



College Students' Use of Marijuana: Antecedents and Consequences

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Overview

Prevalence of Marijuana (MJ) Use
Cognitive Factors in Marijuana Use
Negative Effects - Acute and Chronic
Changing Legal Context for Marijuana
Implications for College Populations
Policy
Prevention & Intervention





Young Adult Substance Use

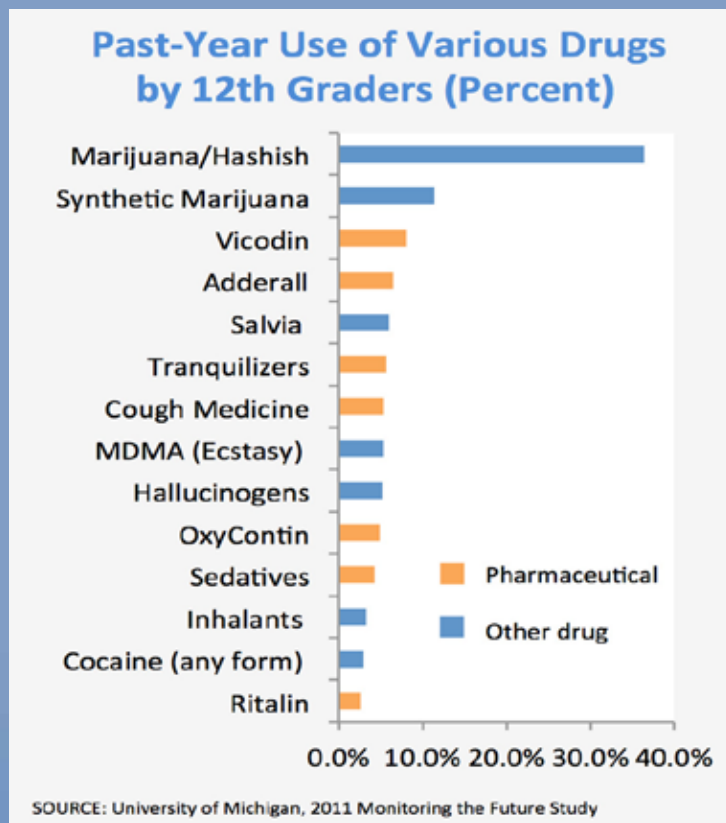
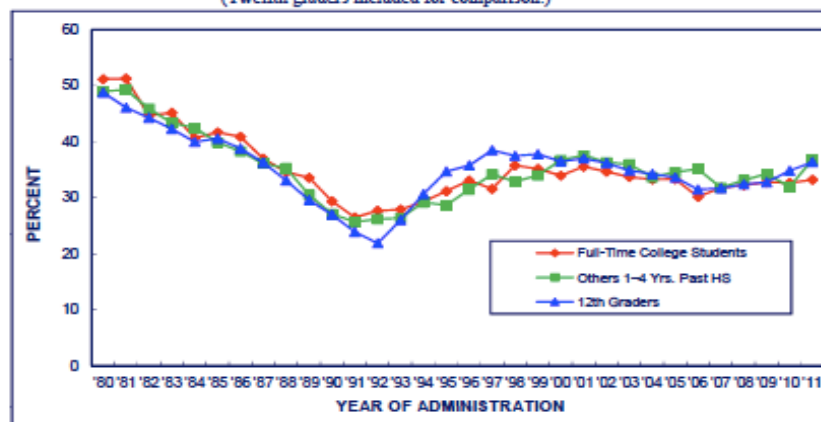
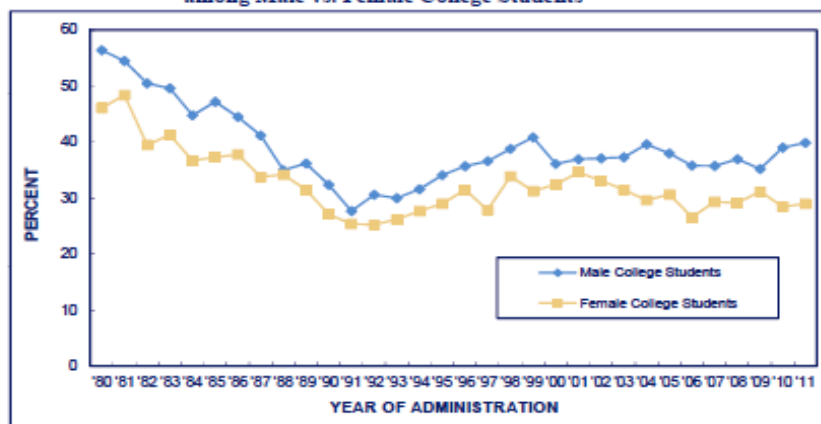




FIGURE 9-3a
Marijuana: Trends in Annual Prevalence
among College Students vs. Others
1 to 4 Years beyond High School
(Twelfth graders included for comparison.)



Marijuana: Trends in Annual Prevalence
among Male vs. Female College Students



Source. The Monitoring the Future study, the University of Michigan.

Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.



30-day Prevalence: MJ other Substances

TABLE 8-4
Thirty-Day Prevalence of Dailyⁱ Use for Various Types of Drugs, 2011:
Full-Time College Students vs. Others
among Respondents 1 to 4 Years beyond High School, by Gender
 (Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	4.7	9.4	8.0	10.6	2.7	8.4
Cocaine	*	*	*	*	*	*
Amphetamines, Adjusted ^{1a}	0.2	0.1	0.2	*	0.2	0.2
Alcohol						
Daily	3.8	4.9	6.2	6.3	2.3	3.8
5+ Drinks in a Row in Last 2 Weeks	36.1	31.6	43.4	39.7	31.5	25.3
Cigarettes						
Daily	7.3	21.2	6.8	22.8	7.6	20.0
1/2 Pack+/Day	2.5	12.4	2.3	14.5	2.6	10.8
Approximate Weighted N =	1,230	720	480	310	750	410

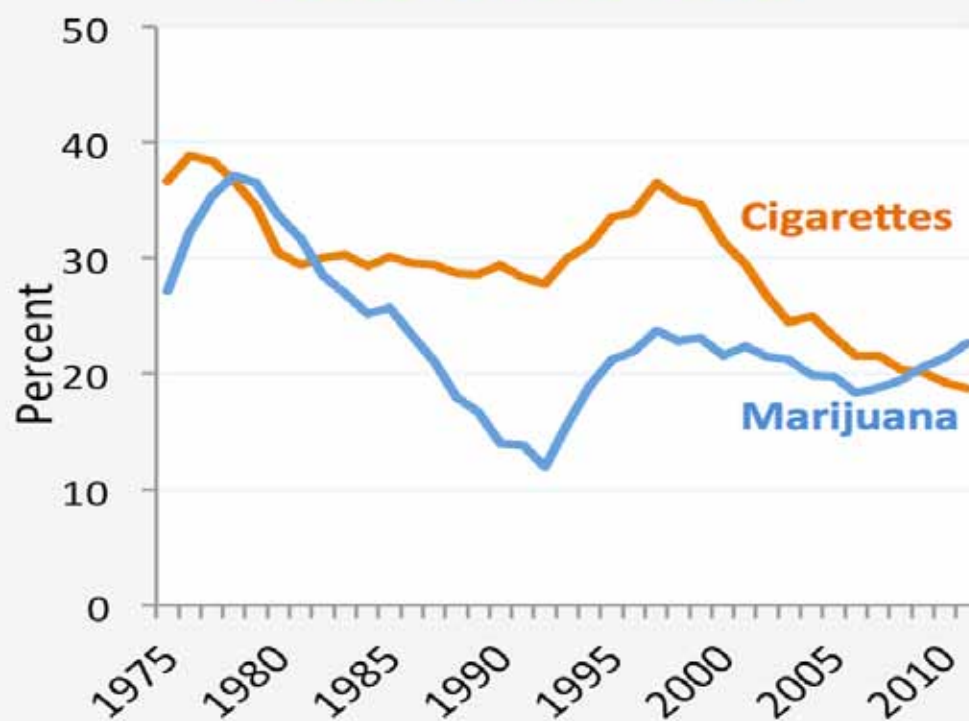
Source. The Monitoring the Future study, the University of Michigan.

Notes. *** Indicates a prevalence rate of less than 0.05%.

See footnotes on the following page.

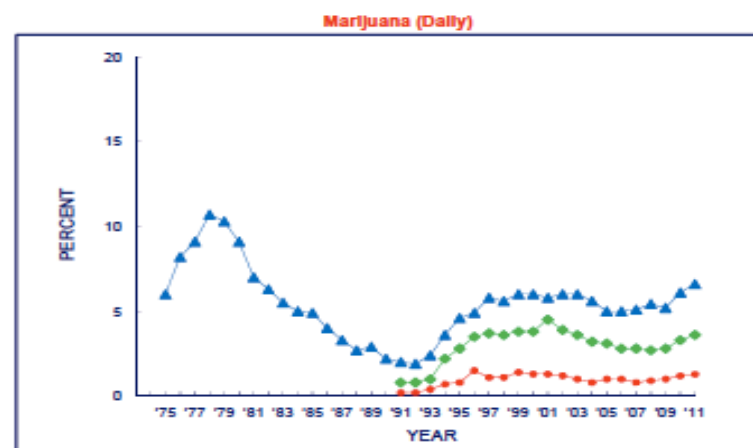
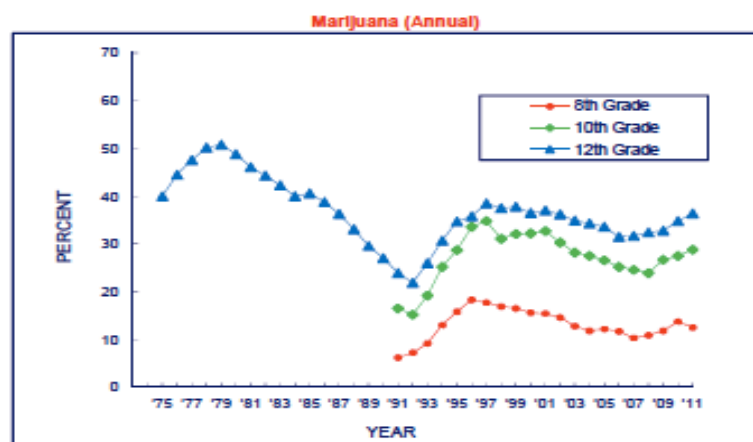


Past-Month Use of Cigarettes and Marijuana by 12th Graders, 1975–2011



Source: University of Michigan, 2011 Monitoring the Future Study

FIGURE 5-4a
Marijuana: Trends in 30-Day Prevalence and 30-Day Prevalence of Daily Use in Grades 8, 10, and 12



Source: The Monitoring the Future study, the University of Michigan.



FIGURE 5-5a
Marijuana: Trends in 30-Day Prevalence of Daily Use in Grade 12
by Total and by Gender

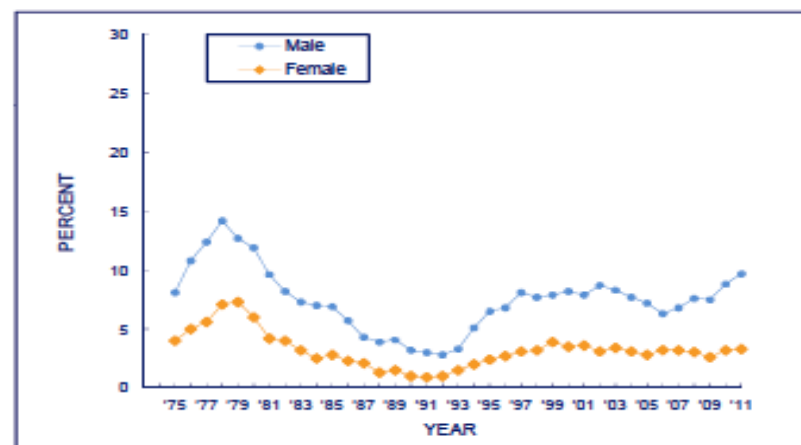
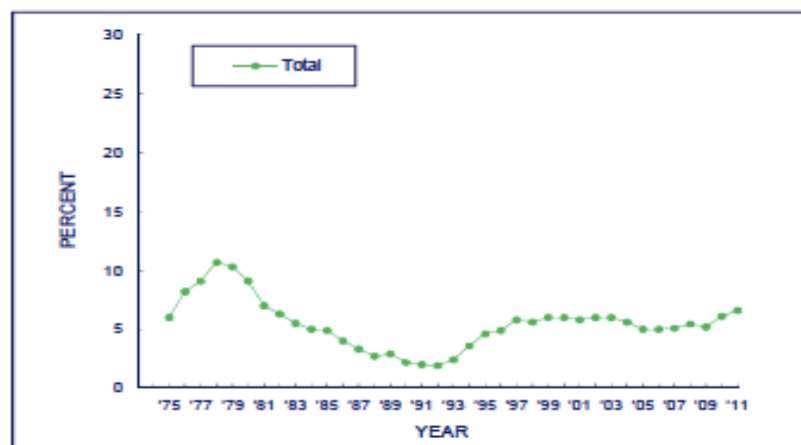




FIGURE 8-1a
Marijuana: Trends in Perceived Harmfulness
in Grades 8, 10, and 12

12th Graders

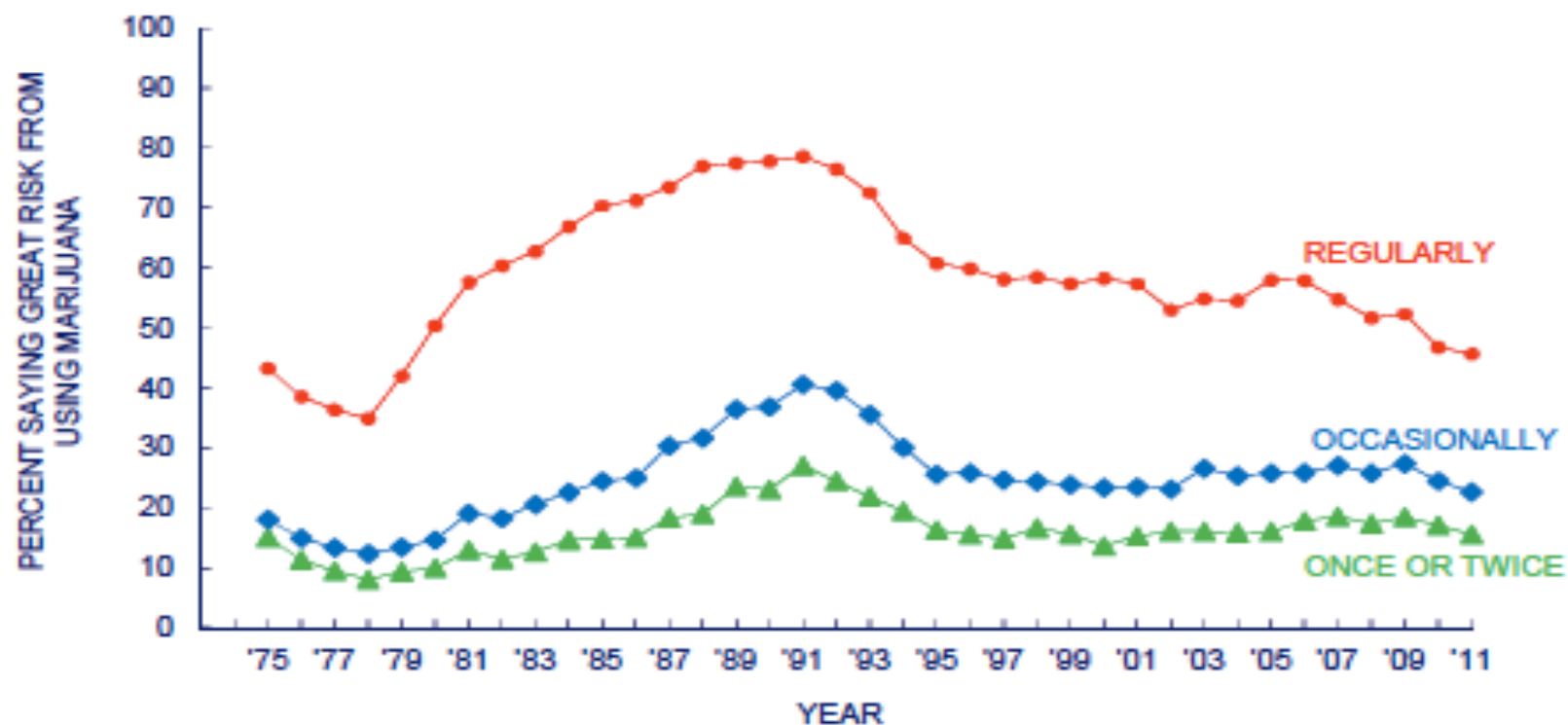
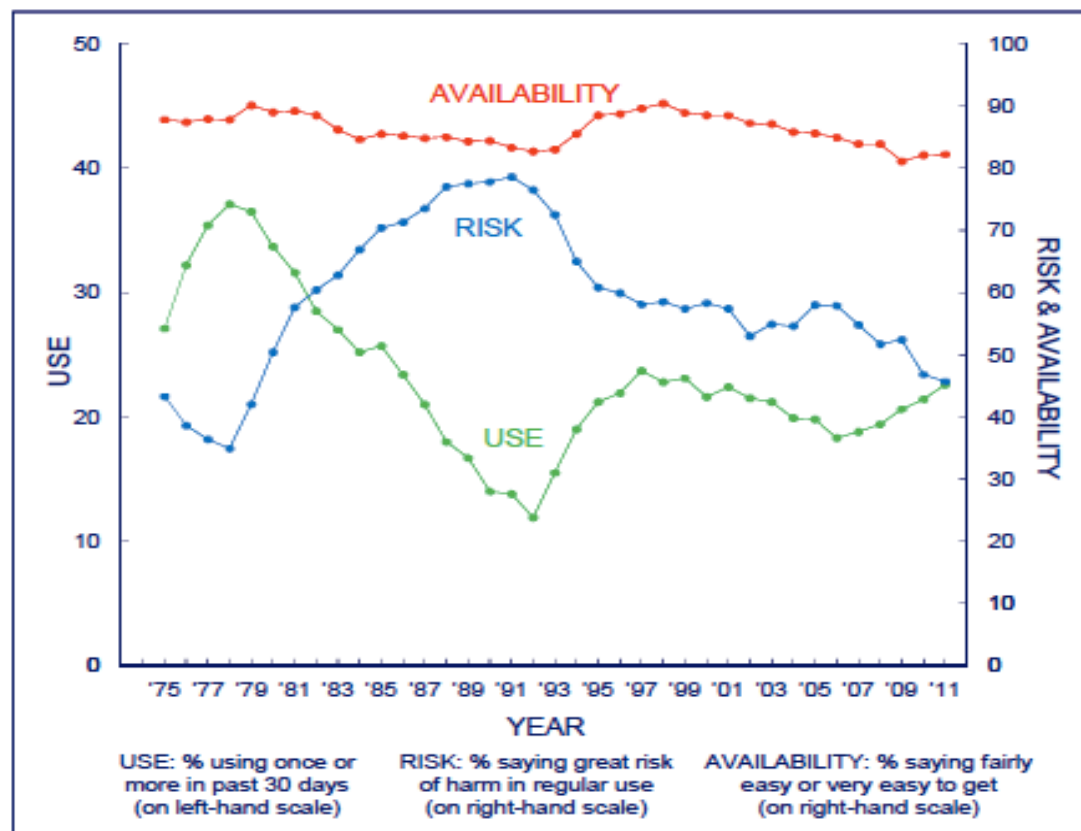




FIGURE 8-4
Marijuana: Trends in Perceived Availability,
Perceived Risk of Regular Use, and
Prevalence of Use in Past 30 Days in Grade 12



Source. The Monitoring the Future study, the University of Michigan.



Marijuana Use Among Young Adults

Marijuana (MJ) prevalence is high
most commonly used illicit substance
first choice illicit drug

2010 MTF data - among 19 to 30 year olds
57% lifetime, 27.5% annual, 15.3% 30-day, 5.1% daily use

Gender - Typically more men use MJ than do women

Ethnic Background - MJ use varies based on survey
Generally similar levels of MJ use across ethnicity



Buffalo Sample of Regular MJ Users

- $N = 165$ young adults (age 18-30 years)
- 51% ($n = 84$) college students
- Use MJ at least 1x/week



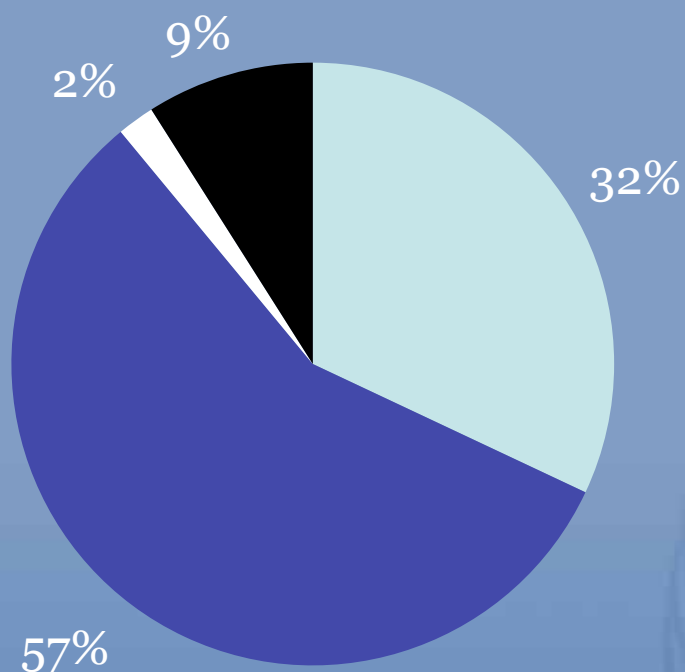


Demographic Characteristics: College Student MJ Users

	% or Mean	S.D.
Male	69	
Female	31	
European-American	76	
Minority	24	
Annual personal income \leq \$10,000	60	
Monthly dollars spent on MJ (Range: \$20-\$350)	136	97.6
Age (in years)	21.3	2.4
Age began using MJ regularly	17.0	2.9

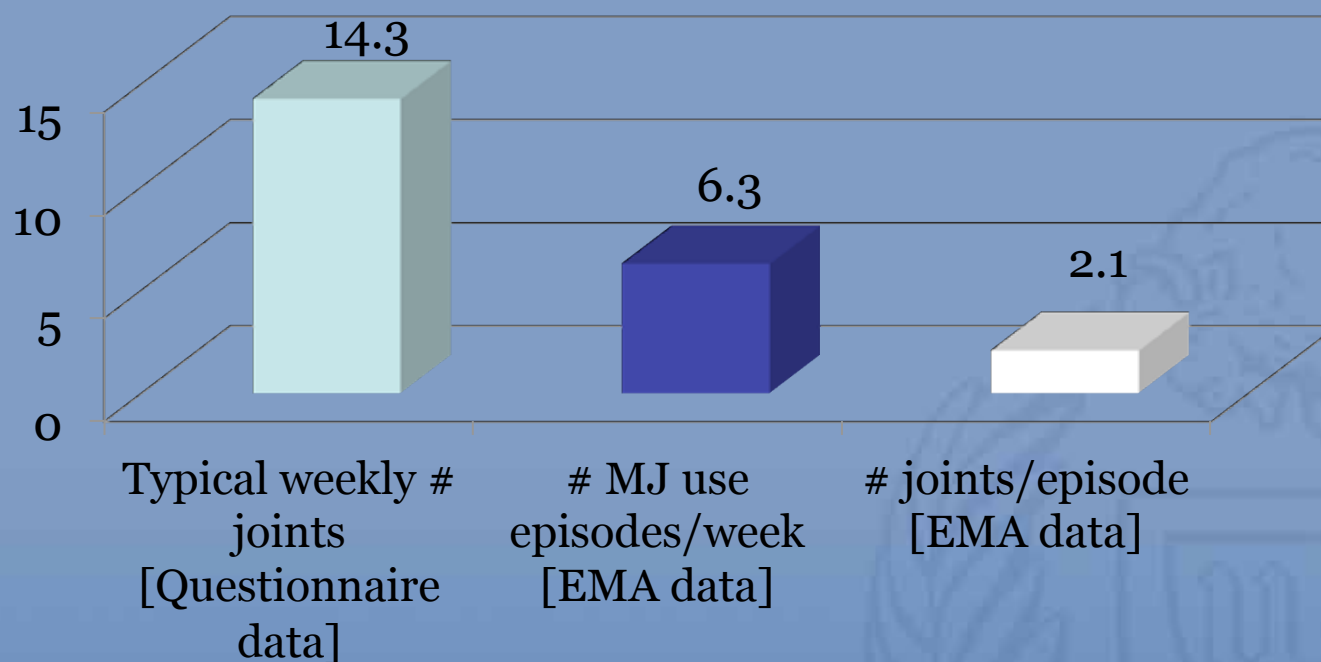


Methods of Using MJ



- Blunt
- Bowl or bong
- One-hitter
- Joint

Typical and Episodic MJ Use Among College Student MJ Users





Cognitive Factors: MJ Expectancies

Beliefs about the Effects of MJ (Aarons et al., 2001)

Cognitive and Behavioral Impairment - slows thinking, drowsy

Relaxation and Tension Reduction - calm, escape problems

Social and Sexual Facilitation - happy, fun at parties

Perceptual and Cognitive Enhancement - more creative, euphoria

Global Negative Effects - lose control, depressed, angry

Craving and Physical Effects - hungry/munchies, giggly

Non Users report ↑ Cog/Beh Impairment, Global Negative Effects & Craving/Physical

Frequent MJ Users report ↓ Cognitive and Behavioral Impairment

Quitters report ↑ Global Negative Effects, ↓ Social Facilitation



Cognitive Factors: Marijuana Use Motives

299 college students (Syracuse U) - 54% lifetime MJ use

Enhancement - get high, fun, pleasant, exciting

Conformity - to fit in/be liked, pressure from friends

Expansion - be more creative, expand awareness, know self

Coping - forget problems/worries, helps when depressed

Social - enjoy social events/parties, celebrate

Enhancement, Expansion, Coping and Social (sometimes)

Significantly predict MJ use, MJ problems, Negative affect, Anxiety, Anhedonia/depression symptoms



Marijuana Use Motives (contd.)

346 college students (Univ. of WA) -100% past year MJ use

12 motives: Enjoyment, Conformity, Coping, Experimentation, Boredom, Alcohol, Celebration, Altered Perception, Social Anxiety, Relative Low Risk, Sleep/Rest, Availability

Experimentation - Curious about MJ

Boredom - Nothing better to do

Alcohol - Used MJ because drinking/drunk

Social Anxiety - MJ relaxes when in unfamiliar/insecure situation

Relatively Low Risk - Safer than drinking alcohol/not dangerous

Sleep - Helps with sleeping/napping more enjoyable

Availability - MJ readily available/Get it for free

Enjoyment & Altered Perception ↑ MJ abuse/dependence

Experimentation ↓ MJ abuse/dependence



Marijuana Users Vary

Longitudinal Trajectories (Schulenberg et al., 2005)

Four waves (8 years) MtF data - 19,952 students -18-24 years old

Chronic ($n = 919$, 5%) - Frequent (>3 /month) MJ use all 4 waves

Decreased ($n = 1436$, 7%) - Frequent use Wave 1, no/some Wave 4

Increased ($n = 1001$, 5%) - No use Wave 1, frequent use Wave 4

Fling ($n = 1143$, 6%) - No/some MJ use Waves 1 & 4, frequent use Waves 2 &/or 3

Rare ($n = 5512$, 28%) - Some MJ use, but not frequent at any wave

Abstain ($n = 9337$, 47%) - No use during any wave

Remaining ($n = 555$, 3%) - Some use, but no consistent pattern

Consequences Related to Trajectories

Chronic: **Wave 1** = ↑ men, European Americans, ↓ grades, skipped school, worked > hrs, ↑ time with friends, ↑ social

Wave 4 = ↓ married, children, college grad, ↑ unemployment, ↑ social, dating

Increased: **Wave 1** = similar to Chronic

Wave 4 = ↓ education, employment, finances

Decreased: **Wave 1** = similar to Chronic

Wave 4 = ↓ friend's use of MJ, drinking, risk taking, ↑ marriage, children, well-being

Rare: **Wave 1** = some work, ↓ social

Wave 4 = financial independence, ↑ social

Abstain: **Wave 1** = ↓ European American, ↑ grades, ↑ religion

Wave 4 = ↓ risk taking, ↑ married and children



Marijuana Users Vary (contd.)

Dependent - Non Dependent (Looby and Earleywine, 2007)

Internet Sample of 2,881 daily MJ users, mostly male (64%) and European American (87%), Mean age = 33 years, Median income = \$20K to 30K

Dependent: Younger, ↓education, ># joints/week, > MJ use/month, > alcohol/week & occasion, ↑illicit drugs
↑depression & respiratory problems
↓happiness, life-satisfaction, motivation

Nondependent: Fewer problems in all areas



Acute Negative Effects of MJ Use

Physiological Changes

Increase in heart rate and blood pressure - dizziness

Cognitive Changes

↓ in attention, concentration, time perception, recall, recognition memory

↑ panic reactions and fear of losing control

Behavioral Changes

Slower reaction times (especially if combined with alcohol)

All contribute to DWI (drugged driving) - ↑ car crash injury with ↑ THC concentration and more frequent MJ use



Negative Effects of Chronic MJ Use

Chronic Health Effects (Brook et al., 2008)

Self-reports from community sample from Albany & Saratoga Counties

Followed from age 14 to 27 years

Respiratory problems - shortness of breath, congestion

General malaise - trouble sleeping, stomach problems

Neurocognitive problems - trouble remembering, concentrating

Lower academic achievement and functioning

Psychological Problems (Looby & Earleywine, 2007)

MJ dependence (around 9% of MJ users meet dependence criteria)

Depression (particularly if start MJ use at younger age)



Negative Effects of Chronic MJ Use

Withdrawal symptoms

Physical - Headache, Shaky, Sweating, Stomach pains, Nausea

Behavioral - Restlessness, Irritability

Miscellaneous

Exacerbation of some psychotic symptoms/disorders

Respiratory system - bronchitis, pneumonia

Risk for exacerbating or developing cardiovascular disease



The Current Legal Environment

Federal laws criminalize possession and use of MJ

Medical MJ Laws exist in 18 states + DC

Medical uses - pain, nausea, glaucoma, appetite, movement disorders

Eastern States: CT, DC, DE, ME, MD, NJ, RI, VT

Middle States: MI

Western States: AK, AZ, CA, CO, HA, MT, NV, NM, OR, WA

Nov. 2012 - MJ Legalization passed in CO & WA (no in OR)

21 \geq years to possess, cultivate, transport for recreational use

Government can regulate production and sale

No public use or driving while impaired

New York ??? Gov. Cuomo supports decriminalization of MJ possession



Marijuana Policies

Federal and most States categorize MJ as an illicit substance

Even if legalized, difficult to manipulate prices and availability (WA proposing 25% tax)

Over time, prices likely will ↓ and availability ↑

Young adults at continuing risk for ↑ MJ use



Photo: Reuters, Robert Galbraith



Approaches to Secondary Prevention

Promote Positive Alternatives to MJ Use

- Physical Activity

- Relaxation

Environmental and Harm Reduction Approaches

- Regulate use in specific contexts (e.g., campus, driving)

- Accurate information about dose, positive and adverse effects

- Less risky modes of use (e.g., vaporizer)

- Regulate access (e.g., restrictions on age, amounts)

Comprehensive Approaches



Interventions for Marijuana Abuse

MARIJUANA CHECK-UP

Brief (2 session), assessment + personalized feedback
objective information about MJ and its effects

Brief COUNSELING for MARIJUANA DEPENDENCE

A Manual for Treating Adults (Marijuana Treatment Project
SAMHSA)

9 sessions – 2 Motivation Interviewing + 7 Cog/Beh Skills

<http://kap.samhsa.gov/products/brochures/pds/bmdc.pdf>

Steinberg, K.L.; Roffman, R.A.; Carroll, K.M.; McRee, B.; Babor, T.F.; Miller, M.; Kadden, R.; Duresky, D.; and Stephens, R. *Brief Counseling for Marijuana Dependence: A Manual for Treating Adults*. DHHS Publication No. (SMA) 05-4022. Rockville, MD: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration, 2005



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Questions?

