



SPRING 2016

TEEN MARIJUANA CONSUMPTION,
CASTRO COUNTY

REGION 1, TEXAS

PREVENTION RESOURCE CENTER, REGION 1 TEXAS
MANAGED CARE CENTER FOR ADDICTIVE/OTHER DISORDERS, INC
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THE PRC, REGION 1

WHO WE ARE

The Prevention Resource Center (PRC) is a service of Managed Care Center for Addictive/Other Disorders, Inc. We serve the 41 counties of the Texas Panhandle and South Plains Region.

We serve as the central data collection repository and substance abuse prevention training liaison for Public Health Region 1, funded by a grant from the Department of State Health Services.

Our duties are to identify local community, county, and regional data resources that will provide and share data to enhance and maximize data collection and support the central data collection repository efforts.

OUR MISSION

The purpose of the Prevention Resource Center is to support activities that enhance and improve substance abuse prevention services across Region 1 of the State of Texas. The Resource Center serves as a central repository for data collected throughout Region 1 that will be used to develop a Regional Needs Assessment.

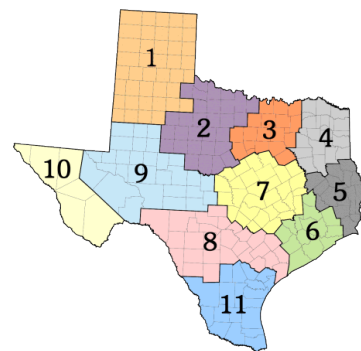
Our specific goals are:

- To provide current, relevant, and community-wide data on substance abuse trends
- To enhance the ability of our communities to more effectively respond to changes in substance abuse trends
- To influence data driven changes in the standards and attitudes within our communities

OUR REGION

We serve the following counties in West Texas:

- Armstrong, Bailey, Briscoe, Carson, Castro, Childress, Cochran, Collingsworth, Crosby, Dallam, Deaf Smith, Dickens, Donley, Floyd, Garza, Gray, Hale, Hall, Hansford, Hartley, Hemphill, Hockley, Hutchinson, King, Lamb, Lipscomb, Lubbock, Lynn, Moore, Motley, Ochiltree, Oldham, Parmer, Potter, Randall, Roberts, Sherman, Swisher, Terry, Wheeler, & Yoakum.



HOW WE SERVE OUR COMMUNITY

We serve our communities by providing alcohol, tobacco, and other drug (ATOD) data to schools, colleges and universities, or other community agencies. This is done through **Information Dissemination**

which provides awareness and knowledge of alcohol, tobacco and other drug abuse, and issues and trends through the data collected by the central data repository.

Our **Community-Based Process** aids the community to more effectively provide "TIPS" (Treatment, Intervention and Prevention Services) for ATOD problems through community mobilization, collaboration, coalition building, networking and community empowerment efforts.

Through **Environmental and Social Policy**, we aim to reduce the incidence and prevalence of ATOD in the general population by establishing and/or changing written and unwritten standards, codes and attitudes within the community. This strategy also aims to combat substance abuse and related harms with concerted, community-based and comprehensive efforts to change norms, behaviors, systems and context that contribute to substance abuse problems in our communities.

TOBACCO STRATEGIES

Our Tobacco Specialist works with tobacco retailers to understand and comply with Texas laws concerning the sale and display of tobacco products. The Prevention Resource Center provides education to tobacco retailers and the media concerning tobacco laws and the harmful effects of tobacco.

COMMUNITY COOPERATION

The Prevention Resource Center collaborates with other agencies by sharing data about substance abuse issues, trends, planning, training and other activities within our region and state. The Prevention Center coordinates with regional coalitions and supports their prevention efforts.

Jackie J. Johnson, CPS

Program Director

25 March 2016

Prevention Resource Center, Region 1

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INTRODUCTION

Marijuana is the most widely used illicit drug in the world and the use of marijuana in the United States is increasing. In 2014, more than 22 million Americans (8.4%) age 12 or older reported using marijuana within the past 30 days—a significant increase over rates reported each year from 2002-2013, according to the National Institute on Drug Abuse¹. Other research suggests a decrease in perceived risk of marijuana use in young adolescents corresponds with increased risk of marijuana use.

Other information indicates that this problem is even more pervasive among teens. Recently, almost half of US teens (44%) report using marijuana at least once within their lifetime; more than one in three (36%) report using in the past year; one in four (24%) report using within the past month; and 7% report using at least 20 times within the past month².

More than four in ten teens (41%) who have used marijuana started doing so before the age of 15³. This is worrisome considering that those who initiate marijuana use at a younger age are more likely to use marijuana – as well as other substances – more frequently than those who begin using at an older age.

Recently, almost half of US teens (44%) report using marijuana at least once in their lifetime.

Of course, marijuana use is associated with other forms of drug abuse. While some research questions if the link between marijuana and other drug abuse is causal, other studies find that marijuana use typically precedes the use of potentially more dangerous drugs, such as cocaine and heroin. A recent study published in the *Journal of Adolescent Health* found that men and women who had used marijuana were 2.5 times more likely to later misuse prescription drugs compared to those who abstained⁴.

HEALTH EFFECTS OF MARIJUANA CONSUMPTION

Still, marijuana continues to be the most used illicit substance in Region 1. When talking with regional teens, parents and school officials often hear something similar to, “Nobody ever died from smoking marijuana” or “Marijuana is safer than alcohol” or something similar. In fact, we often encounter people who are surprised to learn that marijuana is illegal—including many adults. In reality, marijuana consumption has many health effects and can even lead to death.

The estimated fatal dose of THC for humans is 15 g to 70 g⁵ which is much higher than what is normally smoked by a heavy marijuana smoker. Although rare, deaths due directly to cannabis toxicity have

¹ Center for Behavioral Health Statistics and Quality (2015).

² 2013 Partnership Attitude Tracking Study, sponsored by Met Life. Key Finds: Released July 23, 2014.

³ Ibid.

⁴ Fiellin L, Tetrault J, Becker W, Fiellin D, Hoff R. Previous use of alcohol, cigarettes, and marijuana and subsequent abuse of prescription opioids in young adults. *Journal of Adolescent Health*, August 2012.

⁵ Gable, 2004

occurred. For instance, in 2015, a 31 year old woman died in Britain of cannabis toxicity⁶ and in 2004 a 36 year old man died of cannabis toxicity after smoking six cannabis cigarettes a day for eleven years.⁷

More commonly, acute adverse effects of smoking marijuana are anxiety, panic reactions, and psychotic symptoms.⁸ Impairment behaviors that directly effect a person’s ability to operate a motor vehicle include slowed reaction time, information processing, perception-motor coordination, motor performance, attention, and tracking behavior.⁹ In fact, driving after consuming cannabis increases the risk of motor vehicle crashes 200-300%.¹⁰

Table 1: Adverse Effects of Short-term Use and Long-term or Heavy Use of Marijuana¹¹

Adverse Effects of Short-term Use and Long-term or Heavy Use of Marijuana	
Effects of Short-term Use	Effects of Long-term or Heavy use
<ul style="list-style-type: none"> • Impaired short-term memory, making it difficult to learn and retain information • Impaired motor coordination, interfering with driving skills and increasing the risk of injuries • Altered judgement, increasing the risk of sexual behaviors that facilitate the transmission of STD • Paranoia and Psychosis 	<ul style="list-style-type: none"> • Addiction • Altered brain development • Poor educational outcome • Cognitive impairment with lower IQ among frequent users in adolescence • Diminished life satisfaction and achievement • Increased risk of chronic psychosis disorders, including schizophrenia

Overall, about 9% of people who use marijuana become addicted. Of those who begin smoking marijuana in adolescence, 17% become addicted and 25%-50% of those who smoke marijuana daily will become addicted.¹²

COGNITIVE EFFECTS OF UNDERAGE MARIJUANA CONSUMPTION

The brain remains in a state of active, experience-guided development from prenatal through childhood and adolescence until the age of approximately 21 years.¹³ During these developmental periods, the brain is intrinsically more vulnerable than a mature brain to the adverse long-term effects of cannabis. Prenatal or adolescent exposure to THC can recalibrate the sensitivity of the reward system to other drugs¹⁴ and prenatal exposure interferes with the process where axons connect between neurons.¹⁵

⁶ <http://www.telegraph.co.uk/news/uknews/law-and-order/10606932/Mother-thought-to-be-first-woman-in-Britain-to-die-from-cannabis-poisoning.html> (Accessed December 2, 2015)

⁷ <http://www.smh.com.au/articles/2004/01/20/1074360755990.html> (Accessed December 3, 2015)

⁸ Hall and Pacula, 2003

⁹ Ramaekers et.al., 2004

¹⁰ Ibid.

¹¹ Volkow, 2014

¹² Ibid.

¹³ Gotay et.al., 2004.

¹⁴ Dinieri and Hurd, 2012

¹⁵ Tortoriello et.al., 2014

As compared to unexposed controls, adults who smoked marijuana regularly during adolescence have impaired neural connections in specific brain regions. These include the regions involved in alertness and self-conscious awareness as well as learning and memory.¹⁶ In addition, imaging studies in people who use marijuana reveal decreased activity in prefrontal regions and reduced volumes in the hippocampus.¹⁷ In other words, certain brain regions—including those responsible for decision-making and memory—are more vulnerable than others to the long-term effects of marijuana consumption.

The negative effect of marijuana use on the functional connectivity of the brain is particularly prominent if use begins in adolescence or young adulthood¹⁸, which may explain the association between frequent marijuana use from adolescence into adulthood and the significant declines in IQ.¹⁹ These impairments in brain connectivity associated with marijuana exposure in adolescence are consistent with the preclinical findings indicating that the cannabinoid system plays a prominent role in synapse formation during brain development.²⁰

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METHODOLOGY

This report uses data collected from a survey administered to adolescents from Castro County in Region 1, West Texas. This data may be compared to other state and regional level data from the following surveys:

- TSS: 2014 Texas Student Survey, Region 1-2
- YRBS: 2013 Youth Risk Behavior Survey, Texas
- TPII: 2014 Texas Prevention Impact Index, Amarillo ISD
- 40 DAS: 2015 40 Developmental Assets Survey, Lubbock YWCA

THE SURVEY

All Castro County High School students were invited to participate in a survey concerning how they view marijuana. Permission was granted by school officials to ask students to participate. Each student was given a paper copy of the survey. Participation in this survey was voluntary and no one was compelled or compensated for their participation. Any student who chose to participate could quit without penalty at any time. No personal information was collected that could trace any specific participant to any specific response.

¹⁶ Zalesky et.al., 2012

¹⁷ Batalla et.al., 2013

¹⁸ Zalesky et.al., 2012.

¹⁹ Meier et.al., 2012

²⁰ Gaffuri et.al., 2012

The survey consisted of 13 questions including four covering basic demographics such as age, gender, ethnicity, and county of residence. The other 9 questions focused on how Castro County youth feel about, consume, or interact with marijuana and those who consume it.

RESULTS

A total of 103 ($N=103$) people chose to participate. Of these, 49.47% report being 14 or younger, 43.16% report being 15-17 years of age and 6.32% report being 18-20. More males participated (male = 53.61%, female = 46.39%). A significant majority reported as “Hispanic or Latino” (91.67%) followed by “White/Caucasian” (7.29%), “Prefer not to Answer” (6.25%), and “American Indian” (5.21%).

MARIJUANA CONSUMPTION RATES AND PATTERNS

The majority of regional marijuana consumption data that is available comes from the 2014 Texas Student Survey of Substance Abuse (TSS) and the 2013 Youth Risk Behavior Survey – Texas Results (YRBS). Both of these surveys give data for the State of Texas and is not available at a regional or county level of detail. These do afford communities a general idea of what may be occurring among their young people. This data provides an excellent frame from which to compare any local information concerning ATOD use.

Nationally, marijuana use among adolescents is basically flat over the last five years²¹ and what regional information we have seems to defy this. In 2013, marijuana use among Amarillo-area adolescents are similar to 2010 rates but it continues to decline.

Generally speaking, available data seems to indicate that fewer adolescents in Region 1 (21.5%) have ever used marijuana when compared to national (44%)²² and state (26.2% or 37.5%) results. Equally encouraging, fewer regional adolescents (13.1%) report using marijuana in the last 30 days than national teens (24%)²³.

By comparison, 23.7% of Castro Co. adolescents report ever using marijuana. This is slightly higher than the regional average but significantly lower than the national or Lubbock Co. rates of consumption. In addition, only 4.3% of Castro Co. adolescents report using marijuana in the past 30 days. This is much lower than the regional average (10.3%) or national average (24%).

Table 2: Castro Co. Marijuana Consumption Rates

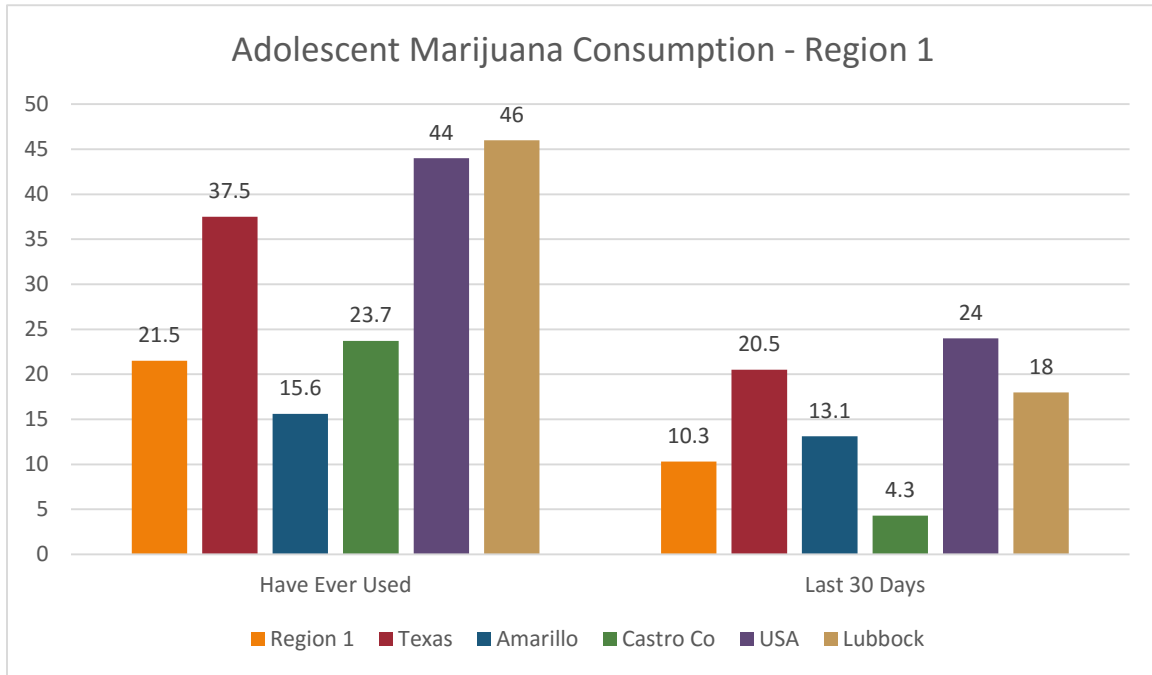
How recently, if ever, have you used marijuana?	
I have never used it.	76.34%
I tried it at least once.	10.75%
During the past month.	4.3%
During the past year.	8.6%

²¹ Ibid.

²² 2013 Partnership Attitude Tracking Study

²³ Ibid.

Figure 1: Adolescent Marijuana Consumption—Regional Comparison



For those participants that have used marijuana, 95.5% report smoking it. This is by far the most prevalent reported means of marijuana consumption. Still, a surprising number of Castro Co. adolescents report consuming marijuana in other ways.

Table 3: Ways Castro Co. Adolescents Have Used Marijuana

How have you used marijuana? (Select all that apply)	
I have smoked it.	95.45%
I have eaten it (edible, candy, or some kind of food).	18.18%
I have used a vaporizer.	18.18%
I have dabbled it.	13.64%
I have used it some other way.	4.55%

Edibles

Edibles are a discreet way to consume marijuana by infusing cannabis with food or drink. These edible sources introduce THC into the body through the intestinal tract instead of through the lungs. Once, brownies were the most well-known way to consume edible cannabis but these edibles come in many different forms, from candy to soda to gourmet cooking²⁴, and are easy to conceal from parents and teachers. 18% of Castro Co. adolescents who have used marijuana report consuming cannabinoids in edibles.

²⁴ For example, *The Cannabis Gourmet Cookbook* by Cheri Sicard. <http://www.cannabischeri.com/buy-the-book/>

These products carry a much higher concentration of THC than "flower" (meaning the raw "bud" form of weed) and they produce a longer high. Typically, marijuana flowers contain between 12% and 15% THC while edibles use a concentrate that is between 50% and 90% THC²⁵. Often the concentrate is not distributed evenly or correctly labeled which can lead to accidental overdose.

Vaporizing

Vaporizing is a technique of cannabinoid consumption where a marijuana concentrate or oil is super-heated into a mist which is inhaled like smoke. Vaporization is a relatively new method of administration for marijuana. This device delivers inhaled THC while reducing toxic byproducts of smoking marijuana caused by combustion²⁶. Many users believe that it provides a faster, more intense high. 18% of Castro Co. adolescents who have used marijuana report consuming cannabinoids with a vaporizer.

76% of Castro Co. adolescents perceive marijuana harmful to use for kids their age.

Often, vaporizing is used by people to conceal their consumption of marijuana²⁷. The latest versions of e-cigarettes can be used to vaporize cannabis oil with little or no odor as there is no fire or smoke. They can often be purchased at a local convenience store. Also, these vaporizers look like pens which are easy to conceal and do not resemble bongs or even earlier vaporizers. They simply look innocuous.

Dabbing

Dabbing is inhaling the vapors from a concentrated form of marijuana made by an extraction method that uses butane gas. Dabs, also known as butane hash oil (BHO)—which are sometimes called "budder," "honeycomb" or "earwax"—are more potent than conventional forms of marijuana because they have much higher concentrations of THC, than is found in regular cannabis. At a minimum, dabs are four times as strong as a joint, and the high is administered all at once²⁸. 14% of Castro Co. adolescents who have used marijuana report dabbing.

ATTITUDES ABOUT MARIJUANA

During regional focus groups and interviews, many adults and adolescents are surprised to find that marijuana use is still illegal in Texas! Some adults expressed a sentiment that marijuana was safer due to it being a natural plant or "at least it's not meth". Some even expressed that they believe marijuana is safer than alcohol for adolescents to consume. This attitude could be interpreted by adolescents as acceptable use or even a permission to use.

Perceived Risk of Harm

Adolescents have been perceiving marijuana use as less dangerous over the last few years. For instance, 75.9% of Amarillo-area adolescents in 2010 reported the use of marijuana as risky while only 62.6% did

²⁵ <http://www.nbcnews.com/health/health-news/these-are-not-your-fathers-pot-brownies-n411881>

²⁶ Abrams et.al., 2007

²⁷ <http://www.npr.org/sections/health-shots/2014/04/18/302992602/pot-smoke-and-mirrors-vaporizer-pens-hide-marijuana-use>

²⁸ <http://www.livescience.com/51202-marijuana-dabbing-trend.html>

so in 2014²⁹. The perception of risk dropped 13.3% over four years. Still, 76% of regional adolescents perceive marijuana as either very or somewhat dangerous³⁰. Castro Co. adolescents agree with the regional average with 76% reporting that marijuana is either dangerous or very dangerous for kids their age to use.

Table 4: Perceived Risk of Harm—Castro Co.

How dangerous do you think it is for kids your age to use marijuana?	
Very dangerous	55.21%
Somewhat dangerous	20.83%
Not very dangerous	9.38%
Not dangerous at all	9.38%
I do not know	5.21%

Interestingly, about 75% of Castro Co. adolescents perceive using marijuana as either wrong or very wrong while 18% perceive marijuana use as a “little bit” wrong. Only 6% report that using marijuana is not at all wrong.

Table 5: Perceived Morality—Castro Co.

How wrong do you believe it is for someone your age to use marijuana?	
Very wrong	59.22%
Wrong	16.50%
A little bit wrong	18.45%
Not wrong at all	5.83%

Perceived Accessibility

Overall, there is little data on how accessible marijuana is to adolescents in Region 1. However, the 2014 TPII³¹ reports that 32.6% of participating Amarillo area students indicate that marijuana is either very easy or fairly easy to get. This is higher than the average for Region 1 as reported by the 2014 Texas Student Survey (29.7%). Castro Co. adolescents report a higher perceived access to marijuana with 37% saying that marijuana is either easy or very easy to get.

Table 6: Perceived Accessibility—Castro Co.

If you wanted some, how difficult would it be to get marijuana?	
Impossible	5.26%
Very difficult	4.21%
Somewhat difficult	9.47%
Somewhat easy	13.68%
Very easy	23.16%
I don't know	44.21%

²⁹ 2014 Texas Prevention Impact Index, Amarillo ISD

³⁰ 2014 Texas Student Survey, Region 1-2

³¹ 2014 Texas Prevention Impact Index, Amarillo ISD

Adolescents typically adapt to the norms of their community. Norms are not defined strictly as laws or policies but enforcing laws and policies often serve to deter adolescent AOD use. In order to prevent adolescents from using marijuana, these teens need to believe that local authorities will enforce the laws on the books. Interestingly, only 64% of Castro Co. adolescents believe that it is likely or very likely that they would be caught by police if they use marijuana. In fact, 28% believe that they are unlikely to get caught and 8% say that it is not likely at all.

Table 7: Perceived Police Presence—Castro Co.

If someone your age were to use marijuana, how likely are they to be caught by the police?	
Very likely	30.69%
Likely	33.66%
Unlikely	27.72%
Not likely at all	7.92%

Perceived Peer and Parental Approval

Currently, the Texas Student Survey does not ask participants about peer approval concerning these substances. However, 57.8% of regional adolescents do report that at least a few of their close friends use alcohol and 39.7% have at least a few close friends who use marijuana³². Still, 61% of Castro Co. adolescents report that their friends think using marijuana is wrong or very wrong. 17% report that using marijuana is not wrong at all.

Table 8: Perceived Peer Approval—Castro Co.

How wrong do your friends think it is for someone your age to use marijuana?	
Very wrong	34.31%
Wrong	26.47%
A little bit wrong	22.55%
Not wrong at all	16.67%

Regionally, 83.2% of adolescents report that their parents either strongly or mildly disapprove of them consuming marijuana. Perhaps most alarming is that 8.4% of regional 12th grade adolescents report that their parents either mildly or strongly approve of them using marijuana³³. 94% of Castro Co. teens say that their parents believe it is wrong or very wrong for them to consume marijuana.

Table 9: Perceived Parental Approval—Castro Co.

How wrong do your parents think it is for someone your age to use marijuana?	
Very wrong	85.29%
Wrong	8.82%
A little bit wrong	0.98%
Not wrong at all	4.90%

³² 2014 Texas Student Survey, Region 1-2

³³ Ibid.

CONCLUSION

Castro Co. adolescents are fairly close to regional averages in attitudes about and consumption of marijuana. Overall, they report a higher perception of harmful risk and that they would be likely to be caught by local police if they did use marijuana. Also, they are less likely to smoke marijuana often if they smoke it at all. However, they also believe that marijuana is easier to get than the regional average adolescent and other means of marijuana consumption than just smoking it is prevalent.

KEY FINDINGS

- 23.7% of Castro Co. adolescents report ever using marijuana. This is about the same as the regional average (21.5%) but much less than the national rate (44%).
- Only 64% of Castro Co. adolescents believe that it is likely or very likely that they would be caught by police if they use marijuana.
- 61% of Castro Co. adolescents report that their friends think using marijuana is wrong or very wrong.
- Castro Co. adolescents report a higher perceived access to marijuana than regional teens with 37% saying that marijuana is easy or very easy to get.
- 76% of Castro Co. adolescents perceive marijuana harmful to use for kids their age. This is higher than Amarillo (62.6%).
- 17% of Castro Co. adolescents report that their friends think using marijuana is not wrong at all.

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APPENDIX: TSS TABULAR DATA

This data is from The Public Policy Research Institute, The Texas School Survey of Drug and Alcohol Use, Texas A&M University, 2015 (TSS) for Region 1.

Table 10: Perceived Risk of Harm, Marijuana, TSS 2014

How dangerous do you think it is for kids your age to use marijuana?					
	Very Dangerous	Somewhat Dangerous	Not Very Dangerous	Not at All Dangerous	Do Not Know
All Grades	65.4%	10.6%	8.0%	10.5%	5.6%
Grade 7	72.9%	8.0%	4.4%	5.8%	8.9%
Grade 8	71.6%	11.0%	6.1%	8.2%	3.1%
Grade 9	67.7%	13.1%	8.5%	9.0%	1.7%
Grade 10	55.1%	13.8%	12.2%	12.1%	6.8%
Grade 11	48.5%	12.6%	11.0%	21.7%	6.2%
Grade 12	48.6%	14.5%	14.2%	18.5%	4.3%

Table 11: Accessibility of Marijuana, TSS 2014

If you wanted to, how difficult would it be for you to get marijuana?						
	Never Heard of it	Impossible	Very Difficult	Somewhat Difficult	Somewhat Easy	Very Easy
All Grades	29.1%	24.6%	7.5%	9.1%	11.9%	17.8%
Grade 7	47.1%	27.9%	8.5%	6.8%	4.4%	5.3%
Grade 8	21.6%	34.5%	11.4%	11.3%	8.7%	12.6%
Grade 9	22.1%	23.3%	7.1%	11.0%	14.3%	22.3%
Grade 10	19.0%	16.7%	7.3%	14.7%	16.7%	25.8%
Grade 11	13.7%	21.0%	4.8%	12.0%	20.5%	28.0%
Grade 12	14.5%	13.6%	9.1%	8.5%	20.4%	33.9%

Table 12: Perceived Parental Attitudes about Marijuana Use, TSS 2014

How do your parents feel about kids your age using marijuana?						
	Strongly Disapprove	Mildly Disapprove	Neither	Mildly Approve	Strongly Approve	Do Not Know
All Grades	77.9%	5.3%	5.3%	1.9%	1.5%	8.0%
Grade 7	82.1%	3.2%	1.3%	0.6%	1.0%	11.8%
Grade 8	78.7%	5.2%	7.8%	0.8%	0.3%	7.2%
Grade 9	78.2%	9.1%	4.6%	1.4%	2.3%	4.4%
Grade 10	80.0%	3.8%	6.3%	3.1%	0.7%	6.0%
Grade 11	73.8%	7.4%	7.3%	4.1%	1.4%	6.0%
Grade 12	70.2%	7.7%	9.8%	3.9%	4.5%	3.9%

CONTACT INFORMATION

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