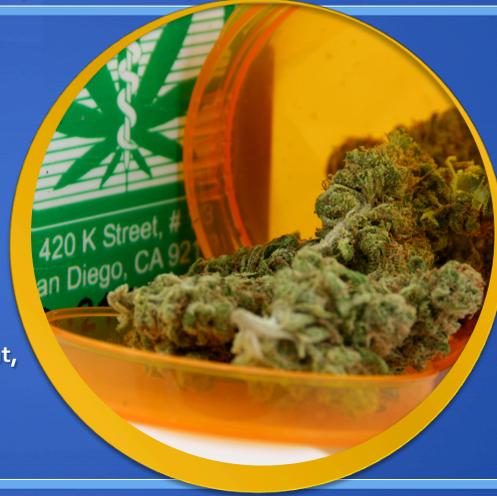


*Marijuana on Campus: Current Research and Best Practice in an Era of Changing Perceptions, Prevalence, and Laws.*

James Lange, Ph.D.  
Director, Health Promotion  
San Diego State University

University of Wisconsin System  
sponsored training, UW Stevens Point,  
April 30, 2015



## Looking back a few years ago...

- Amethyst Initiative - 2008
- 2010 California Prop 19 Didn't Pass, but...
  - Since 2010: 11 States and DC became medical marijuana states. It took 13 years for 13 states to start this off (1996-2009)
  - California Decriminalized in 2011
  - Washington and Colorado legalized in 2012
  - Oregon, Alaska and DC legalized in 2014

# It's spreading

## Victory Checklist

2014

- Alaska
- Oregon
- Washington, D.C.

2016

- Maine
- Arizona
- California
- Nevada
- Massachusetts



Together we can end the failed war on marijuana.  
Join the fight today at [www.mpp.org](http://www.mpp.org)

## Explosion of Research

MEDLINE & PsychINFO database search by year.

Search Term "Cannabis; Marijuana; Marihuana"

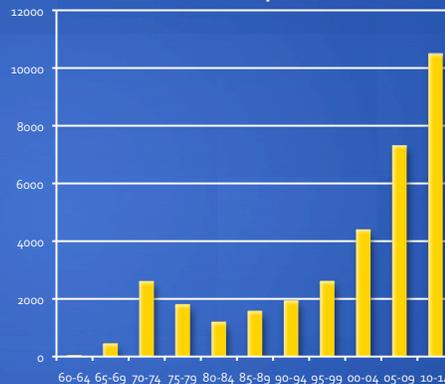
Within last...

10 Years: 52%  
5 Years: 30%

Publication Milestones:

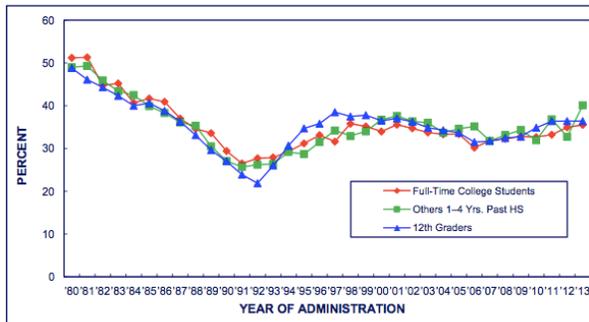
- ✦ Isolation of THC (1964)
- ✦ Existence of CB receptor confirmed (1984)
- ✦ First studied endogenous CB agonist (1992)
- ✦ First U.S. general population study on health conditions published (2010)

Articles by Year



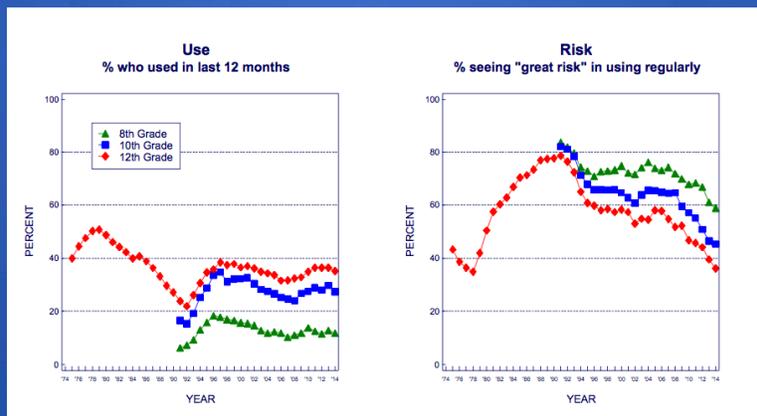
# What about actual use

**FIGURE 9-3a**  
**MARIJUANA**  
**Trends in Annual Prevalence among College Students vs. Others**  
**1 to 4 Years beyond High School**  
 (Twelfth graders included for comparison.)



Most recent college MTF (up to 2013)

# High School Use and Perceived Risk: Our future college students



Johnston, L. D., Miech, R. A., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (December 16, 2014). "Use of alcohol, cigarettes, and number of illicit drugs declines among U.S. teens." University of Michigan News Service: Ann Arbor, MI. Retrieved 12/16/2014, from <http://www.monitoringthefuture.org>

## Predictors predict until they don't

Quotes from MTF Press Release: 12/16/14

Marijuana use, after five years of increasing among teens, actually declined slightly in 2014, with use in the prior 12 months declining from 26 percent to 24 percent for the three grades combined.

"The belief that regular marijuana use harms the user, however, continues to fall among youth, so changes in this belief do not seem to explain the change in use this year, as it has done over most of the life of the study," Johnston said.

## A bit about AOD Initiatives at SDSU

- Since implementing our Comprehensive Strategy...
  - Reduction in alcohol related medical transports
  - Reduction in alcohol related campus judicial referrals
  - Increase in Freshman claiming alcohol-abstinence
  - Have not been listed in any publications "party school" lists
- Our Aztec Nights program has been featured by the U.S. Department of Education
- We were the first (or nearly so) to publish on... Ritalin abuse in the west coast; Salvia use by college students; BAC definitions of binge drinking; the association between marijuana and binge drinking in college parties

## Prevention Approach

- Comprehensive Strategy:
  - Motivational focus
  - Alternative focus
  - Access focus



## Where does marijuana fit within the AOD issues at SDSU?

- Drug Free Schools and Community Act requires all IHEs to certify that it has a program to prevent illicit drugs. Illicit would be defined federally.
- The CSU System has made clear that medical marijuana is not permitted on its campuses.
- SDSU Student Health Services will not recommend marijuana to students.
- Use eCheckUptoGo-Marijuana as needed.
- Policy: Grounds upon which student discipline can be based... Use, possession, manufacture, or distribution of illegal drugs or drug-related paraphernalia, (except as expressly permitted by law and university regulations) or the misuse of legal pharmaceutical drugs. SDSU does not permit the possession or use of marijuana even with a medical recommendation.

# GOT WEED?

## Don't Bring It To Campus!

**SDSU policy will remain unchanged...**

- Possession, use or sale of marijuana on SDSU campus, including within residence halls, will continue to be prohibited.
- Possession, use or sale of marijuana in connection with any SDSU sanctioned activity will remain prohibited.
- Impaired driving laws will remain strictly enforced around campus.
- Counseling and Psychological Services remains open to those who may feel marijuana is causing problems for themselves or their friends.
- Students can take the Marijuana eCHECKUP TO GO to explore their use in an anonymous and confidential way.

**QUESTIONS? CONTACT AOD@MAIL.SDSU.EDU**

## Just in Case

2010 Prop 19 Flyer  
& perhaps for 2014

# Even Without Prop 19

**Table 2. Youth drug offense arrests, 2011 versus 2010.**

Drug offense	2010	2011	Change
Marijuana possession	14,991	5,831	-61%
Other drug possession	2,106	1,770	-16%
Marijuana felonies	2,206	1,952	-12%
Narcotics felonies	1,363	1,174	-14%
Other drug felonies	2,628	1,671	-36%

Source: CJSC, 2012, 2012a, 2011.

Males, Mike. *California Youth Crime Plunges to All-Time Low*. Research Brief. San Francisco, CA: Center on Juvenile and Criminal Justice, October 2012. [http://www.cjcj.org/files/CA\\_Youth\\_Crime\\_2011.pdf](http://www.cjcj.org/files/CA_Youth_Crime_2011.pdf).

Figure 3. California youth arrest rates for Part I serious violent and property crimes compared to rates for youth elsewhere in the U.S., 1960-2011.

Sources: CJSC, 2012, 2012a, 2011; Department of Finance, 2012; FBI, 2012; Census Bureau, 2012.

## The Medicine

- The FDA has this to say "... has not been proven to have a positive impact"
- No peer-reviewed publication of randomized development trials showing benefits.
- Reported adverse side effects include: Psychotic behavior (hallucinations, impulsive/destructive behavior) vehicle crashes, and even suicide.

Of course *the* "Medicine" here is...

# Tamiflu

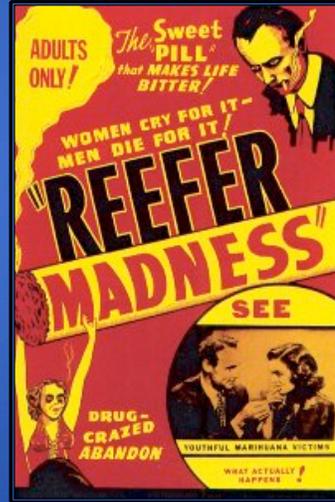
**British medical journal claims there is no proof that Tamiflu can stop influenza**

INFLUENZA | NOVEMBER 14, 2012 | BY: JEANNIE STOKOWSKI-BISANTI | [Subscribe](#)

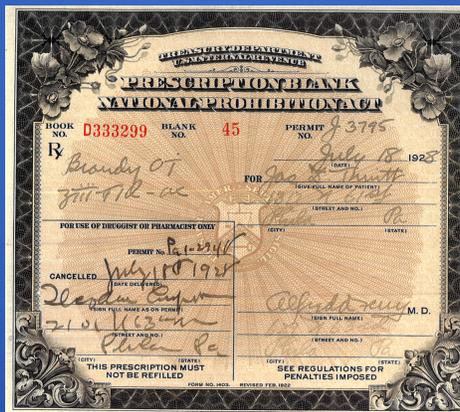


## College Students are Hypocrisy, Faux-Expert, and Bias Detectors

- We are faced with an educated, skeptical and capable group.
- The ghost of *Reefer Madness* is always hanging over our efforts.
- Sometimes they are right and we need to approach this with a proper sense of historical and public health understanding.
- However, like all of us, they can suffer from confirmatory biases.



## Is this déjà vu? From a distance, it seems to be.



## 1921 to 1933

### ONLY 9 STATES GET BEER AS MEDICINE

Brewers Are Preparing to Supply It—Seven Plants to Open in Milwaukee.

### DRYS' COUNSEL SEES HOPE

Believes People Will Resent Turning 'Drug Stores Into Booze Shops'—Rush Expected Here.

Brewers in the nine States where beer may be legally prescribed as medicine began preparations yesterday for the

ONLY 9 STATES GET BEER AS MEDICINE. (1921, October 26). *The New York Times*. Retrieved from <http://www.nytimes.com>

### Prohibition Nears Its Doom As 6 States Vote Today

By The Associated Press

Voters in half a dozen widely scattered states today are inscribing the answer to whether thirteen years of national prohibition shall end next month.

#### Lindberghs Forced Back into Holland

AMSTERDAM, Nov. 7.—(AP)—Col. and Mrs. Charles A. Lindbergh returned to Holland today, when unfavorable flying conditions prevented them from continuing to Geneva after a flight over Belgium and France in a heavy fog. They hopped off this morning.

A dispatch from Geneva, where they were expected to land shortly before nightfall, said a large crowd had waited for them several hours at the Nautical Club in Geneva.

Confidence that the balloting in Pennsylvania, Ohio, North and South Carolina, Kentucky and Utah would climax the administration's campaign to restore liquor was expressed by Postmaster General Farley.

Wet organization leaders forecast anti-prohibition majorities in at least three of the six states voting—all that is necessary to assure elimination of the Eighteenth Amendment from the Constitution—while dry organization captains said there were good chances for halting the hitherto unbroken anti-dry parade.

Although voters express themselves today, actual repeal could not materialize until the first week in December—the balloting—about

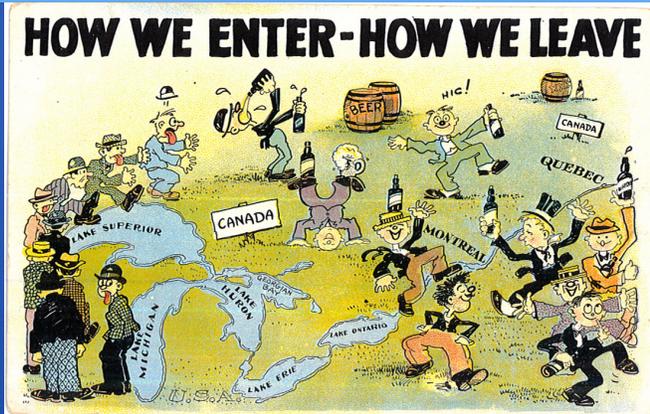
Rochester Evening Journal (1933, November 7). Retrieved July 3, 2013, from <http://news.google.com/newspapers>

## Today



sLkYX.jpg (JPEG Image, 640 x 428 pixels). (n.d.). Retrieved July 12, 2013, from <http://i.imgur.com/sLkYX.jpg>

## Border Towns – Mexico and States



Palm Beach Post - Oct 21, 1929

### MODERATION LEAGUE HITS PROHIBITION FROM NEW POSITION

Claim Only One of 27 States  
Dry Before Prohibition  
Shows Any Change

By the Associated Press  
New York, Oct. 20.—The Moderation League, whose object is "the restoration of temperance" today made public a statement saying: figures compiled by the United States census bureau show that 27 states which were dry before the national

## Federal Legislation, Executive, Judicial Action



Senators Booker, Paul, & Gillibrand introduce sweeping medical marijuana reform.

Compassionate Access, Research Expansion and Respect States (CARERS) Act introduced March 10, 2015

### Is pot as bad as LSD? Heroin? Judge to rule on 1970 law



Is pot as bad as LSD? Heroin? Judge to rule on 1970 law. (n.d.). Los Angeles Times. Retrieved from <http://www.latimes.com/local/politics/la-me-marijuana-lsd-heroin-controlled-substances-act-20150113-story.html#page=1>



### Obama Predicts Marijuana Will Be Rescheduled

BY MIKE ADAMS - THU MAR 19, 2015



M. A. . T. M., 2015. Obama Predicts Marijuana Will Be Rescheduled. Retrieved March 23, 2015, from <http://www.hightimes.com/read/obama-predicts-marijuana-will-be-rescheduled>

## What happens on campus if/when marijuana is de-scheduled

- ADA and fair housing may force medical marijuana on campus
- Age-21 restrictions become meaningless for medical users. This may also include allowing growing own.
- Smoking bans may or may not apply if focus on nicotine and tobacco. Eatables will be difficult to control.

## How to respond: Tell us how to argue...

- We must acknowledge that many of the moral and even public health oriented arguments against marijuana use are fraught with shaky foundations
  - Lung health: Cigarette analogy fails both on research-based harms and legal grounds. It also does not address other forms of consumption. Second-Hand smoke harms not studied.
  - "Medical" vs. *Recreational* distinction fails on epistemological grounds
  - Both Gateway Drug and Amotivational Syndrome have failed to be confirmed
  - Risk of dependence true, but legal and use guidelines are inconsistent with other drugs
  - Impaired driving is true, but legal and use guidelines are inconsistent with other drugs
  - THC-level inflations: Partially true, but public health implications have not been documented. Synthetic cannabinoids are not a model for informing this debate due to their action on CB<sub>1</sub> and also the lack of countervailing chemicals such as CBD.

## College Population Considerations

- 18-24, and sometimes much older
- Well educated, critical and have the means to do independent study
- Activated towards social change, and social justice
- Experimenting with agency, leadership and protests
- Understand concepts of relative risk. Have a much better experiential-based understanding of the set and setting of actual use.

## Marijuana Use Trajectories

"Specifically, infrequent, increasing, and chronic/heavy marijuana use patterns were associated with significantly increased risk for discontinuous enrollment (adjusted odds ratio = 1.66, 1.74, and 1.99, respectively) compared with minimal use."

The Trajectories also correlated with use of other drugs: Alcohol, Illicit and Rx.

Reasons for discontinuous enrollment were not identified, and could include suspension, expulsion and transfer.

Arria, Amelia M, Laura M. Garnier-Dykstra, Kimberly M. Caldeira, Kathryn B. Vincent, Emily R. Winick, and Kevin E. O'Grady. "Drug Use Patterns and Continuous Enrollment in College: Results From a Longitudinal Study." *Journal Of Studies On Alcohol And Drugs* 74, no. 1 (2013): 71-83.

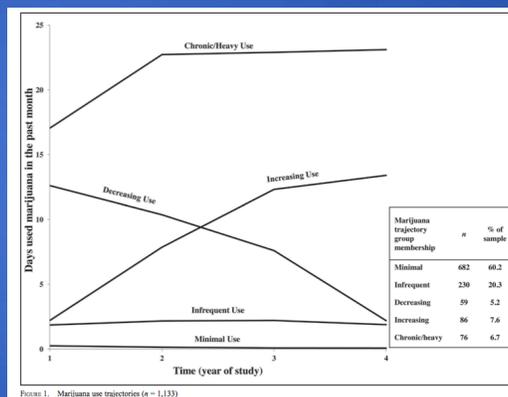


FIGURE 1. Marijuana use trajectories (n = 1,133)

# Earlier Start Trajectories

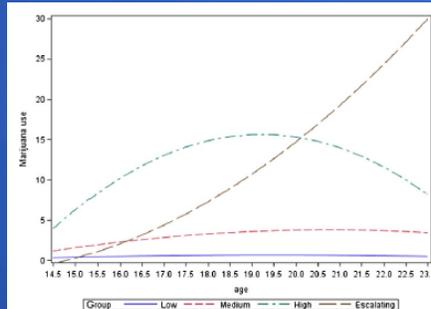


Fig. 1. Illustration of estimated trend lines for the three classes of non-escalating users (i.e., low, medium and high groups) and one class of escalating users. "Marijuana use" is defined as follows: 0 = zero time; 1 = once a month or less; 3 = more than once a month but less than once a week; 9 = more than once a week but less than daily; 27 = every day.

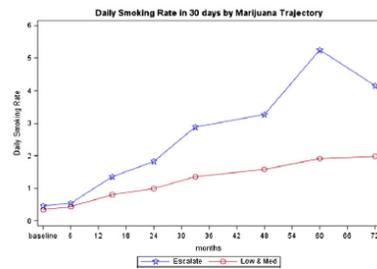


Fig. 2. Daily cigarette smoking rate in 30 days, in Escalators and Non-escalators, from baseline to 72 months. Cigarette smoking rate is defined in terms of cigarettes per day.

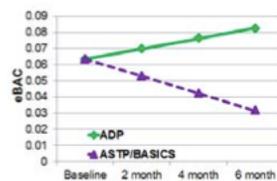
Cigarette smokers over sampled

Predictor of Escalating/High:  
Baseline: Males, Cigarettes, GPA  
6 Yr: Lower Education Status,  
Cigarettes

Passarotti, A. M., Crane, N. A., Hedeker, D., & Mermelstein, R. J. (2015). Longitudinal trajectories of marijuana use from adolescence to young adulthood. *Addictive Behaviors, 45*, 301–308. <http://doi.org/10.1016/j.addbeh.2015.02.008>

# Don't just do something, stand there!

## Project AIMS: Intervention Effects



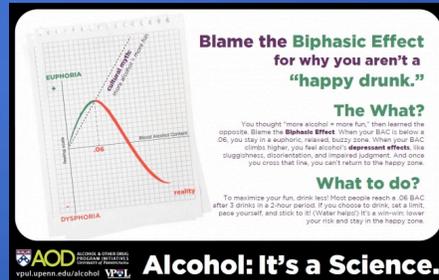
Logan, Diane, Jason R. Kilmer, and Timothy C. Marchell. "Connection versus Enforcement: Lessons Learned from the 'Teachable Moments.'" San Diego, CA, 2014.

Following the sanction effect the ADP approach... "suggests that the immediate effects may be undermined or at least not maintained in an education-only program."

Logan, D. E., Kilmer, J. R., King, K. M., & Larimer, M. E. (2015). Alcohol Interventions for Mandated Students: Behavioral Outcomes From a Randomized Controlled Pilot Study. *Journal of Studies on Alcohol and Drugs, 76*(1), 31–37.

# Flexible and realistic alcohol prevention efforts

- BASICS
  - ASTP
  - SHAHRP
  - Many Online Programs
- All these acknowledge a desired effect of alcohol, and seek to instruct the drinkers (even underage) how to maximize those, and minimize the negative.
  - Implicit recognition that there is social or personal value "Consumer Surplus" to the activity that should be accepted by the prevention messaging.
  - Some have argued that doing this for highly addictive substances with well documented harms (i.e., tobacco) is flawed logic (Chaloupka, Gruber, & Warner, 2015)



## Responsible Use: What is it?

Illegality made the question of "responsible use" problematic; though for alcohol this is often considered on college campus.

Medical exemption appears to be exploited; Discomfort with the ethics of "cosmetic" medicines

Do we agree on what abuse or irresponsible use looks like?

A moving target and often based on socially constructed sense of "problems" Gusfield (1996)

Question: "Any plans to do a "Baked History" where pot is legal? GREAT SHOW!"  
*no way. That show would never end. It would be boring and very slow. Trust me.*

IamA (Derek Waters, Creator of Drunk History) AMA! (2014). Retrieved March 26, 2015, from <http://interviewly.com/i/derek-waters-jul-2014-reddit>



## Societal Definitions Change

Drunk driving was a concern since cars existed (Lange, 2008). But rarely mentioned by prohibitionists in the early 1900's.

Now it's a major source of our justification for alcohol restrictions.

Technology may impact our definitions of reckless

Age 21, Age 18 and the various concerns over time

Various measures include "Hangovers". Are we also trying to prevent Munchies?



## Medical Exemption Exploitation

Sampled 335 ads placed in major weekly newspapers from all states with medical marijuana laws as of June 2010.

Coded them using a variety of methods

Found three main themes:

- Traditional medicine
- Holistic/alternative medicine
- Counterculture/recreation

Varies substantially by state.

Herbal Association  
 4100 La Jolla Village Drive, Suite 100  
 San Diego, CA, 92120  
 619.451.1111  
 Your Leader In Compassionately Priced Medicine

**\$55**  
 CAP ON ALL TOP SHELF  
 We are your One Stop Shop  
 CLOVES  
 CONCENTRATES  
 NEW MEMBER GIFTS  
 REFERRAL GIFTS  
 HAPPY HOUR 1/5 DAILY

Sat. Oct. 8th  
**\$25**  
 1/8's  
 \*1 From Every Donation Goes To  
 Herbol Remedy  
 Limited Strains!  
 Limit 1 Per Member  
 WHILE SUPPLIES LAST  
 \* Only 1 Discount Applies Per Transaction

Go Green (213)  
**Top Shelf Kushes**  
 \$20-\$45 1/8ths  
 \$10-\$23 half 1/8ths  
 No Ounce over \$320  
 OPEN DAILY from 11am-9pm  
 We are located in Downtown LA Directly off HWY 10 Free Private Parking  
 @gmail.com

# Varying Medical Marijuana Controls



## Spectrum of controls

- California does not require patient registration, list of conditions based upon physician judgment.
- Arizona's new law more specific list of conditions, and requires patient registration.

**FREE!**

**MOTA**

**Magazine**

*Premier Issue*

Issue 1, Sept 2010

## Pick your condition

**Conditions That Can Be Treated By Medical Marijuana**

Bipolar Disorder	Hypoglycemia(s)	Psychogenic Pain	Charcoal-Marie-Tooth	Hepatitis-non-viral	Muscle Spasm
Autism/Aspergers	Lipomatosis	Post Traumatic Stress Dis.	Neuropathy	Pancreatitis	Fibromyalgia/Fibrositis
Anxiety Disorder	Arthropathy, gout	Org. Mental Dis.(hd In)	Macular Degeneration	Nephritis/nephropathy	Osgood-Schlatter
Panic Disorder	Waggonpolyascharidosis	Post Concussion Syndrome	Glaucoma	Ureter spasm calculus	Tietze's Syndrome
Agoraphobia	Porphyria	Nonpsychotic Org Bra Dis.	Dyslexic Amblyopia	Urethritis/Cystitis	Melchroestosis
Genital Herpes	Amlyoidosis	Brain Trauma	Color Blindness	Prostatitis	Spondylolithiasis
Herpetic Infection	Obesity, oxogenous	Intermittent Explosive Dis	Conjunctivitis	Epididymitis	Cerebral Aneurism
AIDS Related illness	Obesity, morbid	Trichotillomania	Drusen of Optic Nerve	Testicular torsion	Sciostasis
Post W.E. Ecnephallitis	Autoimmune disease	ADD w/o hyperactivity	Optic neuritis	Pelvic Inflammatory Dis	Splina Bilida Occulta
Chemotherapy Convalsa	Hemophilia A	ADD w hyperactivity	Sirabismus & other binoc	Endometriosis	Osteogenesis Imperfecta
Shingles (Herpes Zoster)	Hemooh-Schoelein Purpur	ADD other	Nystagmus, Congental	Premenstrual Syndrome	Ehlers Danlos Syndrome
Radiation Therapy	Sentile Dementia	Psychogenic PAT	Meniere's Disease	Pain, Vaginal	Nail patella syndrome
Viral B Hepatitis, chronic	Dielrium Tremens	Parkinsons Disease	Timbitus	Menopausal syndrome	Peutz-Jehgers Syndrome
Viral C Hepatitis, chronic	Schizoaffective Disorder	Restleas legs syndrome	Hypertension	Sturge-Weber Disease	Mastocytosis
Other arthropod borne dia	Mania	Friedreich's Ataxia	Ischemic Heart Disease	Eczema	Darier's Disease
Lyme Disease	Major Depression, Sgl Ept	Cerebellar Ataxia	Angina pectoris	Pomphigus	Marfan syndrome
Reiters Syndrome	Obsessive Compulsive Disorder	Syringomyelia	Arteriosclerotic Heart Die	Sturge-Weber Eye Syn	Incontinia
Post Polio Syndrome	Dysthymic Disorder	Other spinal cord disease	Cardiac conduction disord	Erythma Multiforma	Sleep Apnea
Malignant Melanoma	Neurasthenia	Reflex Sympath Dystroph	Peroraxmal Atrial Tach	Rosacea	Chronic Fatigue Synd
Other Skin Cancer	Writers' Cramp	Multiple Sclerosis	Post Cardiotomy Syndrome	Psoriasis	Tremor/vol Movements
Prostatic Cancer	Impotence, Psychogenic	Other CNS demyelinating	Raynaud's Disease	Pruritus, pruritic	Myofascial Pain Syndrome
Testicular Cancer	Alcoholism	Hemiparesis/plegia	Thromboanglitis Obliteran	Atrophy Blanche	Anorexia
Adrenal Cortical Cancer	Opiate Dependence	Cerebral Palsy	Polyarteritis Nodosa	Alopecia	Hyperventilation
Brain malignant tumor	Stuttering Dependence	Paraspigla(s)	Acute Sinusitis	Lupus	Cough
Glioblastoma Multifforme	Cocaine Dependence	Paraplegia(s)	Chronic Sinusitis	Scleroderma	Hiccups
Cancer, site unspecified	Amphetamine Depend	Paralysis, unspecified	Chronic Oost Pulmo Dis	Dermatomyositis	Vomiting
Lympho & reticular ca	Alcohol Abuse	Epilepsy(ies)	Empyema	Eosinophilia-Myalgia Syn.	Nausea
Myeloid leukemia	Tobacco Dependence	Grand Mal Seizures	Asthma, unspecified	Arthritis, Rheumatoid	Diarrhea
Uterine cancer	Psychogenic Hyperhidrosi	Limbic Rage Syndrome	Arthritis, Rheumatoid	Fatty's Syndrome	Pain, Ureter
Lymphoma	Psychogenic Pytorospas	Jacksonian Epilepsy	Arthritis, Degenerative	Arthritis, post traumatic	Cachexia
Graves Disease	Bruxism	Migraine(s)	Arthritis, Degenerat	Arthritis, post traumatic	Vertebral disloc unspec
Acquired hypothyroidism	Slutering	Migraine, Classical	Patellar chondromalacia	Arthritis, Degenerat	Whiplash
Thyroiditis	Anorexia Nervosa	Cluster Headaches	Ankylosis	Patellar chondromalacia	Back Sprain
Diabetes Adult Onset	Tic disorder unspec	Compression of Brain	Multiple joints pain	Patellar chondromalacia	Shoulder Injury Unspec
Diabetes Insulin Depend.	Tourette's Syndrome	Tic Dolocub	Intervertebral Disk Disease	Patellar chondromalacia	Fore Arm/Wrist/Hand
Diabetes Adult Onset Unctri	Persistent Insomnia	Bell's palsy	L-S disk dis sclatic N irrit	Patellar chondromalacia	Hip, Knee, ankle
Diabetic Renal Disease	Nightmares	Thoracic Outlet Synd	I/DD Cerv w Myelopathy	Patellar chondromalacia	& foot injury
Diabetic Ophthalmic Dis	Eulmia	Carpal Tunnel Syndrome	Cervical Disk Disease	Patellar chondromalacia	Motion Sickness
Diabetic Neuropathy	Tension Headache	Mononeuritis lower limb	Cervicobrachial Syndrome	Patellar chondromalacia	Anaphylactic or Reaction
Diabetic Periphera/VascD			Cervicobrachial Syndrome	Patellar chondromalacia	Trachoria Growthis

## Infant's Relief



Visit Brian's Page of Antique Weirdness  
<http://www.teleport.com/~gumballweird.html>

## The Medical User

- Reinerman et al (2011) – Survey of patients at medical marijuana assessment clinics.
  - Mostly male, white, 44 and under.
  - 27.1% had some college
  - Overrepresentation of Males African Americans, Native Americans, and Employed
- Therapeutic Goals
  - Pain 82.6%
  - Improve sleep 70.7%
  - Relaxation 55.1%
  - Muscle Spasms 41.1%
  - Headaches 40.7%
  - Anxiety 37.8%
  - Appetite 37.7%
  - Nausea 27.7%
- Top Three Diagnostic Codes:
  - Back/spine/neck pain
  - Sleep disorders
  - Anxiety/Depression

Reinerman, C., Nunberg, H., Lanthier, F., & Heddleston, T. (2011). Who are medical marijuana patients? Population characteristics from nine California assessment clinics. *Journal of Psychoactive Drugs*, 43(2), 128–135.

## The Student Medical User

- Survey of 729 undergraduates
  - 4.8% report some doctor recommended use of marijuana in past 12 months
  - 3.5% report having a current valid recommendation

### Past 12 Month Marijuana Smokers

- 11.4% have valid recommendation
- 33.3% 50+ smokers have valid recommendation

### Card Holders

- 94.2% have had card for 3 or fewer years
- Of 19 students who reported medical reasons:
  - 86.9% for anxiety, PTSD, depression, insomnia or ADD
  - 50% Pain management or nausea
- 50% purchase marijuana weekly, 66.7% report smoking before noon, and 84.8% smoke daily or almost daily.
- 24% used alcohol currently with their marijuana the last time they smoked.
- 58.9% drove while under the influence of marijuana in the past month
- 60.8% began using marijuana at age 16 or younger.

## DEA “Abuse” vs. DSM “Abuse”

- Abuse: “When drugs are used in a manner or amount inconsistent with the medical or social patterns of a culture.” ( p.32 DEA, 2011)
- DEA Working\* Definition of Potential for Abuse:
  - Taking the drug in amounts that create hazard to health and safety.
  - Significant diversion from legitimate drug channels.
  - Taking on own accord.
- Drugs are abused to “alter mood, thought, and feeling.”
- “The ‘feel good’ effects of the drugs contribute to their abuse.”

\*Abuse not defined within CSA.

DEA. (2011). Drugs of Abuse: A resource guide. Drug Enforcement Administration, U.S. Department of Justice.

## Ethical discomfort with “Cosmetic psychopharmacology”

the growing power to manage our mental lives pharmacologically threatens our happiness by estranging us not only from the world but also from the sentiments, passions, and qualities of mind and character that enable us to live in it well. . . . mood altering drugs pose a fundamental danger to our pursuit of happiness. . . . What is to be particularly feared about the increasingly common and casual use of mind-altering drugs, then, is . . . that they will seduce us into resting content with a shallow and factitious happiness. (pp. 303–5)

The medicalization of psychic pain, however necessary as a path to providing much needed relief for the sick, indicates (whether intended or not) a great advance for biological reductionism against the citadel of mind and soul, a march that knows no natural stopping place, and that at each point along the advance threatens to reduce further the dignity of our inner life—or at least our self understanding of it. (p. 296)

- President’s Council on Bioethics (2003):
- Criticism (Cerullo, 2006) includes better description of SSRIs as not mood-brighteners; Disputes the literal suggestion pain is necessary for dignity and “soul”.
- Today’s Council (2014) discusses neurological enhancements as creating concerns of equity and access. Differentiation between right to treatment vs. access to enhancements
- Ultimately, these ethical questions seem to devolve quickly when comparing marijuana to other approved medicines/drugs like Viagra, caffeine, birth control.

## Institutional definition of medicine

Often rests on FDA approval, and medical consensus to define a substance as “medicine”.

Roots run deep in counter narcotic, prohibition and Patent Medicines

Long tradition of cultural acceptance of alternative remedies

Sometimes medication “works” without our clear understanding of why. SSRI/Depression example (Anderson et al, 2015)

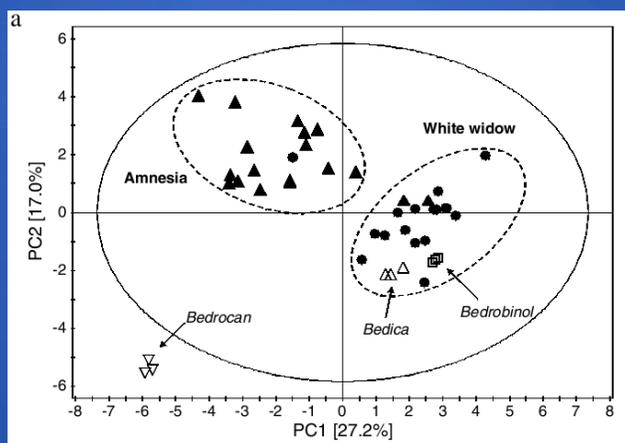


# Standardization: Medical

“Cannabis as an herbal medicine poses serious challenges to modern medicine, which operates according to the ‘single compound, single target’ paradigm of pharmacology” (p. 66o).

- Hazekamp, A., & Fishedick, J. T. (2012). Cannabis - from cultivar to chemovar. *Drug Testing and Analysis*, 4(7-8), 66o–667

Chemical profiles of cultivars – Clusters of 28 tested components: 2 Coffee Shop varieties, 3 pharmaceutical



- Hazekamp, A., & Fishedick, J. T. (2012). Cannabis - from cultivar to chemovar. *Drug Testing and Analysis*, 4(7-8), 66o–667

## The Opposite of Responsible

*Reckless* - fights, noise, crashes, sexual assaults and other crimes  
*Harmful* – Long term health effects, addiction, relational impacts

Quantity measures tend to focus on “*Reckless*” consequences,

Frequency tend to “*harmful*” consequences.

What if the user avoids these? Are they then “*Responsible*?”

Alcohol example

- Age 21
- No Binge (5/4)
- Weekly limit 14/7

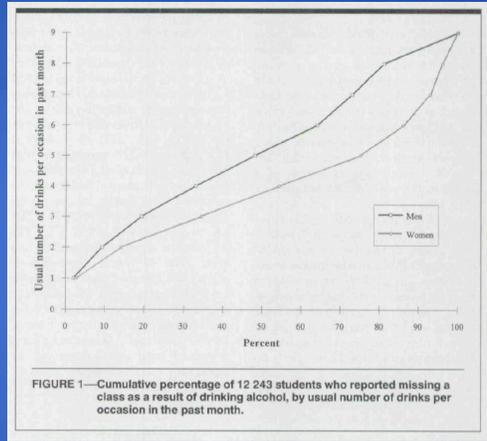


FIGURE 1—Cumulative percentage of 12 243 students who reported missing a class as a result of drinking alcohol, by usual number of drinks per occasion in the past month.

Wechsler, H., Dowdall, G. W., Davenport, A., & Rimm, E. B. (1995). A gender-specific measure of binge drinking among college students. *Am J Public Health, 85*(7), 982–985.

## Comparative risk based on overdose

Lachenmeier, D. W., & Rehm, J. (2015). Comparative risk assessment of alcohol, tobacco, cannabis and other illicit drugs using the margin of exposure approach. *Scientific Reports, 5*.

LD50 ≈ 575 mg/kg (150 lbs = 39,032mg (39g or 1.4 oz)

Human threshold dose = .04 mg/kg (150 lbs = 2.7mg)

MOE is “defined as the ratio between the point on the dose response curve, which characterizes adverse effects in epidemiological or animal studies.” The lower the MOE, the higher the risk the substance poses

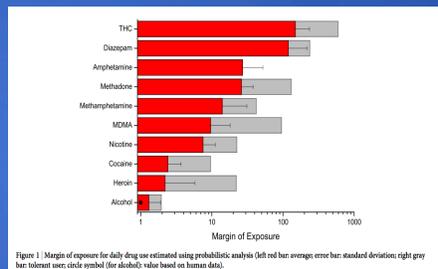


Figure 1 | Margin of exposure for daily drug use estimated using probabilistic analysis (left red bar: average; error bar: standard deviation; right grey bar: tolerant users; circle symbol (for alcohol) value based on human data).

## What's too frequent?

Table IV. Accuracy predicting at least one harm from use in past 12 months ( $n = 881$ )<sup>a</sup>.

	Cannabis use daily	CUDIT6+	CUDIT8+	ASSIST4+	ASSIST8+
Sensitivity (%)	38.7	63.0	47.9	81.5	68.9
Specificity	80.8	82.9	89.3	46.5	77.2
AUC	59.8	73.0	68.6	64.1	73.1
PPV	24.5	37.3	41.9	19.7	32.7
NPV	89.1	93.3	91.4	94.0	93.9
Efficiency	75.0	80.1	83.5	51.3	76.0

Note: <sup>a</sup>Among past 3-month cannabis users who reported no other illicit drug use in the past 12 months (participants who indicated past 12-month use of cocaine, speed, methamphetamine, ecstasy, or hallucinogens were excluded).

Thake, Jennifer, and Christopher G. Davis. "Assessing Problematic Cannabis Use." *Addiction Research & Theory* 19, no. 5 (October 2011): 448–58. - (1179 Canadian Adult Last 3-month Users)

## Suicide: Possible Reckless or Harmful crossover

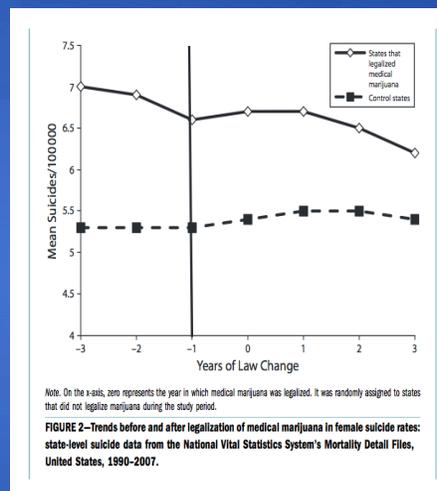
Conflicting evidence:

Legalization effect on suicide rates. Significant for men ages 20-29.

But news reports of incidents of apparently intoxication related suicide.

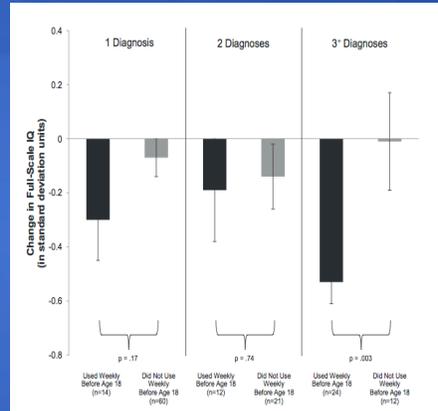
Role of setting and access to weapons not investigated.

Anderson, D. M., Rees, D. I., & Sabia, J. J. (2014). Medical Marijuana Laws and Suicides by Gender and Age. *American Journal of Public Health*.



## Harmful: How many IQ Points do you lose?

- N=1,037
- Use at 18, 21, 26, 32, 38
- IQ at 18, 38
- 8 pt drop only for the 24 subjects who initiated before 18, were judged dependent 3 times within the 20 years compared with the 12 subjects who did not start before 18, but still judged dependent.



Meier, M. H., Caspi, A., Ambler, A., Harrington, H., Houts, R., Keefe, R. S. E., ... Moffitt, T. E. (2012). Persistent cannabis users show neuropsychological decline from childhood to midlife. *Proceedings of the National Academy of Sciences*, 109(40), E2657–E2664.

## Education

Grant, Julia D., Jeffrey F. Scherrer, Michael T. Lynskey, Arpana Agrawal, Alexis E. Duncan, Jon Randolph Haber, Andrew C. Heath, and Kathleen K. Bucholz. "Associations of Alcohol, Nicotine, Cannabis, and Drug Use/Dependence with Educational Attainment: Evidence from Cotwin-Control Analyses." *Alcoholism: Clinical and Experimental Research* 36, no. 8 (August 1, 2012)

**Table 4.** Unadjusted and Adjusted Conditional Logistic Regression Results: Likelihood (ORs and 95% CIs) of the At-Risk Twin (Based on Substance Use History) Having Lower Educational Attainment than His Cotwin<sup>a</sup>

Predictor	Number of discordant pairs	Unadjusted conditional odds ratio	Adjusted conditional odds ratio <sup>b</sup>
Early drinker	889	<b>1.47 (1.05 to 2.05)</b>	<b>1.44 (1.02 to 2.05)</b>
Daily nicotine use <sup>c</sup>	702	<b>2.42 (1.50 to 3.89)</b>	<b>2.54 (1.55 to 4.17)</b>
Early cannabis use	276	1.32 (0.76 to 2.29)	1.35 (0.76 to 2.41)
Cannabis initiation	947	0.86 (0.64 to 1.16)	0.90 (0.65 to 1.24)
Alcohol dependence	1,023	<b>1.67 (1.24 to 2.25)</b>	<b>1.76 (1.27 to 2.44)</b>
Nicotine dependence	1,059	<b>1.34 (1.00 to 1.80)</b>	1.31 (0.98 to 1.77)
Cannabis dependence	282	0.93 (0.56 to 1.56)	0.93 (0.48 to 1.78)
Any illicit drug dependence	379	1.39 (0.89 to 2.18)	1.23 (0.72 to 2.09)

<sup>a</sup>The only significant interaction between zygosity and risk behavior was for daily nicotine use in the adjusted model ( $p = 0.04$ ; all others  $p > 0.20$ ), conditional logistic regression analyses were collapsed across zygosity for all measures except daily nicotine use (for which the interaction was retained in both the unadjusted and adjusted models).

<sup>b</sup>All adjusted models included 4 covariates: depression, conduct disorder, Southeast Asia service, and posttraumatic stress disorder; no covariates were significant at  $p < 0.05$ .

<sup>c</sup>Interaction OR = 0.51 (0.25 to 1.04) in the unadjusted model and 0.46 (0.22 to 0.97) in the adjusted model.  
Bold text indicates significant at  $p < 0.05$ .

## Brain Development and Cannabis

Development likely continues at least until age 25

Cross sectional studies found both alcohol binge and marijuana use predictive of white matter integrity in fronto-parietal tracts.

Only a few longitudinal studies. One found alcohol effects. But the authors state "Deleterious effects might be more attributable to binge drinking than marijuana, as preliminary studies suggest that cannabis may have a less effect ...and may actually serve a neuroprotective role in attenuating...heavy alcohol use."

Note that a non-alcohol-bingeing marijuana-using teen is almost non-existent

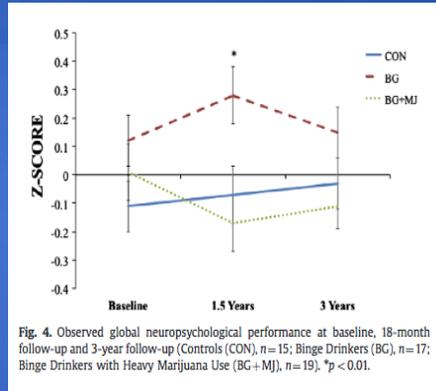


Fig. 4. Observed global neuropsychological performance at baseline, 18-month follow-up and 3-year follow-up (Controls (CON), n=15; Binge Drinkers (BG), n=17; Binge Drinkers with Heavy Marijuana Use (BG+MJ), n=19). \*p < 0.01.

"However, it remains surprising that our marijuana users do not show a marked decrease in tissue integrity compared to the binge drinkers given their consistent and heavy co-occurring use."

Jacobus, J., Squeglia, L. M., Bava, S., & Tapert, S. F. (2013). White matter characterization of adolescent binge drinking with and without co-occurring marijuana use: A 3-year investigation. *Psychiatry Research: Neuroimaging*, 214(3), 374–381.

## But is there convergence

Maybe, but it won't help you win arguments...

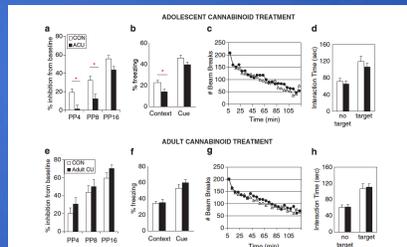
- Definition of early onset appears to be before college age (this study used 30 day/60 day probably about age-13/age-20 equivalent).
- Animal models do not allow for effect size estimates or understanding countervailing environmental factors
- Many of these studies do not use cannabis, but instead a synthetic CB1 agonist like WIN 55, 212-2 – Much higher affinity to CB1 than THC
- Often not replicated and/or mechanism not yet understood. Example: this study had 10 mice in the ACU condition.

Glenn, *Translational Psychiatry* (2012), 2, e1199. doi:10.1038/tp.2012.122  
© 2012 Macmillan Publishers Limited. All rights reserved. 2158-3182/12 www.nature.com/tp

### Susceptibility of the adolescent brain to cannabinoids: long-term hippocampal effects and relevance to schizophrenia

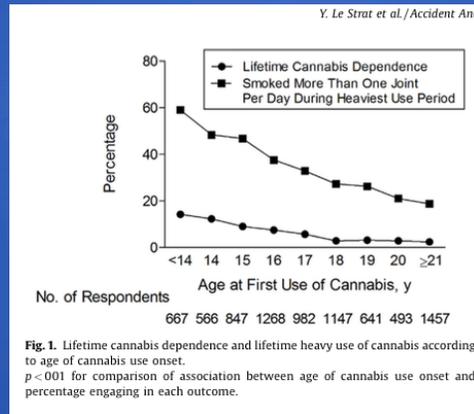
KA Gleason, SG Birnbaum, A Shukla and S Ghose

Clinical studies report associations between cannabis use during adolescence and later onset of schizophrenia. We examined the causal relationship between developmental cannabinoid administration and long-term behavioral and molecular alterations



Gleason, K. A., Birnbaum, S. G., Shukla, A., & Ghose, S. (2012). Susceptibility of the adolescent brain to cannabinoids: long-term hippocampal effects and relevance to schizophrenia. *Translational Psychiatry*, 2(11), e199. <http://doi.org/10.1038/tp.2012.122>

# What's Early?



Le Strat, Yann, Caroline Dubertret, and Bernard Le Foll. "Impact of Age at Onset of Cannabis Use on Cannabis Dependence and Driving under the Influence in the United States." *Accident Analysis & Prevention* 76 (March 2015): 1-5.

# Clinical Aspect

- Changes to DSM
  - DSM V removes legal consequences as diagnosis criteria.
- Legal contact as an identifier/ Referral
- Motivation for treatment in a de-stigmatized social environment. 2 of the 3 examples related to stigmatized use as the main problem.

Research Brief

California Youth Crime Plunges to All-Time Low

By  
Mike Males, Ph.D., CJIC Senior Research Fellow

**Introduction**

New figures for 2011 released by the California Department of Justice's Criminal Justice Statistics Center (CJSC, 2012) show arrests of youths under age 18 fell by 20% from 2010 to 2011, reaching their lowest level since statewide statistics were first compiled in 1964. While there are many theories regarding the significant decreases in

Brief COUNSELING for  
MARIJUANA DEPENDENCE

A Manual for Treating Adults

# Withdrawal Symptoms

**Table 5 Time course descriptions**

	Peak in days since last cannabis use	Peak from Budney study [11]
Irritability/anger	14	18,33
Nervousness	4	9
Insomnia	1	
Loss of appetite	5	
Restlessness	6	
Depression	5	
Physical symptoms	5	
Vivid dreams	11	

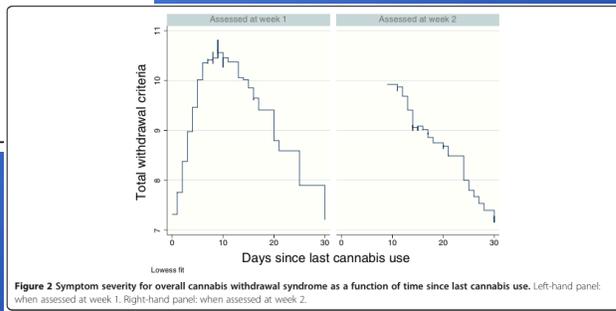
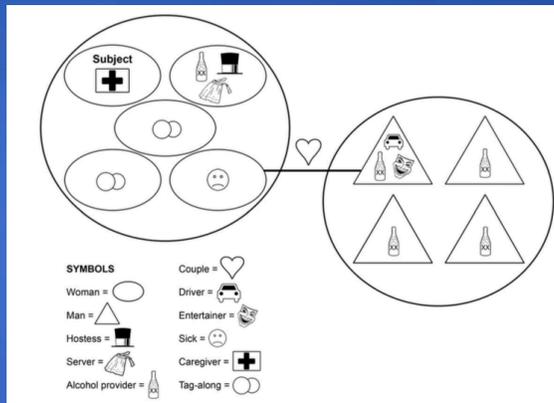


Figure 2 Symptom severity for overall cannabis withdrawal syndrome as a function of time since last cannabis use. Left-hand panel: when assessed at week 1. Right-hand panel: when assessed at week 2.

Hesse, Morten, and Birgitte Thylstrup. "Time-Course of the DSM-5 Cannabis Withdrawal Symptoms in Poly-Substance Abusers." *BMC Psychiatry* 13, no. 1 (2013): 258. doi:10.1186/1471-244X-13-258.

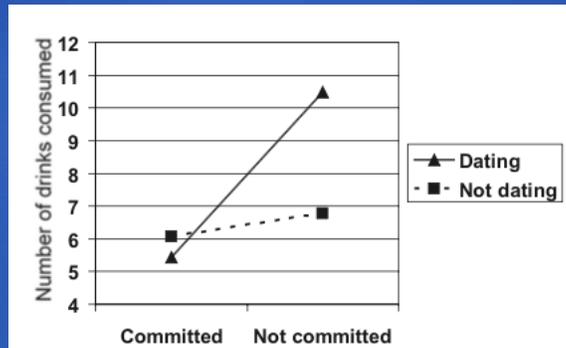
# Social Context

- Source of benefits, protection, and risks
- We know, or at least have documented, very little about the social context of marijuana use.
- Context will change in legalized environment.



Lange, J. E., Devos-Comby, L., Moore, R.S., Daniel, J., and Homer, K. "Collegiate Natural Drinking Groups: Characteristics, Structure, and Processes." *Addiction Research & Theory* 19, no. 4 (August 2011): 312-22.

It matters who you drink with...Does it matter who you smoke with?



**Figure 2** Interaction between relationship commitment and dating on alcohol consumption in the natural drinking group, controlling for gender.

Devos-Comby, Loraine, Jason Daniel, and James E. Lange. "Alcohol Consumption, Dating Relationships, and Preliminary Sexual Outcomes in Collegiate Natural Drinking Groups." *Journal of Applied Social Psychology* 43, no. 12 (2013)

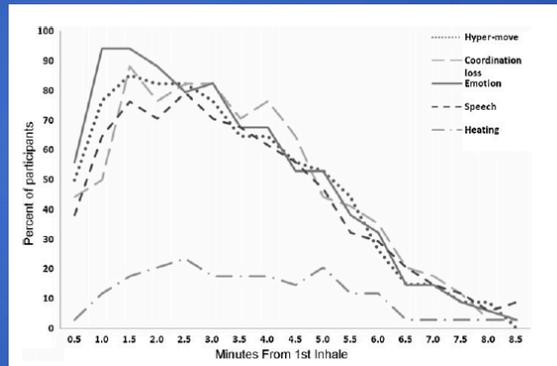
## We need to better understand Use

- Let's watch a few people use...

## Direct Observation is Helpful

First use of YouTube in  
behavior observation  
research

Lange, J. E., Daniel, J., Homer, K.,  
Reed, M. B., & Clapp, J. D. (2010).  
Salvia divinorum: Effects and use  
among YouTube users. *Drug and  
Alcohol Dependence*, 108, 138–140.



## Salvia videos looked something like this

<https://youtu.be/1ntVEk79UY4>

Internet Best Videos - Edited

4,328 Subscribers

Viewed 327,598



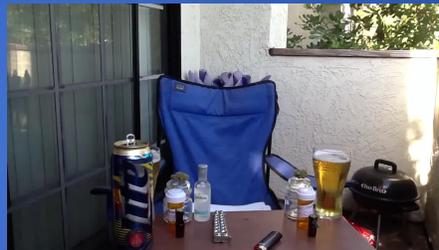
## Marijuana Videos Are Variable

Stay high friends  
4:20 Sesh. - Edited  
Subscribers 55  
Views 4,698  
Downloaded 3/27/15



## High volume video blogs/shows

Tequila Beer and Weed  
Strikeout! Beerfest style!  
Downloaded 4/16/15  
Nick420CA 56,177  
Subscribers 33,123 Views  
Appears to be commercial in  
nature  
Extremely high tolerance



Urban Dictionary

"A Strikeout is possibly one of the most brilliant and best ways to get totally inebriated. The person in question must have ready a fully loaded

Bong, a shot of his or her favourite liquor, and a pint of his or her favourite Beer. The person in question then lights the bowl, takes a nice, long bong hit, then puts the bong down. While holding the weed smoke in, the person proceeds to take the shot of liquor back and then chugs the beer back. After they finish the beer, they exhale the weed smoke."

## Example of tolerance and various forms of use

Zen OC Guys trying to take me out with Edibles!!!! - Edited

Nick420CA 55,760

Subscribers, 8,067 Views

Appears to be commercial in nature

Extremely high tolerance



## Some give hints to social settings of regular use

The O.Pen Vape - edited

Theguythatcouldfly

49,704 Subscribers



## Hints into motivation and use history

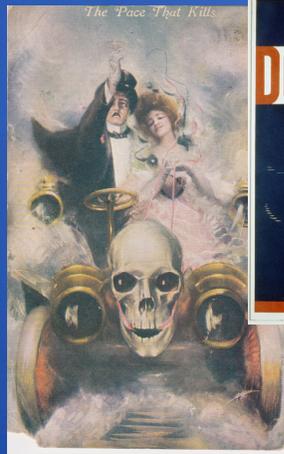
The First Time I Smoked Weed &  
Why I Smoke it - Edited  
Allie in Weedyland  
24,151 Subscribers  
Viewed 231,952



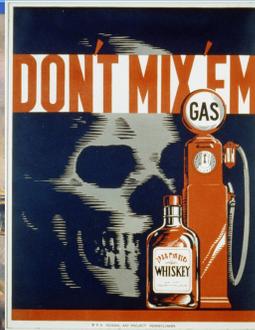
## Drug Driving Challenges: Starting with the alcohol model

- Understanding of Risks
- Regulation of two behaviors:
  - Driving
  - Substance Access and Use
- Driver options, decisions, behaviors

## Very Early Images



Circa 1910



WPA Funded Art 1936 or 1937



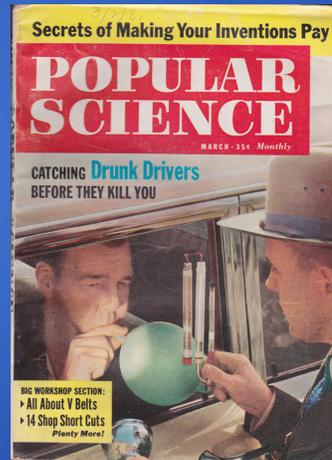
Kansas United Dry Forces, 1939

## Using Alcohol as a Model: Understanding the Risks

- In a sense, we've always known alcohol posed driving risk
  - The Horseless Age (1907) published that the "drunken driver" is the sort that would scare horses as he passed.
  - AAA banned alcohol at its races prior to 1917.
  - Hearings on Responsibility Legislation in 1930 identified drunk driving (even during prohibition) as a source of injury.

## Technology made alcohol detection and research easier

- The Drunkometer (1930's);  
Breathalyzer (1954)
- Grand Rapids Study Risk (1960's)



## Is Drugged Driving a "Silent Epidemic"?

- Without good measures, we're incapable of quantifying the frequency or relative risk of drugged driving.
  - FARS data codes for drugs started at 1991 with changes in 1993 and 2010
  - Active/impairing levels not known based on FARS methods
  - Often urine tests or DRT are used to gather driver drug use
  - Roadside surveys only recently being conducted.
  - Saliva being validated, but may be limited with respect to manner of use.
  - Extremely large menu of possible drugs, with combinations potentially complicating risk estimates.

## Regulating Two Behaviors

- Driving behavior is well regulated already.
- Drug side regulation varies substantially from substance to substance:
  - Prescription drugs may be entirely legal for the driver to possess and use
    - Cannabis may also be from a state perspective
  - Are there restrictive driving policies for those on impairing medications, especially when self-administered?
- Are these substances provided in a manner that reduces the likelihood of use/driving combinations? For instance, is on-premise use of edible forms of marijuana a possibility?

## Understanding Driver Decisions and Contextual Options

- Awareness of risks. First steps towards avoidance. For medications, are the warning labels specific enough to provide guidance?
- Motivations for use: How many of those with medications in their systems have valid prescriptions and are using according to their treatment recommendations?
- What are the social settings in which drug use occurs that leads to driving impaired?

## Driver Decisions

- “The most common strategies for reducing DUIC-related [DUI Cannabis] risk involved compensating for perceived impairments, whereas strategies involving forward planning were more frequently implemented for DUICA [DUI Cannabis and Alcohol]” (Swift, Jones & Donnelly, 2010).

## Impaired Driving

### Issues:

- Awareness
- Effective enforcement strategies
- Legal constraints and opportunities
- Legalized on-sale consumption
- Promotion solutions: What’s possible?

## THC in the Blood

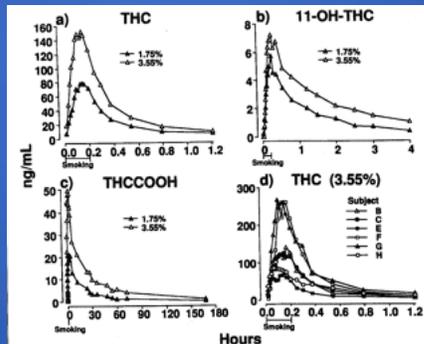


Figure 1. Plasma levels of (a) mean THC, (b) mean 11-OH-THC, (c) mean THCCOOH, and (d) individual THC levels for six subjects during and after smoking a single marijuana cigarette (1.75 or 3.55% THC). The paced smoking protocol consisted of eight evenly spaced inhalations (2-second puff and 10-second hold period) during an 11.2-min time period.

Huestis, M A, J E Henningfield, and E J Cone. "Blood Cannabinoids. I. Absorption of THC and Formation of 11-OH-THC and THCCOOH During and After Smoking Marijuana." *Journal Of Analytical Toxicology* 16, no. 5 (October 1992): 276-282.

## Mixing with Alcohol

- Even very low levels of each can cause dramatic increases in impairment.
- THC level beginning to show impairment was 5 ng/mL dropped to 2.3 ng/mL when any alcohol was present.
- Grotenhermen et al. (2007) note that cannabis impaired automatic functions first (5-10 ng), while alcohol (BAC .05-.11) impaired controlled and automatic functions. Thus the compensatory ability of marijuana users is impaired by even small amounts of alcohol.

## Roadside Breath and Saliva Survey of Weekend Drivers in CA (N=1,314)

Lacey, John, Tara Kelley-Baker, Edmund Romano, Katharine Brainard, and Anthony Ramirez. *Results of the 2012 California Roadside Survey of Nighttime Weekend Drivers' Alcohol and Drug Use*. Calverton, MD: Pacific Institute for Research and Evaluation, November 13, 2012. [http://www.ots.ca.gov/Media\\_and\\_Research/Data\\_and\\_Statistics.asp](http://www.ots.ca.gov/Media_and_Research/Data_and_Statistics.asp).

- Impaired Driving Estimates
  - 7.4% positive for marijuana
  - 7.3% positive for alcohol
  - 11% of marijuana-experienced drivers believed it *harmed* their driving. Many (1/3 of those admitting any effect) believed it *improved* their driving.
  - 2/3 of recent marijuana smokers reported that they smoked every day for past month.
  - 3.7% of drivers had a medical marijuana permit and most of those drivers (65.8%) had used their permit to buy marijuana.

## Recommendations for Driving

- *Still very much an open question:*
  - Some advocate zero tolerance
- Others look for an impairment *per se* level
  - *per se* limit set at 7-10 ng/mL. WA has set it at 5 ng/ml. Note that some talk of whole blood, others plasma. All *per se* discussions at this time involve THC.
  - Advise users to wait 3 (though some say 3-5) hours before driving.
  - Drivers should not mix even low amounts of alcohol with cannabis.

## So what do we say on college campuses? Consider these issues:

1. It's illegal and against campus policy. There is no age variance on this.
2. Since almost all are over 18, therefore most of the research on early onset does not apply
3. Discontinuity of enrollment is a risk, but unclear at what level of use
4. Regular use (definition likely will fall somewhere between weekly and daily) is associated with more problems.
5. Occasional use can be safer if not associated with:
  1. Driving
  2. Other substances including alcohol and tobacco
6. High dose and especially oral use may prolong impairments substantially
7. And most importantly, any or all of this is subject to change at any moment

## Various Directions

- *Motivational Interviewing* approaches appear to reduce use and problems.
- Argumentative and counter marketing approaches are not appearing to reduce use. These often rely on abstinence-only approach that may not be adaptable to legalized environments.
- Information campaign to change the views on driving may be warranted. Roadside survey found marijuana common (7.4%). Only 11% thought it harmed their driving. (Lacey et al, 2012).
- *Promotion instead of Prevention* messaging to avoid internal counter-arguing.

## Caffeine Exercise

- Find the meaningful issues
- Understand their causes
- Consider the strategies to promote the positives and prevent the harms
- Gain permission for helping and facilitate change talk



## Local Sales Restrictions: Is there a model yet?

- Perhaps a conditional use permit model for local restrictions; some things to think about:
  - No on-premise use- *Since there is no unimpaired use level, on-premise responsible sales will necessarily lead to intoxication.*
  - No per-hit sales.



DOPE Magazine July '13 "The Travel Issue." *Issuu*. Retrieved July 12, 2013, from [http://issuu.com/dlistmagazine/docs/dope\\_july13\\_web\\_](http://issuu.com/dlistmagazine/docs/dope_july13_web_)

## Suggestions Cont.

- No single dose (joint) sales. Would apply also to eatables. –*Just as single serving drinks appeal to youth with little spending money, so too will single joint sales.*
- Advertising restrictions: Similar to tobacco restrictions. *Prohibit ads that appeal to youth and also highly sexualized, irresponsible behavior (Includes strain naming).*
  - Location restrictions to include college campuses.

**Coupon**

Beverly Hills Dollatella  
Los Angeles, CA

New 2 Gram DOGO on select strains New low price DOGOS. FTP patients pick btw rice crispie, indi cream, or joint For 420 we will be giving out free gram of hash.  
NEW LOW Price on all concentrates

Strawberry Diesel Wax	23	5g
Alien Space Fucker	23	5g
Jupiter Dust	23	5g
Batman (Dark Nights) Wax	23	5g
Astalavista Gold Dust	23	5g
Paris OG KIEF	4	5g



## Suggestions Cont.

- No concurrent alcohol sales-*Restricts the growth of industry. Also recognizes the synergistic effect on impairment*
- Support tools for enforcement and data collection
- California's medical legalization without regulated sales has lead to an extremely ad hoc and chaotic system.

"California has a very mature marijuana industry and it's just not regulated," ... "We're the worst of all worlds. This report bears out the fact that we haven't answered a lot of questions."

"Why California Is The 'Worst Of All Worlds' When It Comes To Marijuana." *The Huffington Post*. Accessed March 29, 2015. [http://www.huffingtonpost.com/2015/03/27/gavin-newsom-marijuana\\_n\\_6953750.html](http://www.huffingtonpost.com/2015/03/27/gavin-newsom-marijuana_n_6953750.html).

## Things that worry me

- Delivery services
- THC-based edibles and drinkables – Detection, overdose and accidental use
- Sudden changes in federal law or legal interpretation: Policy wholes like vaping or ADA accommodation justifications.
- Impaired driving
- High frequency off-campus users. Incoming earlier initiators



## Other Strange Directions with Continued Fed/State Conflict

- Drop Boxes: Federal law is guiding us, but there is apparently tolerance for an amnesty and disposal approach.
- Legislative restrictions on resources for enforcement
- Schedule II Effects. Does this trigger ADA and Fair Housing Accommodations. Does it remove medical use from DFSCA restrictions?



Springs Airport Installing Amnesty Boxes For Pot Surrender. Retrieved January 15, 2014, from <http://www.kktv.com/home/headlines/Springs-Airport-Installing-Amnesty-Boxes-For-Pot-Surrender-240261661.html>

## Avoid looking foolish, hypocritical and cherry-picking thin research

**Stephen Colbert Destroys David Brooks' Wacky Anti-Pot Column**  
The Huffington Post | By Ross Lippold  
Posted: 01/07/2014 10:13 am EST | Updated: 01/07/2014 10:12 am EST  
2,327 people like this. Sign Up to see what your friends like.

**Jon Stewart Joyously Mocks Bill O'Reilly's Fear That Kids Are Smoking Weed And Texting**  
The Huffington Post | By Ross Lippold  
Posted: 01/06/2014 9:27 am EST | Updated: 01/06/2014 10:59 am EST  
22,766 people like this. Sign Up to see what your friends like.

**The Daily Show with Jon Stewart** Burn Notice: Bill O'Reilly, Marijuana & Texting (4 min) | hulu

**Nancy Grace argues that cannabis legalization will lead to abuse and that pot smokers are "lethargic, sitting on the sofa, eating chips, fat and lazy."**

**"People say, 'Well you can abuse marijuana.' Well shit, you can abuse cheeseburgers too."**  
- Joe Rogan Cannabis User

*"Audiences know what to expect, and that is all they are prepared to believe in."*

*-The Player: Rosencrantz and Guildenstern are Dead.*

- I've been accused of smirking when I say "medical." I am almost always accused by someone in the audience of having a "bias", though the direction of bias seems to reflect more on the listener... there is only so much I can do.
- Remember that students are on guard to rebut any attempt to dissuade use. They'll see *Reefer Madness* hidden behind any negative health claim.
- MI approach: "The Good' and the 'Not So Good effects.'" - *Jason Kilmer and colleagues*

*Marijuana on Campus: Current Research and Best Practice in  
an Era of Changing Perceptions, Prevalence, and Laws*

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