Exercise
- Performance (Workaholism)
- Collection/Accumulation (Shopaholism)
- Rage/Violence
- Technology/Video Games/Social Media/Internet

HYPOFRONTALITY = PLEASURE



IN BETWEEN Age 11-25 = ARREST
once you start using, you STOP growing emotionally

Prefrontal Cortex Thinking: The Executive Function Skills

CEO

- Abstract; conceptual understanding
 - Impulse Control
 - Problem-Solving
 - Decision-Making
 - Judgment
 - Emotion Regulation
 - Frustration Tolerance
 - Ability to Feel Empathy

At age 16, an adolescent has about 50-60% PFC development so...

- Impulsive
- Aggressive
- Emotionally volatile
- Likely to take risks
- Vulnerable to peer pressure
- Prone to focus on & overestimate short-term payoffs and underplay longer-term consequences of what they do
- Likely to overlook alternative courses of action



It's a parent's job to act as their child's PFC until they grow a mature one of their own!

Effects of Marijuana

Short-term effects:

- relaxation
- euphoria
- drowsiness/sedation
- more vivid sense of taste, sight, smell, and hearing
- altered time and space perception
- a dulling of attention despite an illusion of heightened insight
- increased heart rate
- paranoia
- panic reactions
- shut down of memory creation
- increased appetite
- lowered reaction time
- anxiety and nervousness
- auditory hallucinations

Longer-term effects:

- increased risk of mental disorder
- respiratory diseases associated with smoking
- decreased memory and learning abilities
- psychosis
- increased risk of lung cancer
- weakened immune system
- lack of motivation
- weight gain
- suicidal thoughts
- inability to differentiate reality from fantasy
- gradual “shaving off” of personality
- shiny → dull (“Burning Out”)

“Burning Out”

- Another phrase for emotional exhaustion
- Exhaustion—persistent tiredness.
- Cynicism—feeling negative about everything
- Inefficacy—the feeling that you just can’t get anything done
- The more a person smokes, the more burned out they get. It’s a cycle that leads to depression and addiction
- Potential to use harder substances to “counteract” the burn out



Withdrawal Symptoms



Psychological

- Anxiety
- Restlessness
- Irritability
- Insomnia
- Headaches
- Poor concentration
- Depression
- Social isolation

Physical

- Sweating
- Heart Palpitations
- Muscle tension
- Tightness in the chest
- Difficulty breathing
- Tremors
- Nausea
- Vomiting, or diarrhea

Rising Potency



- “Not your father’s weed”
- THC concentration has increased from less than 5% 20 or 30 years ago, to upwards of 30% THC today
- Marijuana extracts may be up to 80% THC

before



now



Marijuana Concentrates

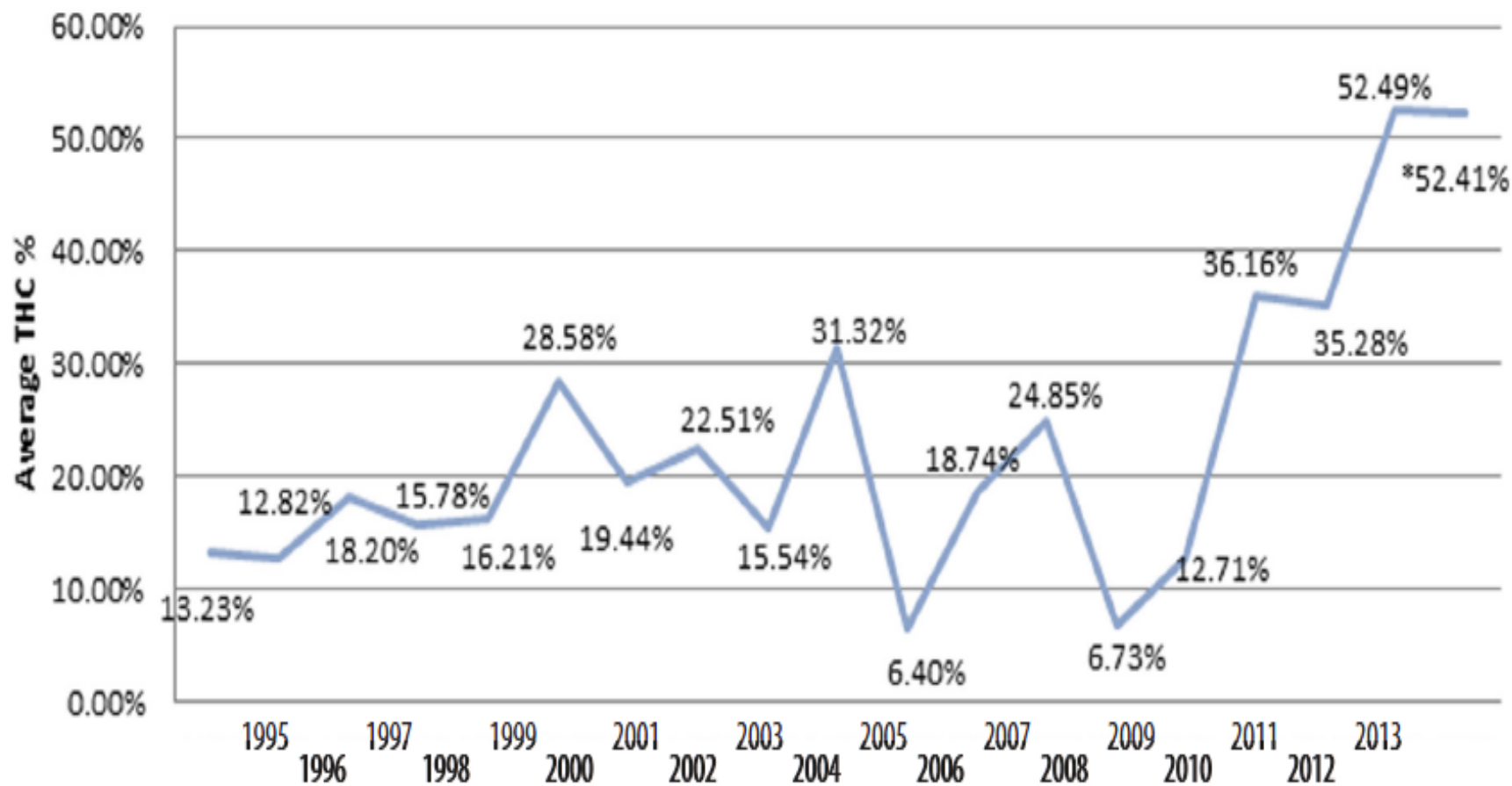
Dabbing: Smoking THC-rich resins extracted from the marijuana plant made with butane.

Wax, Ear Wax, Oil, Honey Bowl, Butter, Dabs, Shatter

“There's no ceiling to the high”



**Chart 21. Potency Monitoring Program
Average THC Percent of all Submitted Hash Oil Samples
1995 - 2013**



*Percentage likely to change as more samples are tested

Source: Potency Monitoring Program, Quarterly Report 124

EdiPure
Sweet n Sour
250mg THC : 25 Individually Infused 10mg Pieces
Net 28g (1.0oz)
Medical Use Only - No Resale

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Jolly-Lolly
Cannabis Lollipops



CAN YOU TELL WHICH CANDY IS A MARIJUANA EDIBLE?



Denver Police News Presents

TRICK'D **OR** TREAT?

Is Marijuana addictive?



- Yes, it can be. Not everyone who smokes marijuana will become addicted. In fact, most people that experiment with marijuana *will not* become addicted
- Development of problem use- known as marijuana use disorder. Severe cases take the form of addiction
- Data suggests 30% of MJ users may have some degree of marijuana use disorder (Winters & Lee, 2008)
- Adolescents who begin using MJ before the age of 18 are 4-7X more likely to develop marijuana use disorder than adults (Winters & Lee, 2008)
- Who is at-risk? Risk factors include: your genes, the age you start using, whether you also use other drugs, your relationships with family and friends, success in school, and so on
- Repeated marijuana use can lead to addiction, which means that people have trouble controlling their drug use and often cannot stop even though they want to
- Research shows that about 9 percent, or about 1 in 11, of those who use marijuana will become addicted (Anthony, 1994; Lopez-Quintero, 2011).
- This rate increases to 17 percent, or about 1 in 6, in people who start in their teens, and goes up to 25 to 50 percent among daily users (Hall, 2009a; Hall, 2009b)

NORML

Working to reform marijuana laws

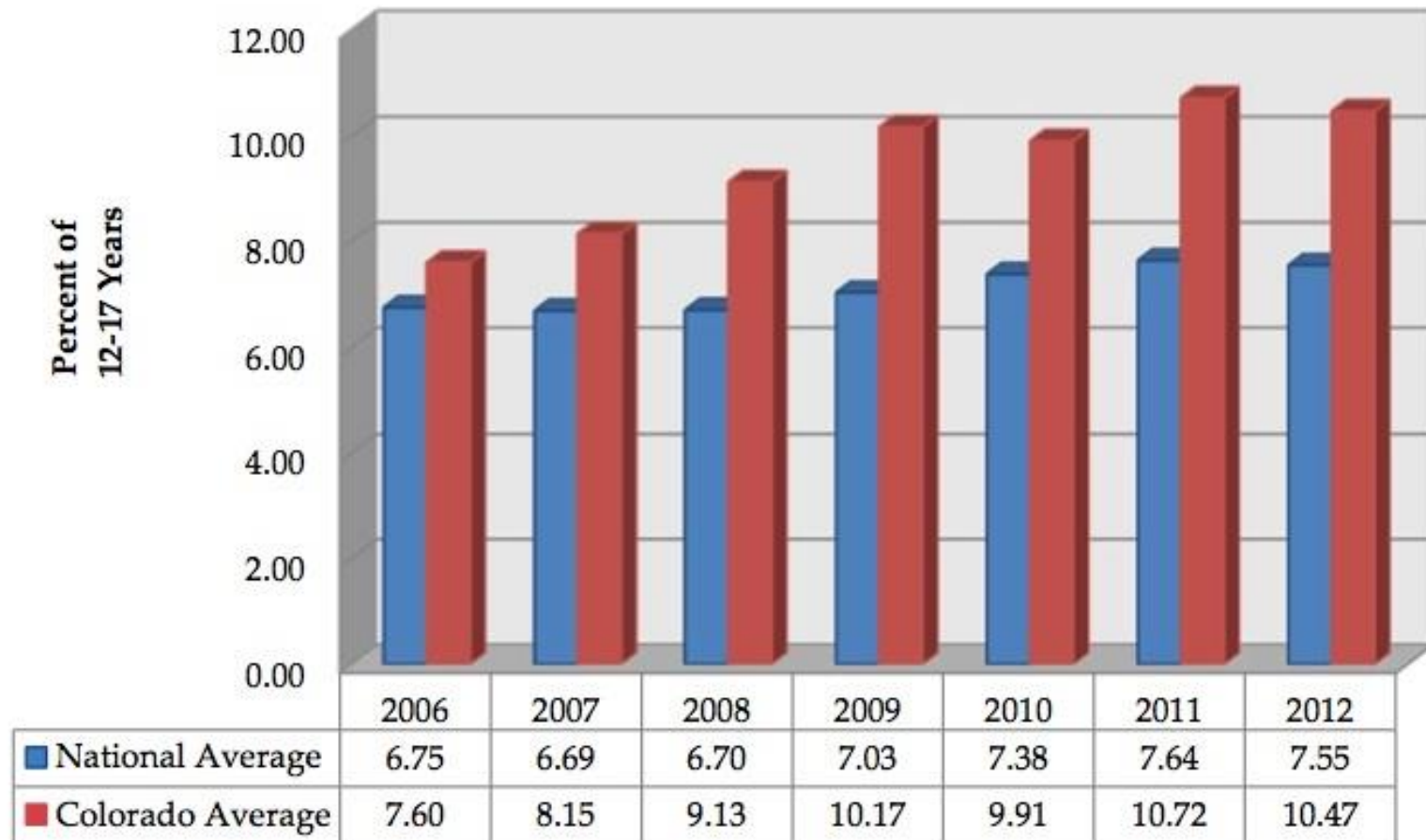
★ **NORML**
★
★
★ **NATION**
★ **MEMBERSHIP DRIVE**

August 5th - 12th



norml.org/normlnation

Youth (Ages 12 to 17 Years) Past Month Marijuana Use National vs. Colorado



SOURCE: Data from SAMHSA.gov, National Survey on Drug Use and Health 2013

Real Effects

- In 2012, 10.47 percent of youth ages 12 to 17 were considered current marijuana users compared to 7.55 percent nationally.
- Colorado, ranked 4th in the nation, was 39 percent higher than the national average.
- Drug-related suspensions/expulsions increased 32 percent from school years 2008/2009 through 2012/2013. The vast majority were for marijuana violations.
- Hospital officials say they are treating growing numbers of children and adults sickened by potent doses of edible marijuana.



Traffic Fatalities: Are accidents really down?

Real Effects

- Traffic fatalities involving operators testing positive for marijuana have increased 100 percent from 2007 to 2012.
- The majority of driving-under-the-influence-of-drugs arrests involve marijuana and 25 to 40 percent were marijuana alone.
- Toxicology reports with positive marijuana results for driving under the influence have increased 16 percent from 2011 to 2013.

National Highway Transportation Safety Administration,
Fatality Analysis Reporting System , 2014

- Researchers from Columbia University gathered data from six states – California, Hawaii, Illinois, New Hampshire, Rhode Island, and West Virginia – that perform toxicology tests on drivers involved in fatal car accidents.
- This data included over 23,500 drivers that died within one hour of a crash between 1999 and 2010.
- One of nine drivers involved in fatal crashes would test positive for marijuana.
- Fatal car crashes involving pot use have tripled in the U.S.

Brady, J. E., & Li, G. (2014).

Real Effects

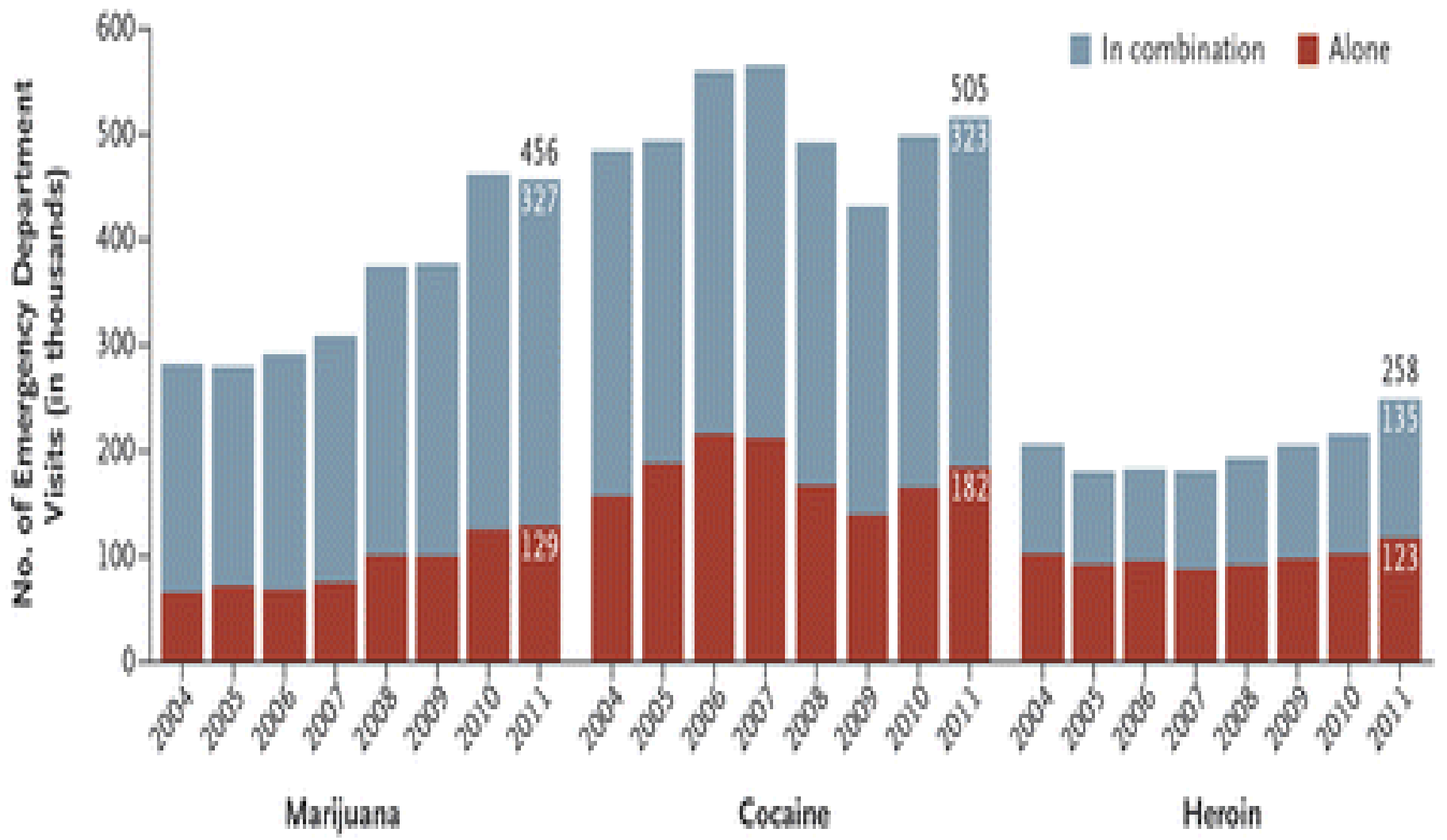
- In January 2014, the Colorado State Patrol began tracking the number of people pulled over for driving while stoned. Since then, marijuana-impaired drivers have made up about 12.5 percent of all citations for driving under the influence of drugs or alcohol.
- Sheriffs in neighboring states complain about stoned drivers streaming out of Colorado and through their towns.

Drugged Driving vs. Drunk Driving

- Overall risk of accident increases by 2 with blood THC level of 2-5mg; by 3-7 times with higher blood levels
- Overall risk of accident increases by 5 with blood alcohol level of .08%; by 27 times if under age of 21.



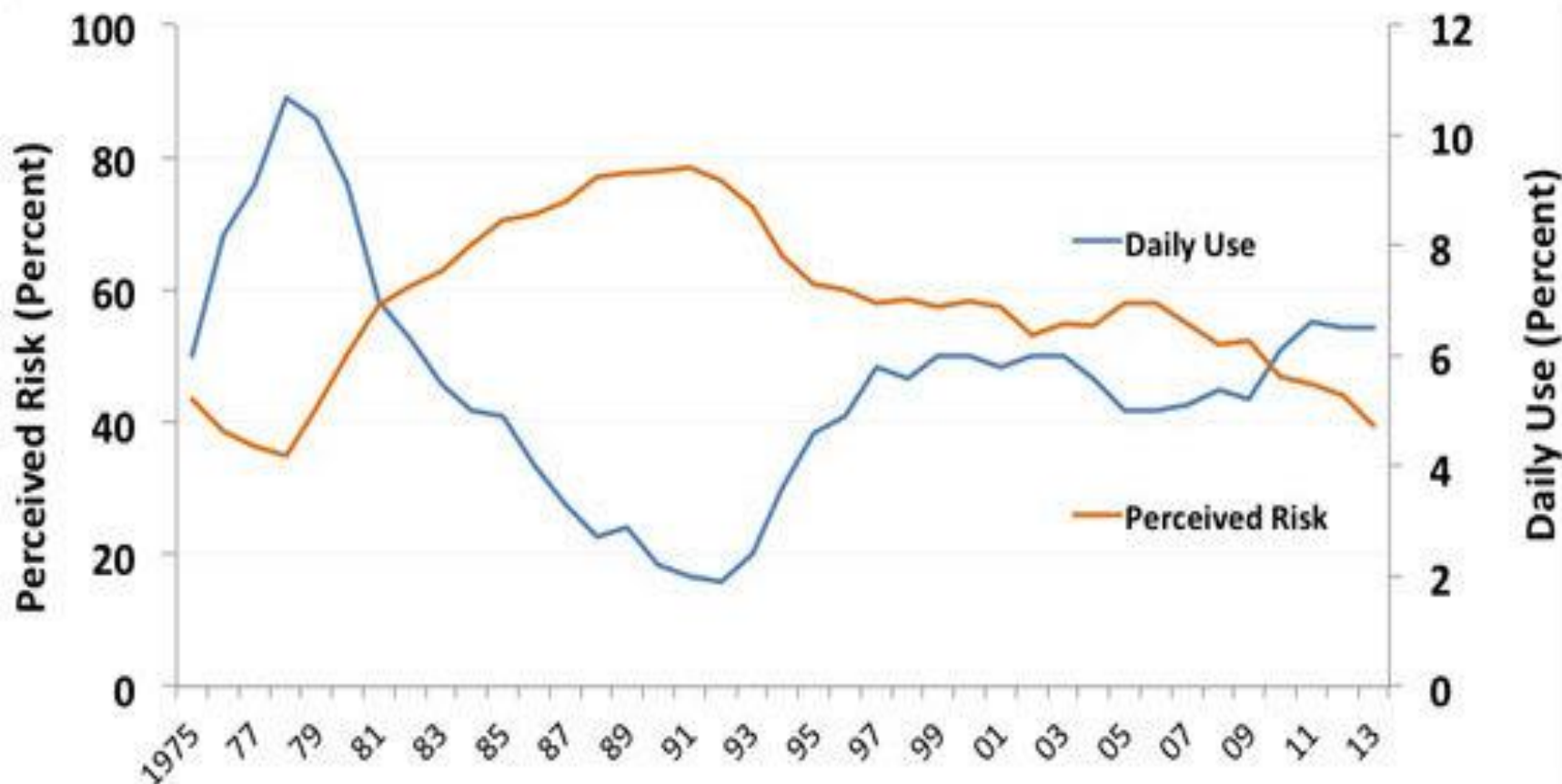
B Drug-Related Emergency Department Visits



Real Effects

- From 2011 through 2013, there was a 57 percent increase in marijuana-related emergency room visits. • Hospitalizations related to marijuana have increased 82 percent from 2008 to 2013.
- In 2012, the City of Denver rate for marijuana-related emergency visits was 45 percent higher than the rate in Colorado.
- Marijuana-related exposures for children ages 0 to 5 on average have increased 268 percent from 2006–2009 to 2010-2013.
- Colorado’s rate of marijuana-related exposures is triple the national average.

Daily Marijuana Use vs. Perceived Risk of Regular Marijuana Use among 12th Graders, 1975-2013



Source: University of Michigan, 2013 Monitoring the Future Study

Summary

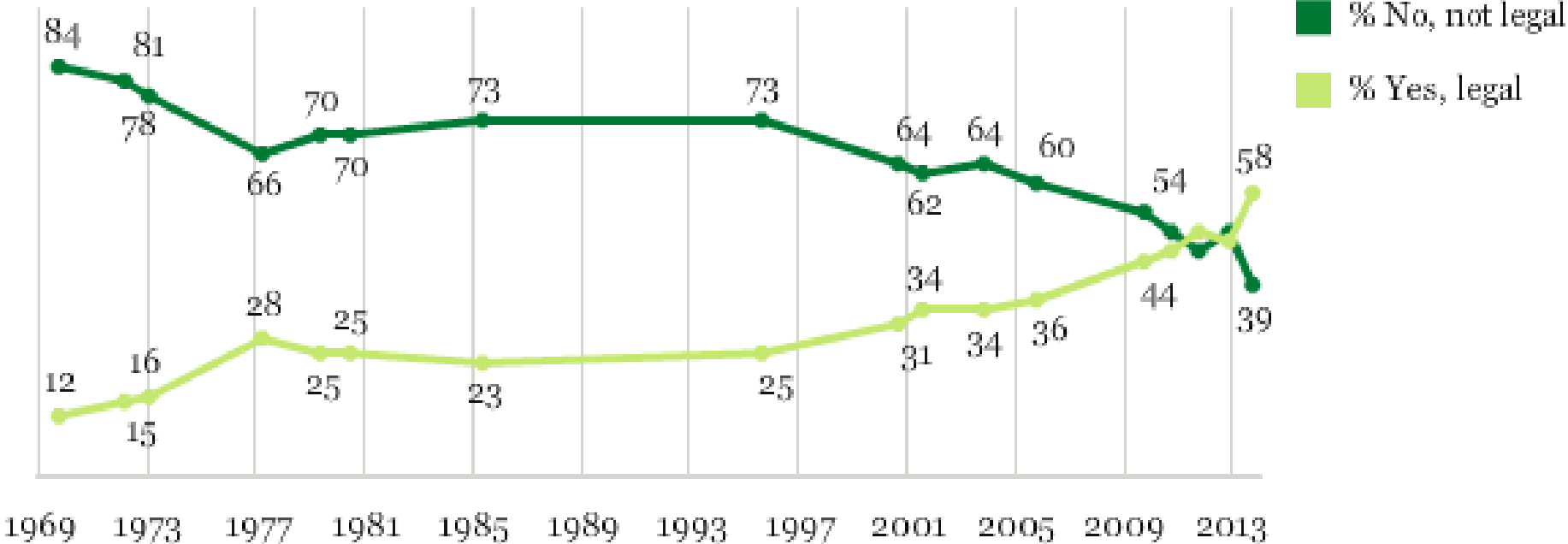
Level of Confidence in the Evidence for Adverse Effects of Marijuana on Health and Well-Being

Addiction to marijuana and other substances	High
Abnormal brain development	Medium
Progression to use of other drugs	Medium
Schizophrenia	Medium
Depression or anxiety	Medium
Diminished lifetime achievement	High
Motor vehicle accidents	High
Symptoms of chronic bronchitis	High
Lung cancer	Low

Volkow et al, 2014

Americans' Views on Legalizing Marijuana

Do you think the use of marijuana should be made legal, or not?





Warning

- Visine / red eyes
- rolling papers, pipes, lighters, screens (missing faucet screens)
- incense/ mouthwash / air fresheners/ mints
- small burns on thumb and forefinger
- talking in code or secretive manner
- sudden change in friends
- sudden need for money without much to show for it
- signs of depression or isolation from family
- sudden drop in academic performance
- no longer participates in activities they used to find enjoyable
- tired, slow, lethargic
- making unusual excuses to leave house (“taking the dog for a walk late at night”)
- don’t seem motivated to accomplish worthwhile goals / lowering of goals



Signs

- hidden baked goods (edibles look like brownies or cookies but made with MJ)
- blocking bedroom door crack with towels
- finding seeds or stems (“shake” which looks like dried oregano)
- cotton mouth
- laughter at inappropriate times
- impaired short term or working memory
- cigars
- small baggies/pill containers
- cans with holes poked in them
- metal clips or small clamps
- making excuses to avoid close contact (family dinners, watching TV together, etc...)
- nagging cough or other respiratory problems
- **AVOIDING EYE-CONTACT**

I think my son is using. What can I do?

- First and foremost, do not over-react
- Start with a conversation
- Share you personal experience
- Discuss your family code
- Implement written behavior contract
- Random drug testing at home
- Council 12-week High Risk Behavior Class
- Alternative Peer Group (APG)
- Wilderness Program
- Sober High School

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