

# Our Hidden Partners in Prevention: Top Ten Things Parents Need to Know about Alcohol, Marijuana and Other Drugs

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## Importance of parents and prevention

Prevention has to be multi-faceted

It's not just on us as prevention professionals – parents are really important partners!

What they say can....

- Support a prevention message
- Undermine a prevention message
- Be a prevention/intervention effort in and of itself

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## Top 10 Things Parents Need to Know

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Top ~~X~~ Things  
Parents Need to Know



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Top 9 Things  
Parents Need to Know



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9) If your student  
abstains, he or she is not  
alone!



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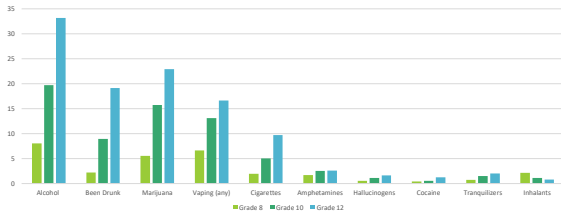
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Past Month Use of Intoxicants



Source: Schulenberg, et al. (2018)

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ALCOHOL

16.6% of 12<sup>th</sup> graders report binge drinking within the past 2 weeks

→ The rates of alcohol use and binge drinking have stayed relatively consistent.



MARIJUANA

22.9% of 12<sup>th</sup> graders report using marijuana within the past 30 days.

→ The perception of risk of marijuana has decreased over the past 5 years



Source: Schulenberg, et al. (2018)

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Substance Use Data from Monitoring the Future Study: College Students



Alcohol

- Past year
  - 75.8% report any alcohol use
  - 58.0% report having been drunk
- Past month
  - 62.0% report any alcohol use
  - 34.8% report having been drunk



Source: Schulenberg, et al. (2018)

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### Substance Use Data from Monitoring the Future Study

- Any illicit drug
  - 42.4% report past year use
- Marijuana
  - 38.3% report past year use
- Any illicit drug other than marijuana
  - 18.1% report past year use
    - 9.4% Adderall
    - 8.6% Amphetamines



Source: Schulenberg, et al. (2018)




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8) People tend to perceive that “everybody” drinks, uses marijuana, takes Adderall, etc.




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### Social norms: Perception versus reality

People are influenced by their subjective interpretation of a situations rather than by the actual situation (Lewin, 1943).

We are influenced by our perception of others’ attitudes, behaviors, and expectations rather than by their actual attitudes, behaviors, or expectations.

Our perceptions and interpretations are often inaccurate.

Source: Neighbors & Kilmer (2008)




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### Norms Clarification

#### Examines people's perceptions about:

- Acceptability of excessive behavior
- Perceptions about the prevalence of drinking among peers
- Perception about the rates of drinking by peers




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### Norm Perception

In survey of 5990 participants, 67.4% of students said the hadn't used MJ in the past year

- Thus, "most" students don't use marijuana

Only 2% of students got this right!

- 98% of students perceived the typical student to use at least once per year

Misperceptions were related to use and consequences

Kilmer, et al. (2006)

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### Personal marijuana use

(assessed separately from medical use)

#### Any Personal Marijuana, past year

Cohort 1 (2014): 43.51%

Cohort 2 (2015): 46.29%

Cohort 3 (2016): 44.76%

No significant overall trend, nor differences across cohorts  
No significant differences in frequency of use

Data Source: DBHR/UW Washington Young Adult Health Survey 2016 data report

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## Personal marijuana use

(assessed separately from medical use)

### Perception remains that the typical person uses:

Percentage of cohort who perceive typical person to use

1x/year or more:

- Cohort 1 (2014): 97.59%
- Cohort 2 (2015): 97.58%
- Cohort 3 (2016): 98.39%

Percentage of cohort who perceive typical person to use

1x/week or more:

- Cohort 1 (2014): 52.84%
- Cohort 2 (2015): 47.24%
- Cohort 3 (2016): 54.37%

Data Source: DBHR/UW Washington Young Adult Health Survey 2016 data report

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## Past 12 month non-medical use

### “In the past 12 months, on how many days have you used an ADHD prescription stimulant non-medically?”

- 82.8% 0 times
- 3.3% 1 time
- 3.1% 2 times
- 1.9% 3 times
- 1.3% 4 times
- 3.3% 5-10 times
- 2.1% 11-20 times
- 1.5% 21-40 times
- 0.8% 41-300 times

This is a low frequency behavior: 55.4% of the students with any non-medical use in the past 12 months did it 1 to 4 times



Project PHARM

Data Source: PHARM/NASPA/CPAMM executive summary, 2017 (Kilmer, PJ)

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## Normative misperceptions

### Although most (82.8%) students have not used stimulants for non-medical reasons in the past year, the perception is that non-medical use is much higher

- Actual rate: 17.2%
- Perceived rate: 30.0% (range is 0% to 98%)
  - 21% of students think half or more of the undergrads on their campus use at least once per year



Project PHARM

Data Source: PHARM/NASPA/CPAMM executive summary, 2017 (Kilmer, PJ)

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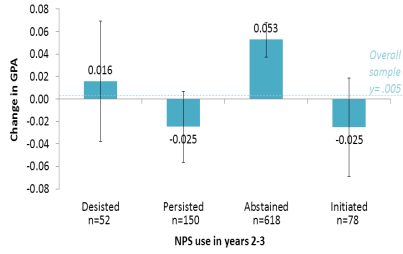
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Arria, A.M., Caldeira, K.M., Vincent, K.B., O'Grady, K.E., Cimini, M.D., Geisner, I.M., Fossos-Wong, N., Kilmer, J.R., Larimer, M.E. (2017). Do college students improve their grades by using prescription stimulants nonmedically? *Addictive Behaviors, 65*, 245-249.

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7) Alcohol will not make the shy child more social

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### Expectancies

What are ways alcohol affects people positively in social situations?

What are ways alcohol affects people in "not-so-good" ways in social situations?

Have you ever seen alcohol do different things for people at different times?

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		EXPECT	
		Alcohol	No Alcohol
GET	Alcohol		
	No Alcohol		

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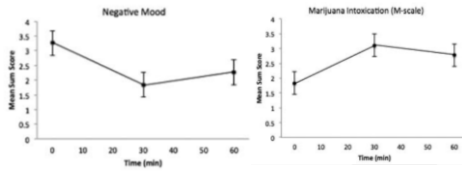




Loflin, et al. (2017)

Used Hemp Pops

- Hemp seed oil (no active elements of THC or CBD), glucose syrup, citric acid, sugar, natural flavors, and colors #2 and #5



Placebo effects need to be explored

For example...

- Sativa – typically described as uplifting and energetic
- Indica – typically described as relaxing and calming

“We would all prefer simple nostrums to explain complex systems, but this is futile and even potentially dangerous in the context of a psychoactive drug such as cannabis” (Piomelli & Russo, 2016, *Cannabis and Cannabinoid Research*)

Differences in observed effects could be due to other content (which is rarely assayed) or what is reported to potential consumers

6) "One drink" could mean a lot of different things to someone not considering a "standard drink"

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### A Standard Drink is...

...a drink containing ½ ounce of ethyl alcohol



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### What Is A Standard Drink?

- 12 oz. beer
- 10 oz. microbrew
- 10 oz. wine cooler
- 8 oz. malt liquor
- 8 oz. Canadian beer
- 8 oz. ice beer
- 6 oz. ice malt liquor
- 4.5 oz. fruit-flavored, high-ethyl alcohol content malt beverages (formerly alcoholic energy drinks...Four Loko is 4.2 oz)
- 4 oz. wine
- 2.5 oz. fortified wine
- 1.25 oz. 80 proof hard alcohol
- 1 oz. 100 proof hard alcohol



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5)The impact of substance use on academic success is well-established

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**America's Dropout Crisis:  
The Unrecognized Connection  
To Adolescent Substance Use**

*"There is no problem so bad that alcohol and drugs will not make it worse."*

Robert L. DuPont, M.D.<sup>1</sup>  
Kimberly M. Calhoun, M.S.<sup>2</sup>  
Walter S. DuPont, M.S.A.<sup>1</sup>  
Kathryn S. Vincent, M.A.<sup>1</sup>  
Cristina J. Shea, M.A.<sup>1</sup>  
Annela M. Arria, Ph.D.<sup>1,2</sup>

March 2013

<sup>1</sup> Institute for Behavior and Health, Inc. (IBHI), 6191 Executive Boulevard, Rockville, MD, 20852.  
<sup>2</sup> Center on Young Adult Health and Development (CYAHD), University of Maryland School of Public Health, 1142 School of Public Health Building, College Park, MD 20742.

<http://www.cls.umd.edu/docs/AmerDropoutCrisis.pdf>

**"Of all the problems that contribute to dropping out, substance use is one of the easiest to identify and one of the most easily stopped by interventions including treatment."**

**"Research evidence shows that when adolescents stop substance abuse, academic performance improves."**

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**Substance using students are at increased risk for academic failure, including drop out**

**Marijuana has stronger negative relationship to GPA and other outcomes and risk for dropout than alcohol use**

**"The more severe the substance use, the more likely the impact on academic performance and risk for dropout."**

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### Four recommendations from Dupont, et al (2013)

Place more attention on at-risk students.

Act early to identify and address variety of problem behaviors:

- Truancy
- Drug and alcohol use
- Delinquency
- Academic "disengagement"



Focus resources on empowering parents

Identify and study policies and programs that deliver on the goal of helping youth sustain long-term abstinence

Develop and evaluate new personalized approaches to intervening with students at risk for dropout.

DuPont, R. L., Calhoun, K. M., DuPont, H. S., Vincent, K.B., Shea, C. L., & Arria, A. M. (2013). America's dropout crisis: The unrecognized connection to adolescent substance use. Bethesda, MD: Institute for Behavioral and Health, Inc.

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### Relationship Between Cannabis Use and Academic Success

- More frequent marijuana use is associated with more discontinuous enrollment, skipping more classes, and lower GPAs (Arria, et al., 2013, 2015)
- Any marijuana use is associated with lower GPA, and decreasing and frequent marijuana use over time is associated with less current enrollment and being less likely to graduate on time (Sureken, et al., 2016)



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### Relationship Between Cannabis Use, Alcohol Use, and Academic Success

- Alcohol and marijuana are both associated with lower GPA; when entered in same regression, effects of alcohol became non-significant (Bolin, Pate, McClintock, 2017)
- Students using both marijuana and alcohol at moderate to high levels have significantly lower GPAs over two years (Meda, et al., 2017)
  - Students who moderate or curtail substance use improved GPA (Meda, et al., 2017)

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4) Marijuana in 2018 is a very different substance than marijuana in 2008, 1998, 1988, or 1978

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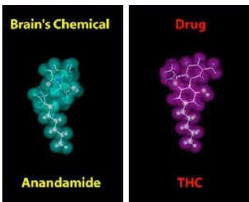
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Anandamide is an endogenous cannabinoid that has an impact on the brain on pleasure, memory, thinking, concentration, movement, coordination, and perception of senses and time.

Source: NIDA, 2017

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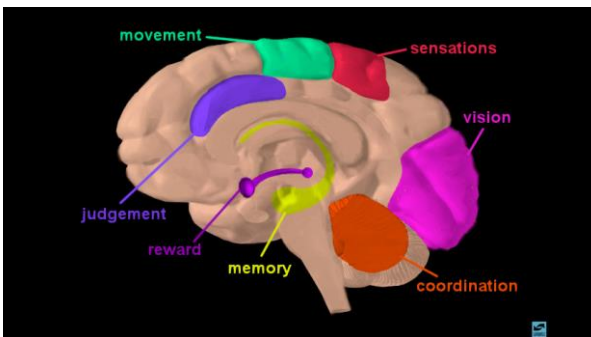
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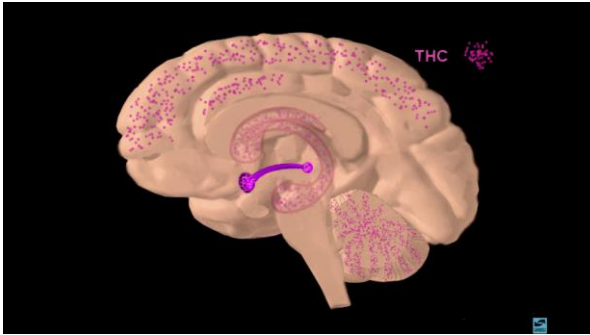
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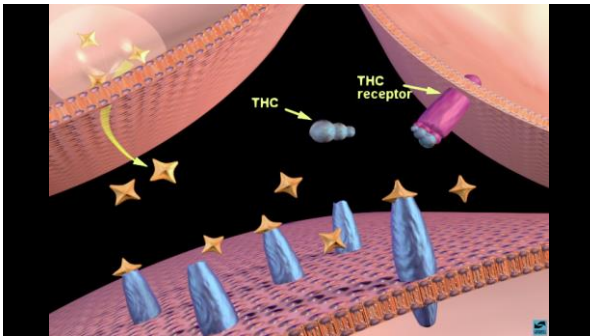
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**Archival Report**



**Changes in Cannabis Potency Over the Last 2 Decades (1995-2014): Analysis of Current Data in the United States**

Mehmedic, Z., Elsohly, M.A., Mehmedic, Z., Foster, S., Gon, C., Chandra, S., & Church, J.C.

**ABSTRACT**  
 BACKGROUND: Marijuana is the most widely used drug in the United States and all over the world. Reports indicate that the potency of cannabis products has been increasing. This report examines the concentration of tetrahydrocannabinol (THC) and cannabidiol (CBD) in 100 samples of cannabis products collected over the last 2 decades. Samples of this study were received over time from materials collected by the Drug Enforcement Administration and processed for analysis only to measure and characterize, with their respective chemical structures.  
 RESULTS: Overall, January 1, 1995, and December 31, 2014, 100% samples of cannabis preparations were investigated. The data showed that through the period of 1995 to 2014, the concentration of THC in cannabis products increased over time from 4% to 18% in 1995 to 15% to 20% in 2014. The authors also found the concentration of CBD in 1995 to 10% to 15% in 2014, resulting in a change in the ratio of 1:1 (THC:CBD) to 1:2 (THC:CBD) in 2014.

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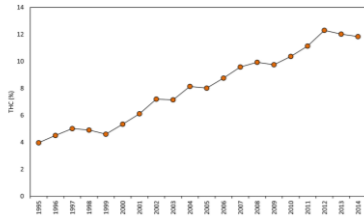
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### Washington State Impact Report



[www.mfiles.org](http://www.mfiles.org)

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SATIVA	HYBRID	INDICA
		
Average THC: 22.11%	Average THC: 21.56%	Average THC: 21.19%
THC Range: 11% - 30%	THC Range: 14% - 29%	THC Range: 12% - 29%

Average potency (nation) = 13.18%  
Average potency (Seattle) = 21.62%

Concentrates average potency (nation) = 55.85%  
Concentrates average potency (Seattle) = 71.71%

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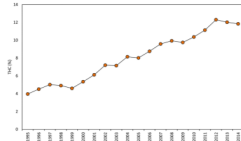
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3) We have to continue to emphasize the importance of not driving after substance use

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Time to get back to .000%

**BAC = .08%? ... 5 HOURS**  
 (.080%...064%...048%...032%...016%...000%)

**BAC = .16%? ... 10 HOURS**  
 (.160%...144%...128%...112%...096%...080%...064%...048%...032%...016%...000%)

**BAC = .24%? ... 15 HOURS**  
 (.240%...224%...208%...192%...176%...160%...144%...128%...112%...096%...080%...064%...048%...032%...016%...000%)




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## Impaired driving and duration of effects

### Effects on the brain

• Authors of 1-502 set DUI at 5 ng THC/ml of blood for those over 21 (any positive value for those under 21)

• Why 5 ng? Similarities in impairment to .08% for alcohol

• How long does it take to drop below 5 ng?

• Grotenhermen, et al., (2007) suggest it takes 3 hours for THC levels to drop to 4.9 ng THC/ml among 70 kg men



• From a public health standpoint, Hall (2013) recommends waiting up to 5 hours after use before driving

• New article encourages waiting at least 6 hours after use (Fischer, et al., 2017)

## Driving within 3 hours of use

### Driving after marijuana use

"During the past 30 days, how many times did you drive a car or other vehicle within three hours after using cannabis (e.g., marijuana, hashish, edibles)?"

	2014	2015	2016	2017
Never	50.59%	55.29%	58.19%	58.56%
1 time	14.13%	13.13%	12.50%	12.85%
2-3 times	13.28%	12.34%	11.97%	11.98%
4-5 times	6.43%	4.35%	3.48%	4.48%
6 or more times	15.57%	14.88%	13.85%	12.12%

\*\*There are declines in driving after marijuana use between cohort 3 and cohort 1 (p<.05) and between cohort 4 and cohort 1 (p<.01), as well as a significant linear trend (p<.01). \*\*

Source: Young Adult Health Survey, 2017 data report

### AMONG 21-25 YEAR OLDS ONLY

"During the past 30 days, how many times did you drive a car or other vehicle within three hours after using cannabis (e.g., marijuana, hashish, edibles)?"

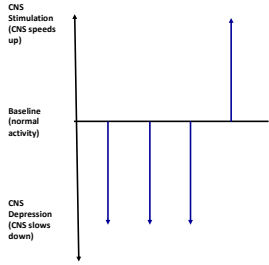
	2014	2015	2016	2017
Never	50.79%	59.61%	57.99%	61.00%
1 time	13.90%	10.26%	11.60%	11.81%
2-3 times	13.18%	15.08%	11.30%	13.02%
4-5 times	7.11%	3.41%	2.28%	4.68%
6 or more times	14.86%	15.78%	15.89%	11.03%

\*\*For those 21+, there are declines in driving after marijuana use between cohort 4 and cohort 1 (p<.01), as well as a significant linear trend (p<.01). \*\*

Source: Young Adult Health Survey, 2017 data report







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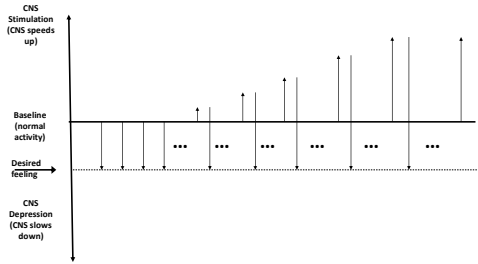
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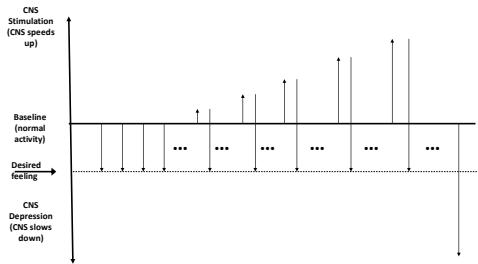
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### Considering cues

#### Even taste can be a cue

- Siegel (2011) noted that college students who consume alcohol in the presence of usual taste cues (e.g., a beer flavored beverage) display greater tolerance to intoxicating effects than when consumed in a novel blue, peppermint-flavored beverage of the same strength.




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### Conclusion

#### “The situational specificity of tolerance”

- If alcohol is presented “in a manner divorced from the usual alcohol-associated stimuli, the effects of the alcohol are enhanced (Siegel, 2011, p. 358).”

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### Implications

Consider high-risk events that can be associated with changes in cues:

- Spring Break
- 21<sup>st</sup> birthdays
- Halloween
- Students studying abroad
- Start of the school year

As a field, we still need to research ways to incorporate this information into prevention/intervention efforts, both for those who make the choice to drink and for those who may be bystanders intervening on someone’s behalf

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1) The influence of parents is extraordinary

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Parents as Partners in Prevention and Wellness

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...Do they really listen to me?  
...What if they blow me off?  
...I am not sure what to say or do.

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Parents as Partners in Prevention and Wellness

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Although peer behavior is found to be strongly correlated with alcohol consumption...



...Parents *also* have an impact on the behaviors of their children

Larwin & Call (2013)

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### Parental Monitoring

Extent to which parents actively try to know about their students whereabouts and social connections



High parental monitoring has been linked to less alcohol use in adolescent and college student populations

SAMHSA Survey on Drug Use and Health (2010)  
Wood & Laird (2012)

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### Parental Permissiveness

**Parental drinking permissiveness** = the degree to which parents are lenient regarding alcohol use

**Low parental drinking permissiveness is associated with less risky drinking**



Wood & Laird (2012)

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### Examining role of parents and peers

Fairlie, Wood, & Laird (2012) collected data during summer before starting college, 10 month follow-up (spring semester of first year), and 22 month follow-up (spring semester of second year)

Looked at social modeling (e.g., # of close friends who drink heavily, perceived friend approval of drinking and getting drunk) and parental permissiveness



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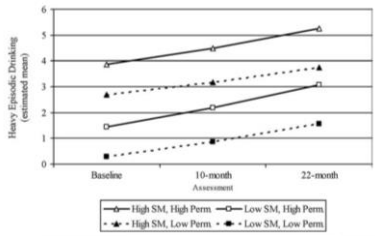
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Heavy episodic drinking as a function of high or low social modeling + high or low parental permissiveness




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Pre College Discussion About Drinking

Teens who talked with their parents about alcohol before they began their first year of college:

- more likely to fall into a non-drinking or light-drinking category
- or to transition out of a heavy-drinking group if they were already heavy drinkers




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Parental Influence Extends into Early Adulthood

Pre College discussion + booster during first semester

“Parents who maintain effective communication with their teen, and through this communication, reinforce expectations regarding alcohol use can provide protection during this vulnerable transition, when most young people increase their drinking behaviors.”




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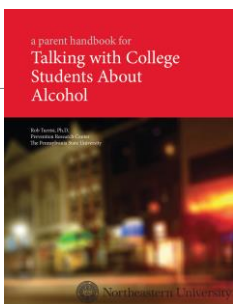
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Parent Handbook for Talking with Teens About Alcohol

Madd.org/powerofparents

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<http://learnaboutmarijuanawa.org/parents.htm>

Learn About Marijuana **ADA1** ALCOHOL & DRUG ABUSE INSTITUTE UNIVERSITY OF WASHINGTON  
 Science-based information for the public

Home Factsheets Parents Teens Español Policy & Law Research Adult Consumers Get Help

**Marijuana Resources for Parents**

The 2016 national **Monitoring the Future Study** shows marijuana use among U.S. teens holding steady or even declining slightly for grades 8, 10, and 12.

In Washington State, according to the 2016 **Healthy Youth Survey**, marijuana use among youth has remained steady at levels similar to the national rates since 2010, despite the changing landscape of legalized marijuana in our state.

Although use of marijuana has not changed significantly in the last several years, youth attitudes towards marijuana moved toward greater acceptance, both nationally and in Washington State.

The good news is that **parents are the primary influence on adolescent behavior** – even if it may not always seem that way. Here are some resources that can help parents discuss the use of marijuana with their children.

Get tips for talking with your kids about making healthy choices at [StartTalking.org](http://StartTalking.org)

**4 in 5** WASHINGTON STATE GRADE 8 STUDENTS USED MARIJUANA RECENTLY

**How to Talk to Your Kids About Marijuana**

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WHETHER IT'S CLEANING THEIR ROOM OR USING MARIJUANA, TEENS NEED TO KNOW THEIR FAMILY'S RULES AND CONSEQUENCES.

Launched February 2017

TEENS ARE UNDER THE INFLUENCE... OF YOU.  
LEARN MORE AT [STARTALKINGNOW.ORG](http://STARTALKINGNOW.ORG)



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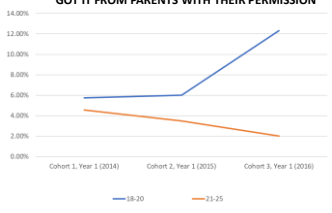
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**GOT IT FROM PARENTS WITH THEIR PERMISSION**



Data Source: DBHR/UW Washington Young Adult Health Survey 2016 data report

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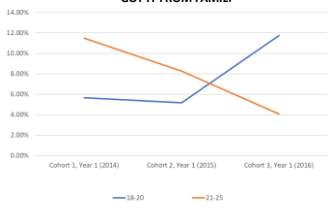
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**GOT IT FROM FAMILY**



Data Source: DBHR/UW Washington Young Adult Health Survey 2016 data report

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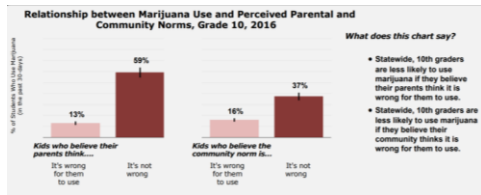
## Where 18-20 year olds get marijuana

Decreasing trend significant  
Increasing trend significant

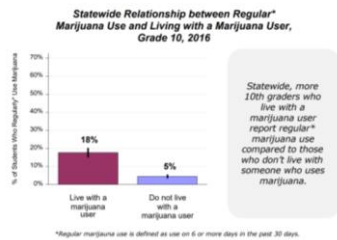
WHERE DO PEOPLE GET MARIJUANA, 18-20 year olds

	2014	2015	2016	2017
From friends	72.86%	76.24%	69.68%	77.40%
Give money to someone	23.28%	26.87%	34.72%	41.83%
Got it from someone				
w/medical mj. card	17.60%	14.12%	4.30%	5.24%
Got it from a med. disp.	13.65%	18.99%	5.34%	4.22%
Got it at a party	22.99%	22.14%	23.08%	24.92%
Got it from family	5.65%	5.18%	11.71%	9.75%
Got it some other way	11.64%	4.12%	6.12%	9.02%
Bought from retail store	0.99%	4.58%	1.73%	1.92%
Got it from parents				
with permission	5.79%	6.02%	12.31%	10.44%
Grew it themselves	1.91%	1.15%	1.65%	0.23%
Stole it from store/disp.	0.00%	0.00%	0.00%	0.00%

Data Source: DBHR/LW Washington Young Adult Health Survey 2017 data report



Data Source: Washington Healthy Youth Survey 2016 data



Data Source: Washington Healthy Youth Survey 2016 data







## Merrickpour & Donmez (2017)

- 6.5 minute drive on a 2-lane rural road
- 5 oncoming cars
- Instructed to follow a lead vehicle and maintain a speed of 50 mph
- 8 times, the lead vehicle braked
- Microsoft Surface distracted them in the simulator
- Participants had to scroll through 10 phrases and find a phrase that matched “Discover Project Missions”




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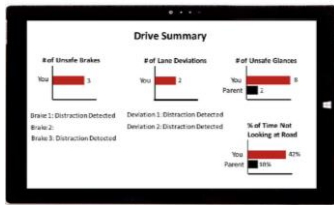
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## Merrickpour & Donmez (2017)




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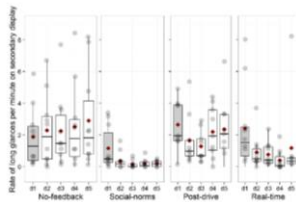
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## Merrickpour & Donmez (2017)

Social norms and real time feedback impacted behavior, “with social norms feedback outperforming real-time feedback as implemented in this study (192)”




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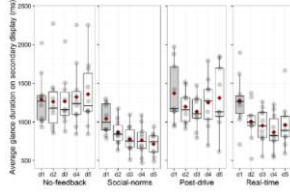
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## Merrickpour & Donmez (2017)

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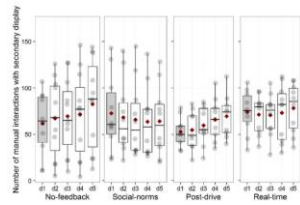
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### WRAPPING UP

Final thoughts:

- Start talking to parents-to-be
- If you're collecting data on norms related to parents, look at ways to use those norms
- Look for ways to promote parent discussions with their children (and that has the added bonus of prevention for them)

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### WRAPPING UP

Final thoughts:

- Start talking to parents-to-be
- If you're collecting data on norms related to parents, look at ways to use those norms
- Look for ways to promote parent discussions with their children (and that has the added bonus of prevention for them)
- If you have promising approaches/practices, share these at events like this conference – we're all in this together




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## Thank you!

Special thanks to Tracy Flinn

Jason Kilmer – jkilmer@uw.edu

Amaura Kemmerer – a.kemmerer@northeastern.edu




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