



# **MENTAL HEALTH RISKS FROM YOUTH CANNABIS USE & A POSITIVE RESPONSE THROUGH LANGUAGE & HEALTHY COPING SKILLS**

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**1 in 10** Americans experience substance use disorder



**9 OUT OF 10**

**PEOPLE WITH SUBSTANCE  
PROBLEMS STARTED USING  
BY AGE 18**

**1 in 4** are addicted who started using before age 18 as compared to **1 in 25** for those who started at age 21 or older.





THC – The psychoactive & addictive cannabinoid in marijuana is much stronger today with some products up to 95% pure THC. Marijuana in 60s & 70s was 1-7%

CB1 RECEPTORS ARE BROADLY  
DISTRIBUTED THROUGHOUT THE  
BRAIN, BUT ***SELECTIVELY ACTIVATED***  
***DURING ADOLESCENCE*** FOR HEALTHY BRAIN STRUCTURE  
DEVELOPMENT.

- CB1 Receptors show disruption in their function when flooded by external cannabinoid exposure (to THC).
- The result of the flooded CB1 receptors is altered structure and function of brain regions that control emotion, thought, memory and social interaction.
- These changes can persist well into adulthood and increase the risk for psychiatric illness as well as other drug addiction.

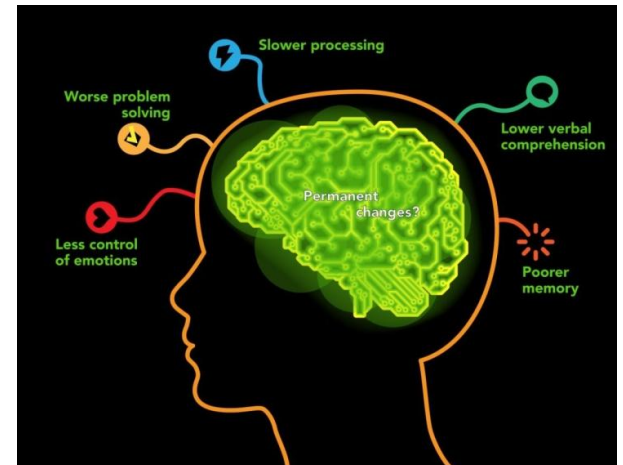


**“OVERALL, EVIDENCE FROM EPIDEMIOLOGIC STUDIES PROVIDES STRONG ENOUGH EVIDENCE TO WARRANT A PUBLIC HEALTH MESSAGE THAT CANNABIS USE CAN INCREASE THE RISK OF PSYCHOTIC DISORDERS. ”**

- ASSOCIATION BETWEEN CANNABIS AND PSYCHOSIS:

EPIDEMIOLOGIC EVIDENCE - AUTHOR LINKS OPEN OVERLAY PANEL: SUZANNE H.GAGE· MATTHEW HICKMAN· STANLEY ZAMMIT  
[HTTPS://DOI.ORG/10.1016/J.BIOPSYCH.2015.08.001](https://doi.org/10.1016/j.biopsych.2015.08.001)

- Subsequent psychotic experiences
- Negative/disorganized symptoms
- Psychotic disorders, including schizophrenia & bi-polar disorder
- Cannabis Use Disorder



Risks increase with dosage,  
frequency and earlier age of onset.

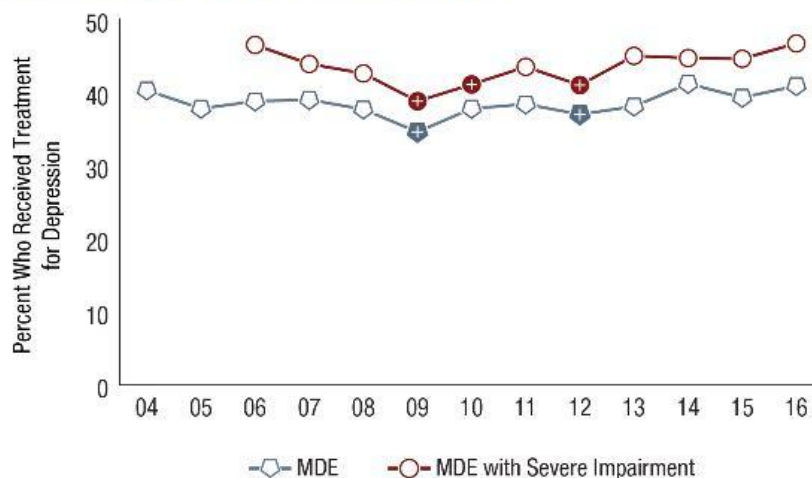


# HIGHLIGHTED RESEARCH ON ADOLESCENT CANNABIS USE & MENTAL ILLNESS

- **Psychotic experiences during adolescence: Tobacco versus Cannabis: Association of Combined Patterns of Tobacco and Cannabis Use in Adolescence With Psychotic Experiences.** In this study, our findings indicate that while individuals who use cannabis or cigarettes during adolescence have an increased risk of subsequent psychotic experiences, epidemiological evidence is substantively more robust for cannabis use than it is for tobacco use. Jones HJ, Gage SH, Heron J, Hickman M, Lewis G, Munafò MR, Zammit S. Association of Combined Patterns of Tobacco and Cannabis Use in Adolescence With Psychotic Experiences. *JAMA Psychiatry*. Published online January 17, 2018. doi:10.1001/jamapsychiatry.2017.4271.
- **Early Cannabis Use and role of other substances in psychosis: Cannabis Use, Polysubstance Use, and Psychosis Spectrum Symptoms in a Community-Based Sample of U.S. Youth.** “After adjusting for confounds, cannabis use by itself was not associated with increased odds of being classified as “psychosis spectrum....frequent cannabis use was associated with subclinical negative/disorganized symptoms (**OR = 2.14**).” Jason Jones-Monica Calkins-J. Scott-Emily Bach-Raquel Gur - *Journal of Adolescent Health* – 2017 -
- **Early Cannabis Use, High Potency Cannabis & Psychosis:” Proportion of patients in south London with first-episode psychosis attributable to use of high potency cannabis: a case-control study** “Individuals who started using cannabis at ages younger than 15 years had modestly, but significantly, increased risk of psychotic disorders compared with those who never used cannabis. People who used cannabis or skunk every day were both roughly three times more likely to have a diagnosis of a psychotic disorder than were those who never used cannabis “...high-potency (skunk-like) cannabis carries the highest risk for psychotic disorders. The risk of individuals having a psychotic disorder showed a roughly three-times increase in users of skunk-like cannabis compared with those who never used cannabis (adjusted odds ratio [**OR**] **2.92**, 95% CI 1.52–3.45, **p=0.001**). Use of skunk-like cannabis every day conferred the highest risk of psychotic disorders compared with no use of cannabis (adjusted **OR** **5.4**, 95% CI 2.81–11.31, **p=0.002**). Marta Forti-Arianna Marconi-Elena Carra-Sara Fraietta-Antonella Trotta-Matteo Bonomo-Francesca Bianconi-Poonam Gardner-Sood-Jennifer O’connor-Manuela Russo-Simona Stilo-Tiago Marques-Valeria Mondelli-Paola Dazzan-Carmine Pariante-Anthony David-Fiona Gaughran-Zerrin Atakan-Conrad Iyegbe-John Powell-Craig Morgan-Michael Lynskey-Robin Murray. Proportion of patients in south London with first-episode psychosis attributable to use of high potency cannabis: a case-control study. *Lancet Psychiatry* 2015; 2: 233–38.
- **Suicide & Bi-polar risks: VA Study-** “Meta-analysis of 4 studies in the general population reported significantly increased odds of suicide with any cannabis use, OR (95% CI): 2.56 (1.25-5.27). A systematic review found an increased incidence of new onset mania symptoms among populations without a diagnosis of bipolar disorder, OR (95% CI): 2.97 (1.80 to 4.90). History of cannabis use was associated with an increase in risk of developing psychotic symptoms. A review and meta-analysis of 4 epidemiological studies in general populations found significantly increased odds of suicide death (pooled OR 2.56; 95% CI, 1.25 to 5.27) with any cannabis use. ...A systematic review of 6 longitudinal studies in other populations detected an association between cannabis use and exacerbation of manic symptoms in patients with known bipolar disorder, and an increased incidence of new-onset mania symptoms among populations without a diagnosis of bipolar disorder (**OR** **2.97**; 95% CI, 1.80 to 4.90). Cannabis use was associated with incident cannabis use disorder (**adjusted odds ratio, 9.5** [CI, 6.4 to 14.1]) in a large (*N* = 34 653) *prospective cohort study*. Kansagara D, O’Neil M, Nugent S, et al. Benefits and Harms of Cannabis in Chronic Pain or Post-traumatic Stress Disorder: A Systematic Review [Internet]. Washington (DC): Department of Veterans Affairs (US); 2017 Aug. EXECUTIVE SUMMARY. <https://www.ncbi.nlm.nih.gov/books/NBK476453/>
- **Cannabinoid Hyperemesis Syndrome:** “Chronic cannabis use has been associated with a severe form of cyclic vomiting called the cannabinoid hyperemesis syndrome. There is consistent evidence that suggests an association between cannabis use and psychotic symptoms, as well as cognitive impairment in active users in general populations...”Kansagara D, O’Neil M, Nugent S, et al. Benefits and Harms of Cannabis in Chronic Pain or Post-traumatic Stress Disorder: A Systematic Review [Internet]. Washington (DC): Department of Veterans Affairs (US); 2017 Aug. EXECUTIVE SUMMARY. <https://www.ncbi.nlm.nih.gov/books/NBK476453/>
- **Increased negative emotions and addiction severity: Decreased dopamine brain reactivity in marijuana abusers is associated with negative emotionality and addiction severity.** “Correlation analysis between scores in negative emotionality and history of marijuana abuse showed a negative correlation between age of initiation of marijuana abuse and negative emotionality scores (*r* = 0.58, **P** = **0.003**) such that the younger the initiation, the higher the scores. ... Marijuana abusers had significantly lower scores in positive emotionality (**P** = **0.05**) and higher scores in negative emotionality (**P** = **0.002**) than controls.” - Decreased brain DA reactivity in marijuana abusers. Nora D. Volkow, Gene-Jack Wang, Frank Telang, Joanna S. Fowler, David Alexoff, Jean Logan, Millard Jayne, Christopher Wong, Dardo Tomasi. *Proceedings of the National Academy of Sciences* Jul 2014, 111 (30) E3149-E3156; DOI: 10.1073/pnas.1411228111

# DEPRESSION – 12-17 YEAR OLDS FROM 2004-2016

**Figure 58. Received Treatment in the Past Year for Depression among Youths Aged 12 to 17 with a Past Year Major Depressive Episode (MDE) or MDE with Severe Impairment: Percentages, 2004-2016**



\* Difference between this estimate and the 2016 estimate is statistically significant at the .05 level.

**Figure 58 Table. Received Treatment in the Past Year for Depression among Youths Aged 12 to 17 with a Past Year Major Depressive Episode (MDE) or MDE with Severe Impairment: Percentages, 2004-2016**

MDE Status	04	05	06	07	08	09	10	11	12	13	14	15	16
MDE	40.3	37.8	38.8	39.0	37.7	34.6 <sup>+</sup>	37.8	38.4	37.0 <sup>+</sup>	38.1	41.2	39.3	40.9
MDE with Severe Impairment	N/A	N/A	46.5	43.9	42.6	38.8 <sup>+</sup>	41.1 <sup>+</sup>	43.5	41.0 <sup>+</sup>	45.0	44.7	44.6	46.7

N/A = not available.

\* Difference between this estimate and the 2016 estimate is statistically significant at the .05 level.

Substance Abuse and Mental Health Services Administration. (2017). *Key substance use and mental health indicators in the United States: Results from the 2016 National Survey on Drug Use and Health* (HHS Publication No. SMA 17-5044, NSDUH Series H-52). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/>

# SELF-HARM & SUICIDE

After 2009, non-fatal, self-inflicted injury  
among females aged 10-14 years  
increased 18.8% per year,  
from 109.8% in 2009 to  
317.7% in 2015.

- Mercado MC, Holland K, Leemis RW, Stone DM, Wang J. Trends in Emergency Department Visits for Nonfatal Self-inflicted Injuries Among Youth Aged 10 to 24 Years in the United States, 2001-2015. *JAMA*. 2017;318(19):1931-1933. doi:10.1001/jama.2017.13317 <https://jamanetwork.com/journals/jama/article-abstract/2664031?redirect=true>



# STRESS & MENTAL HEALTH OF TODAY'S YOUTH

- Stress has increased with Smartphones & continuous access to social media (social isolation, cyber-bullying, addiction, etc.)
- Unregulated and chronic stress can lead to mental illness and other negative health outcomes.
- Depression, suicide, suicide ideation are increasing.
- It is critical to monitor & manage student stress before it becomes a depression or suicide statistic.

**Locally yet assumedly not unlike other national communities, a 2015 school survey of 2000+ students:**

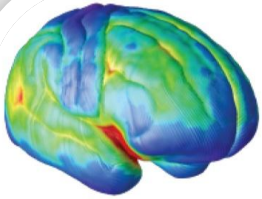
- 48% of Rocklin 9th and **62% of 11<sup>th</sup>** graders said they **felt stressed always or a lot stressed**
- 16% of 9th graders and **20% of 11<sup>th</sup>** graders said they were **struggling with mental health issues**
- **More than half of 9th and 11th** graders reported symptoms of stress – anxious/worry a lot, trouble sleeping, trouble focusing.

\* 2015 CPY Rocklin Student Survey



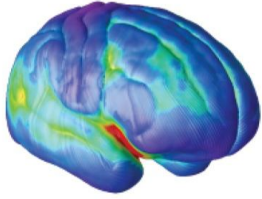


# THE ADDICTION CONTINUUM



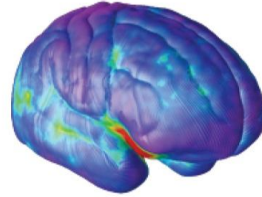
## Age 12

During adolescence, the brain goes through a lot of changes. Gray matter diminishes as connections between neurons are cut back.



## Age 16

Because the brain is still developing, it is more sensitive to the effects of drugs.



## Age 20

By adulthood, the changes caused by beginning drug use are less likely to "stick" and become hardwired as addiction.

— Less Developed  
— More Developed





# AN INVITATION TO A PARADIGM FLIP

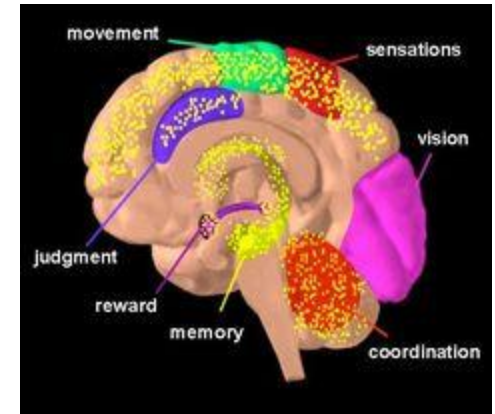
From Oral Solutions to Mind – Body Solutions

# WHY THIS APPROACH?

- Words matter! Images matter!
- Learned behaviors start with exposure to language, images and behaviors
- Exposure creates perspectives/opinions
- Leading to self-talk
- Leading to physiological changes, choices and behaviors
- How we respond to the language of others also shapes perspectives, opinions, self-talk, choices and behaviors
- Our language is key to empowering those we influence to think critically when they hear the conversations around recreational cannabis.



# LANGUAGE, WORDS & IMAGES SHAPE PERCEPTIONS – THE BRAIN LATCHES ON TO WHAT IS THERE, NOT WHAT IS MISSING

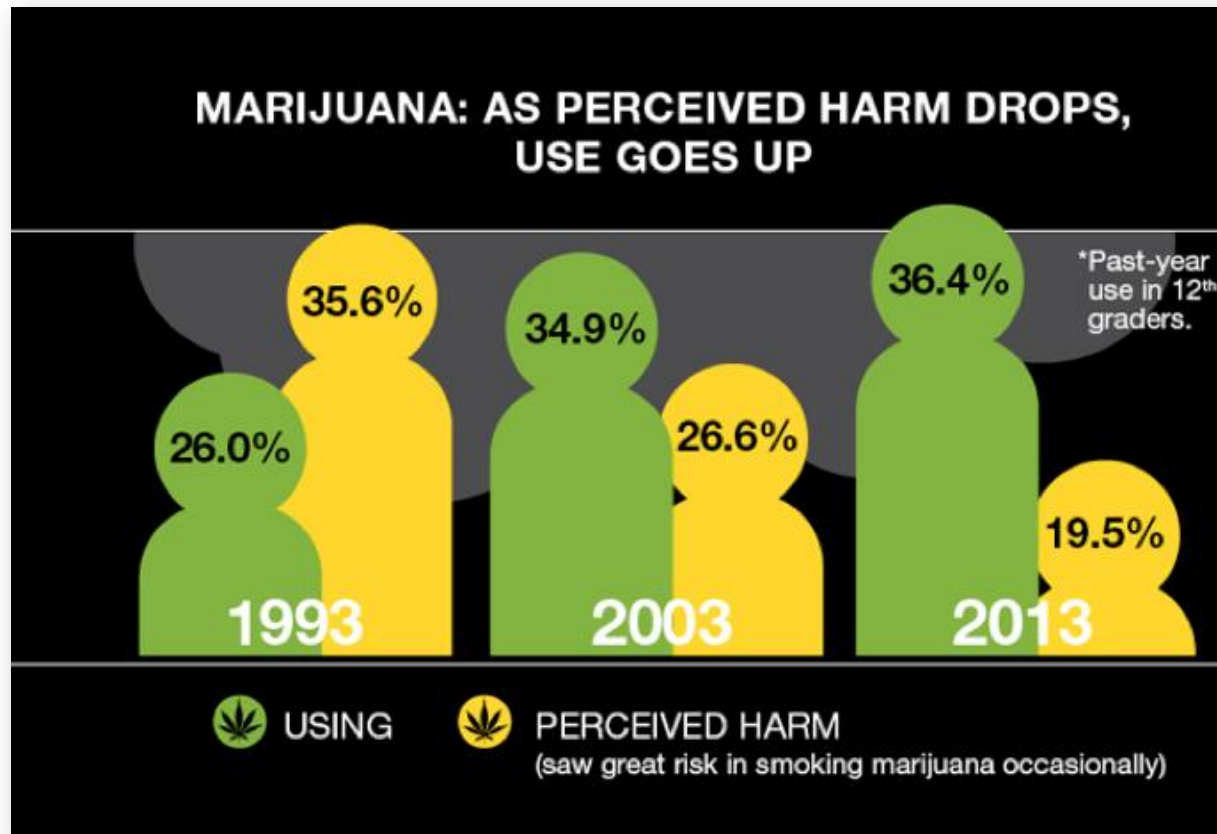


- “My migraine”
- “Don’t **forget**” vs. “Remember”
- “**Don’t** do that” vs. “Maybe you **can** do this, or this, or this.” - **Redirecting focus vs. negative language or imaging**
- Mental Health vs. Mental Illness

## Other Examples ???

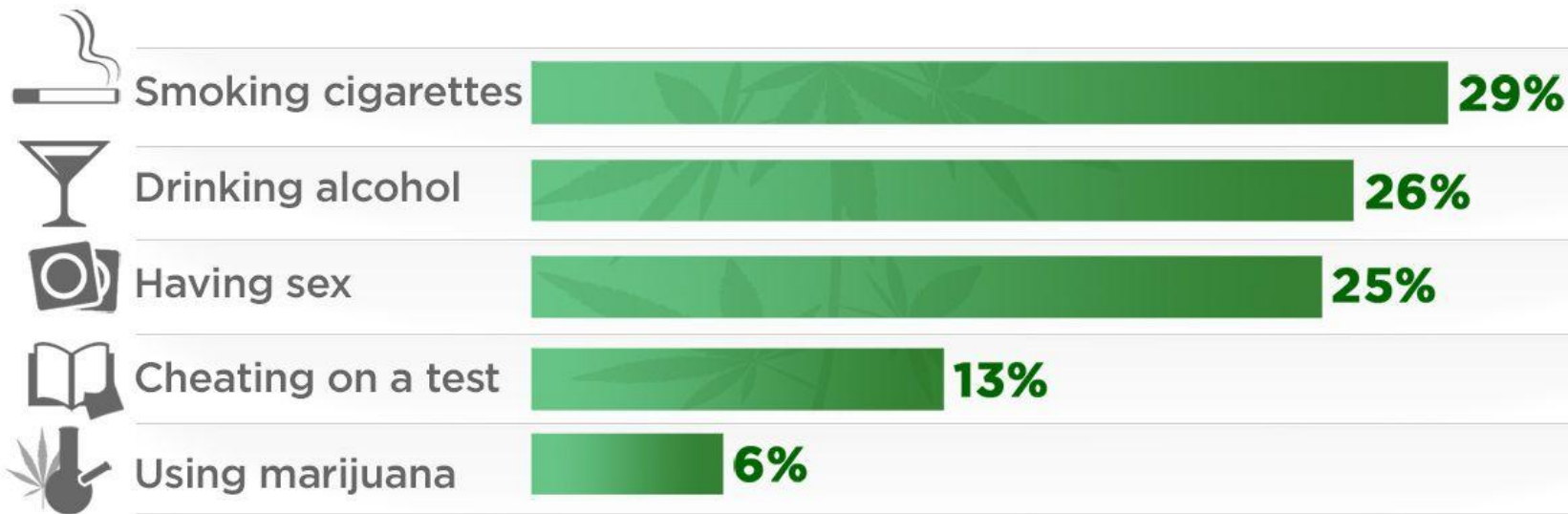


# Perception of Harm





## Which of the following would you — a parent who uses marijuana — worry most about your child doing?



Graphic: Yahoo News/Getty Images

Source: Yahoo News/Marist Poll April 2017

*\*Survey of 1,122 adults was conducted March 1st through March 7th, 2017 by The Marist Poll, sponsored and funded in partnership with Yahoo News. Adults 18 years of age and older residing in the contiguous United States.*

*<http://maristpoll.marist.edu/yahoo-newsmarist-poll/>*



# THE POWER OF NEGATIVE SOCIAL NORMS

- **Youth** who perceive that the majority of their peers drink are more likely to drink themselves.
- **Parents** who believe most youth drink may be less likely to take protective actions with their own child.
- **School leaders** who believe most children drink may consider underage drinking a “rite of passage” and be unwilling to adopt appropriate policies.
- **Law enforcement** leaders who believe the community condones underage drinking may be less likely to strongly enforce underage drinking laws.

“A POSITIVE COMMUNITY NORMS COMMUNICATIONS CAMPAIGN SHOULD ADDRESS THE MISPERCEPTIONS HELD BY MULTIPLE AUDIENCES.”



# FEAR DOESN'T WORK EITHER

“IT IS TIME TO MOVE BEYOND HEALTH  
TERRORISM. IF WE WANT HEALTH, WE MUST  
PROMOTE HEALTH.” - JEFF LINKENBACH

Fear appeals can backfire, and  
have unintended adverse effects.  
They can:

- Label and stigmatize,
- Expand social gaps
- Promote poor health as a value
- Cause a loss of engagement

PERCEPTION IS  
EVERYTHING.  
THEREFORE SO,  
TOO, IS  
MISPERCEPTION.  
— Jeff Linkenbach



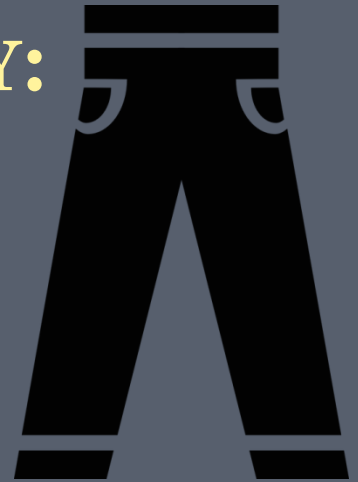




# How do we get from here to there?

## THE 2 LEGS OF POSITIVITY:

1. POSITIVE DATA
2. POSITIVE FRAMING



# THE POWER OF POSITIVE SOCIAL NORMS

## Social norms approach

- Traditional forms of drug education often rely on depicting extreme negative consequences of drug use
- Whilst people may have a high recall rate for these types of messages there is little evidence that they are effective in changing behaviour
- The social norms approach uses an alternative technique based on a very simple premise – if you can correct the misperceptions that people hold then alcohol and drug use will fall

# THE POWER OF DATA TO SHAPE POSITIVE SOCIAL NORMS

- **Injunctive norms** are *people's perceptions* of what behaviors are approved of or disapproved of by others.
- **Descriptive norms** are people's perceptions of how people actually act. Targeting descriptive norms by sharing *what most people actually do* works better to influence behavior than trying to change injunctive norms. ***“Join Your Fellow Guests in Helping to Save the Environment.”*** It was found that 75% of guests reused their towels after receiving the descriptive norm message.



# HUMOR ALWAYS HELPS!

## Social norms approach

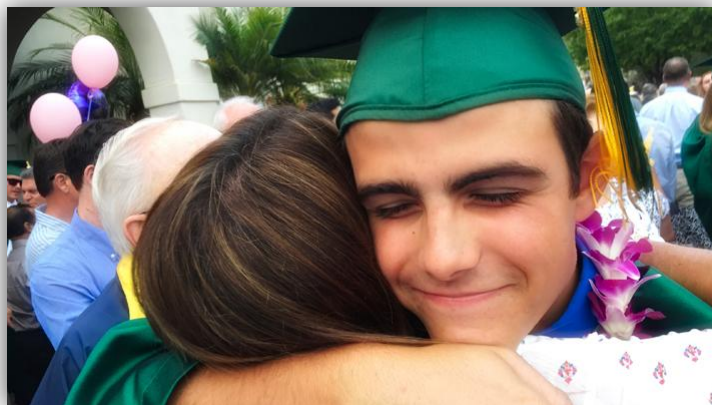




# SOME IMAGES REFLECTING POSITIVE YOUTH ACTIVITIES AND COPING SKILLS



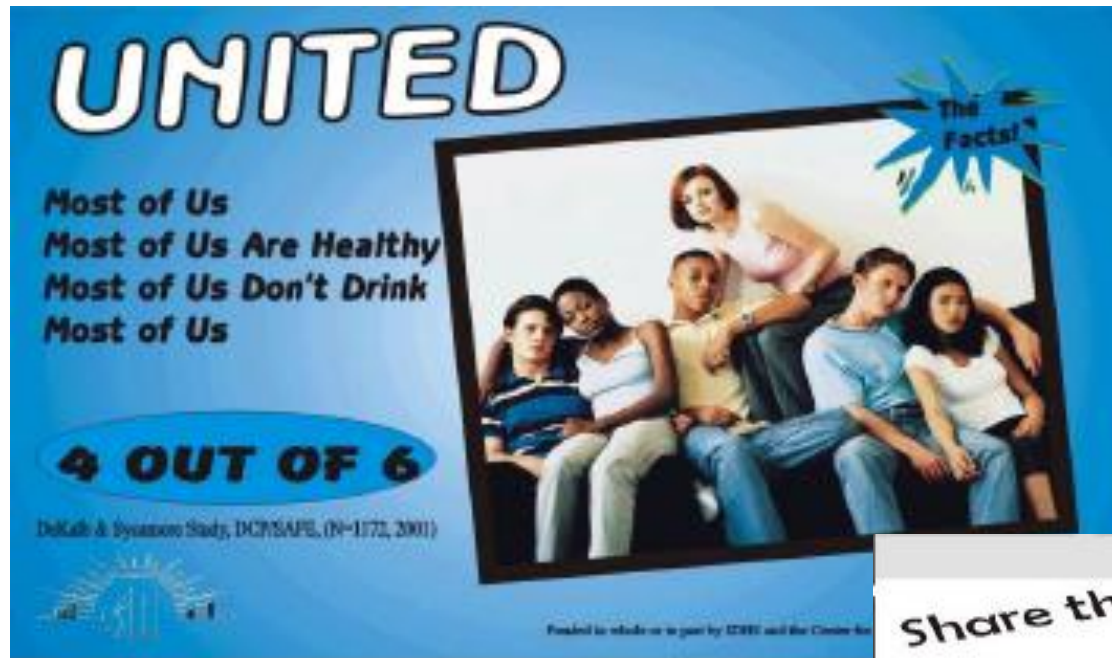
<https://www.mindful.org/self-compassion-can-help-teens-de-stress/>



CPY Graduation Campaign, 2017



# “MOST OF US” CAMPAIGNS



*Reality vs. Perception.*



Youth-led Social Norms Campaigns.  
[http://www.fridaynightlive.org/wp-content/uploads/YLI-FNL-social-norms\\_v2.pdf](http://www.fridaynightlive.org/wp-content/uploads/YLI-FNL-social-norms_v2.pdf)

# POSITIVE PROM CAR PROJECT

1,130 Maine South students attended Junior and Senior prom in 2006, and 1,130 Maine South students arrived home safely. 89% don't drink and drive.

- Before Prom, the Main Community Youth Assistance Foundation developed the: **“Positive Prom Car Project”**
- Instead of displaying a crashed car on the school lawn, they parked a new top-of-the-line sports car, with the above message.
- The project team confirmed the data for the message with the Police Department and school. No alcohol or drug related incidents and no accidents were reported.

# WHERE IS THE POSITIVE SOCIAL NORMS DATA AROUND CANNABIS?

- CO – 68% of municipalities did not allow cannabis dispensaries.
- Most students make good choices every day. (What are your local numbers?)
- There are a host of positive coping methods that don't pose risks for teens.
- Focus on opportunities, redirection after identifying core need getting satisfied by substance-use
- Highlight student accomplishments, values and priorities.





# RE-DIRECTING TOWARDS HEALTH- INCREASING COPING SKILLS & BEHAVIORS

## CHALLENGE

## POSSIBLE COPING STRATEGY

- |                         |   |  |
|-------------------------|---|--|
| ○ Stress                | → | ○ Mindfulness, time management   |
| ○ Migraine              | → | ○ Yoga and mindfulness practice before sleeping – no devices before bed  |
| ○ Insomnia              | → | ○ Increase exercise, no caffeine after 4pm, mindfulness before sleeping, no devices before bed                 |
| ○ Need to decompress    | → | ○ Walk or bike rides, sports, prioritizing time to talk with friends, parents, counselor at least once a week. |
| ○ Feeling Sad/Depressed | → | ○ Talk to a counselor, coach, faith leader, mentor, other teacher.   |



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- Introduction to social norms. John McAlaney. University of Bradford. <https://www.slideshare.net/drugeducationforum/introduction-to-social-norms-john-mcalaney>
- U.S., the National Center on Addiction and Substance Abuse (CASA) at Columbia University





**THANK YOU!**

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