

Weed Wake-Up Call

Analysis of Risk, Dangerousness, And Benefits Regarding Marijuana in an Online Social

Forum

By

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A Thesis Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Communication Studies

Approved July 2019 by the
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ARIZONA STATE UNIVERSITY

August 2019

ABSTRACT

Marijuana legalization will likely result in increased marijuana consumption with uncertain social and health impacts. This thesis looks to share user perspectives on marijuana, specifically addressing how users represent marijuana risks, benefits, and uncertain or unknown dangers. Data were collected from an online social-media forum that initiated the discussion by prompting readers to reflect on marijuana risks in a context of growing accolades concerning its benefits. Grounded theory and thematic analysis were both utilized to identify consistent themes or patterns across user comments. It was found that users identified both benefits and risks of marijuana, while some users had disputes about certain known risks (such as impaired driving) or uncertain or unknown dangers (such as reduced dream activity). Despite disagreements about the degree of risk associated with a particular activity (such as driving and dreaming), this thesis found risks and benefits were discussed in relatively narrow ways that suggest more education is needed around the full spectrum of the effects of various strains, including benefits, risks, and uncertainties.

DEDICATIONS

To my Parents and siblings

For their endless support and love

&

To my Nana

For always making me push and believe in myself

ACKNOWLEDGMENTS

I wish to express sincere gratitude to Dr. Majia Holmer Nadesan for leading me on this thesis. Her kindness, patience, experience, and knowledge are what made this thesis possible and I have become a better student because of her. Although my time at Arizona State University has been limited the work I have been able to accomplish under Dr. Nadesan has been life-changing.

I would also like to briefly thank a few other professors who have been impactful to my academic career while at ASU. Dr. Michael Walker for challenging me and my writing, Dr. Ramsey Eric Ramsey for changing my view of how we care for the world, and Dr. Douglas Kelley for making me more mindful of those around me.

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CHAPTER 1

INTRODUCTION

The 1936 film *Reefer Madness* is now considered to be an absurdly exaggerated negative depiction of marijuana, showing side effects such as extreme sexual lust, violence, and many other negative side effects. (Green, 2019). The problem with the representations of these side effects of marijuana is that they did not align with what user's experience had been with the drug and as a result caused individuals to question the film's message. Decades later, there remains considerable debate about the benefits and risks of marijuana usage in America. With the increase of marijuana legalization across the United States and many preparing for what seems to be a wave leading to full legalization, the question of risks and benefits becomes even more urgent. Marijuana was constructed as being dangerous in the 1930s, having risks in the 1960s, and eventually, benefits were recognized by medical science in the early 1990s. Through this construction of dangerousness, risks, and benefits, the voices of users and their perspectives have been lost, and the focus on research has been on scientific observation and not user experience. Accordingly, this thesis aims to readdress users' representations of dangerousness, risks, and benefits. Developing understandings of users' representations is especially important as marijuana use is decriminalized in more and more states, meaning that the ways that consumers view and communicate about cannabis can be very important.

As of March 2019, 33 states have legalized medical marijuana. With an ever-growing population of marijuana users, research is needed that taps into users'

experience. Information about practices and experiences of habitual uses will be increasingly important for medical authorities and public policy. For example, efforts to identify the culture of use can promote physician-patient understanding, enabling freer discussion of risks and benefits between the patient and physician. Information about consumers habits, experience, and culture can also be vital information to producers of cannabis so that they can better align their marketing or their product to what consumers want.

However, stigmatization of marijuana's dangerousness has been promoted since the mid-1920s by a wide array of individuals and organizations, including the United States federal government, which has worked against needed research on perceived risks and benefits with cannabis. This thesis aims to redress that limitation by chronicling how marijuana risks and benefits have been constructed across history in America and then exploring contemporary representations of risk and benefits in an online public forum. This thesis focused on representations of marijuana dangerousness, risk, and benefits in reader comments. Some comments are reflective of history, with some commenters expressing opinions similar to different historical strategies to either dissuade or encourage individuals to not engage in marijuana usage. Yet, the possibility of marijuana having benefits does not mean that risks do not exist. Before exploring the historical trajectories of marijuana, a concept analysis of the distinctions between dangerousness and risk will be conducted.

From Dangerousness to Risk

When does something have risk, and when is something dangerous? While both sound similar, the distinctions between risk and dangerousness are outlined by Castel (1991), where he says:

For classical psychiatry, 'risk' meant essentially the danger embodied in the mentally ill person capable of violent and unpredictable action. Dangerousness is a rather mysterious and deeply paradoxical notion, since it implies at once the affirmation of a quality immanent to the subject (he or she is dangerous), and a mere probability, a quantum of uncertainty, given that the proof of the danger can only be provided after the fact, should the threatened action actually occur. (p. 283)

The distinction between the two is in what can be known, and what is unknown. Dangerousness is an unknown danger that exists, the scope of which could be greater even than our imaginations can conceive. In contrast, a risk to some degree understands the potential outcomes of a given situation by focusing on probabilities. Smoking cigarettes is usually understood as a “risk” choice because studies have shown adverse health impacts, with relatively precise calculations of risk: If you are a male who is a heavy cigarette smoker, you have a 24.4 percent higher risk of lung cancer, while if you are a male who never smokes, your risk is only 0.2 percent; those respective percentages for females are 18.5 percent and 0.4 percent (Eldridge, L., & Hughes, G. 2018).

Risk is a probabilistic understanding of a potentially negative effect that can come from an individual’s action at the time or from some hazard. Regardless of one's stance

on smoking cigarettes and the potential negatives and positives that can come, it would appear that society has a clear understanding of the risks that can exist from partaking in this activity. In a sense, risk has been made autonomous from danger as Castel (1991) explains:

A shift becomes possible as soon as the notion of risk is made autonomous from that of danger. A risk does not arise from the presence of particular precise danger embodied in a concrete individual or group. It is the effect of a combination of abstract factors which render more or less probable the occurrence of undesirable modes of behavior. (p. 287)

So, if an individual were to look at the negative outcomes that might occur from engaging in an activity and they can understand the risk through things such as studies, probabilities, or statistics then a risk foundation is established. Objects or subjects seen as risky have already been mapped and investigated with concise or semi-concise calculations of hazards, which allows a kind of deniability for claims of hazards outside of those already calculated. For example, if someone smoked a cigarette and claimed to see colors, illusions or hear voices that were telling them to do things, the public's response would be disbelief and distrust, primarily because the side effects of smoking cigarettes are already known, and this reaction falls under an unreal and unlikely response to cigarettes. The risks of cigarette smoking have been formally delimited with the debate about effects limited to risk calculi for effects such as lung cancer and reproductive effects (e.g., low birth weight of offspring). The average smoker now has a choice, to

engage in the riskful behavior, or to not engage in smoking, this means the person can have a risk understanding.

In contrast to risk, dangerousness captures an unknown externality, or outside factor, bearing on a situation with unknown and perhaps unimaginable hazards, which are often morally stigmatized as very negative. Douglas (1994) observes how risk has been morally associated with the notion of dangerousness when they say,

‘Risk’ is the probability of an event combined with the magnitude of the losses and gains that it will entail. However, our political discourse debases the word. From a complex attempt to reduce uncertainty it has become a decorative flourish on the word ‘danger’. (p. 40)

While risk should be a neutral understanding of the potential outcomes of a situation it has morphed into a heavy implication of danger. While at first, this may sound minor, the implication has ripple effects on an individual’s ideological understanding of given situations. Douglas (1994) highlights this saying:

To invoke very low probabilities of a particular dangerous event makes surprisingly little difference to the understanding of a choice. This is not because the public does not understand the sums, but because many other objectives which it cares about have been left out of the risk calculation. (p. 14)

While risks and benefits should be understood in their relative relation to each other, Douglas shows that dangerousness changes one’s understanding and that even if there is little to no risk of a danger, just the presence of that danger is enough to change individuals’ choices. The representation of marijuana in the film *Reefer Madness*

illustrates this notion of morally tainted dangerousness. Viewers were made to understand that marijuana was only full of dangers and had no benefits and with the backing from the federal government this understanding was able to stand for decades. An interesting aspect of dangerousness is that any object or subject seen as dangerous is susceptible to attributions of blame, without the forms of statistical evidence required for attributions of risk. It is far easier for an alcoholic to blame their uncontrollable rage on becoming drunk, then it is for a smoker to do the same with being high off a cigarette. To contextualize this project's analysis of user interpretations and relations with marijuana, a brief historical analysis of marijuana in America will be observed.

History of Marijuana in America

Marijuana has a unique history in America where the drug itself moved from an almost innocent drug in the 1920s, to one that was considered dangerous in the 1930s, and escalated to a national risk in the 1970s. While America in 2018 just recently experienced one of its more liberal medical marijuana bills passed in Oklahoma (Angell, T 2018), this drug's government has been highly conflicted across time, from the present-day struggle of state vs federal legalization, to the media's racially stigmatized representations of marijuana and its effects in the past. Marijuana in America is an unfinished story and to this day many states fight for and against medical and/or recreational legalization. Before exploring the present-day conflicts in how marijuana is represented, a brief historical examination of marijuana through the early 1900s to present-day America will be conducted.

Brought into America by Mexican immigrants, marijuana originally had a peaceful start. Seen as a recreational hobby, the usage of cannabis was found primarily in Mexican immigrants and African American jazz musicians (Musto, 1991). It was not until the mid-1930s that the government took a turn on how marijuana was handled (CNN, 2016). The cult classic *Reefer Madness*, which was released in 1936, attempted to set a narrative for what life on marijuana is like. Depicting overly dramatic acts of rage, lust, and destruction, this image of dangerousness was successfully set into the population and the government and would cause the negative stigma against marijuana to begin.

The image of a violent marijuana smoker was racialized with Mexican immigrants being the primary target of racialized profiling and African American jazz musicians receiving a similar treatment. In part due to the great depression, when the economy collapsed many individuals blamed the marijuana smokers for causing their economy to collapse. This caused a dangerous construction of marijuana that embodied racism since the minority who smoked marijuana were presented as capable of doing “dangerous things at any time” this best shows that marijuana had a dangerous understanding. With marijuana having such a dangerous image in the public’s eye the Marihuana Tax Act of 1937 was able to pass and functionally made marijuana illegal, with heavy taxes that made owning and producing nearly impossible (Legis Work, 2018). With the culture of dangerousness promoted by the media and the government, most individuals would not engage in marijuana consumption and the growth of hemp-related products following the tax would heavily decline.

Marijuana was almost successfully removed from the American population, but a counter-culture would prevent this. As a drug targeted by the government, marijuana took the backstage to other substances during the 1940s and 1950s with the primary focus of government drug policy and regulation revolving around cocaine and LSD, but in the 1960s everything changed with the counter-culture appropriation of the drug. With the heavy crackdown on drugs like LSD and the increasing pressure on marijuana, the youth in America looked to these narcotics as an outlet to show their rebellion against the American government (Morgan, 1991). The Domestic Policy Chief under Nixon, John Ehrlichman, explained the state of the 1960s the best,

We knew we couldn't make it illegal to be either against the war or black, but by getting the public to associate the hippies with marijuana and the blacks with heroin. And then criminalizing both heavily, we could disrupt those communities (Lobianco, 2016, para. 2).

Not only did the federal government use public policy to manipulate and control American populations it used this policy to target public movements and minority groups. Even with the government using public policy to confront the counter-culture agenda, the revolution would not stop. As America took a turn on how it viewed drugs, the Supreme Court repealed the Marihuana Tax Act of 1937 in 1969 (*Timothy Leary v. The United States*, 1969). The government had a response to the Supreme Court decision and that was the Controlled Substance Act (CSA), that passed in 1970, which made marijuana a Schedule One drug, deeming it to have no medical purpose and to be highly addictive and

destructive. This means that possession of marijuana could lead to punishments, such as fines or mandatory minimums.

Even though the government was cracking down on marijuana, the popularity of this drug was still rising. With cultural figures embracing marijuana and large cultural events like Woodstock, the usage in America was also increasing. This rise in popularity drove the first case of decriminalization in America. Oregon in 1973 was the first state to decriminalize marijuana, making an ounce finable as opposed to being a jailable offense (Schlosser, 2005). While the struggle over cannabis would continue between the government and states, a landmark case in 1976 would allow Robert Randall to become the first medical marijuana patient; he was able to legally smoke in 1988 (Zielinski, 2001). Two years before Robert received his medication, President Reagan brought the Anti-Drug Abuse Act to life in 1988, the act not only cracked down on the sentencing of marijuana but also increased sentencing and punishments related to other drug offenses. One year after Robert had been legally smoking, President George H.W. Bush declared a war on drugs in his first televised speech to the nation in 1989, where he argued for an increase in punishment for drug users and urged that the negative consequences overall be increased to strengthen the law in America against drugs (A.J, 1989). This sparked a larger crackdown on marijuana, and for years the actions of President Bush would last. While the war on marijuana would continue to this day, the states gradually re-thought the legal status of marijuana. In 1996, California was one of the first states to legalize medical marijuana (Norml, 1996). Now, in 2019, 33 states currently have medical

marijuana (ProCon.org, 2019). There are still legal disputes that exist between the state and federal level.

The patterns outlined by Castel can be seen through the 1920s -1980s. In the 1920s, marijuana was escalated to a form of dangerousness that had a racial association with Mexican immigrants and African American jazz musicians, and this racial correlation and identification would not disappear but only be amplified as time went by in America. Cultural, medical, and governmental depictions of marijuana being so strongly dangerous in the late 1930s caused the public to respond by abstaining from usage. After the 1930s, this dangerousness would almost cause marijuana to disappear from the spotlight and from the common use by the public until the 1960s. With the overturning of the Marihuana Tax Act, and the government making marijuana a Schedule One drug with the Controlled Substance Act, the dangerous narrative has been reset by the government. But does marijuana deserve its Schedule One listing that it received in the 1960s?

With a better understanding of risk, the government, media, and medical research have attempted to create a risk image for marijuana post the repeal of the tax act. The repeal of the tax act had a quick response by the government in the form of the Controlled Substance Act. However, this changed how marijuana could be understood by the public. The Controlled Substance Act implied risk and a dangerous understanding of marijuana. It was dangerous in that some of the negative side effects the government would defend were unknown psychosis effects, while there was a risk understanding in that the government in a similar vein was also claiming that there was no medical

purpose to the drug. This means that some established idea of risk and benefits had been formed by the government, and as more and more individuals were trying cannabis in the late 1960s, more people formed their understanding of risk and dangerousness regarding marijuana. With the increase of consumption rates by the American people, more people were deciding their interpretation of this drug was one that they could actively consume.

Medical Applications

While the medical applications of marijuana were recognized back in the mid-nineteenth century, they would be later rediscovered as the cultural shift in America started to recognize the medical benefits present in marijuana. In the 1990s a shift occurs, and medical benefits begin to be recognized due to states like California legalizing the drug medically. Marijuana has moved into a unique space in which it used to be considered a Schedule One drug (and legally still is), yet it has medical applications that can be demonstrated in scientific studies and are used to justify states medically legalizing.

The recent research conducted on marijuana has shown that it has multiple medical applications, although this drug has potential risks that are also being explored at a neurophysiological level. The research suggests that marijuana is primarily helpful in three medical areas: epilepsy, depression, and addiction (Perucca, 2017). More scientific findings and case examples are supporting evidence of benefits, expanding beyond the risk calculus of the 1980s and 1990s war on drugs that featured only negative outcomes. The neurobiological framing of marijuana emerging in examples such as the ones provided below challenge the Schedule One government of marijuana. A case example

illustrates the evolving focus on severe childhood epilepsy. Charlotte, a little girl from Colorado, had severe epilepsy, but after using cannabis she had a drastic change in her seizures. Maa (2014) conducted a study with cannabis on Charlotte and found “This extract (cannabidiol/ Δ 9-tetrahydrocannabinol), slowly titrated over weeks and given in conjunction with her existing antiepileptic drug regimen, reduced Charlotte's seizure frequency from nearly 50 convulsive seizures per day to now 2–3 nocturnal convulsions per month” (p. 783). Charlotte saw a massive decrease in her seizures from cannabis usage and further research on cannabis and epilepsy is underway.

Some research suggests marijuana may help alleviate depression and prevent suicide. Anderson, Rees, and Sabia (2014) found:

After adjustment for economic conditions, state policies, and state-specific linear time trends, the association between legalizing medical marijuana and suicides was not statistically significant at the .05 level. However, legalization was associated with a 10.8% (95% confidence interval [CI] = -17.1%, -3.7%) and 9.4% (95% CI = -16.1%, -2.4%) reduction in the suicide rate of men aged 20 through 29 years and 30 through 39 years, respectively. Estimates for females were less precise and sensitive to model specification. (para. 2)

While women and men that fall out of the 20 - 29 and 30 - 39 age range may not see any help in terms of suicide reduction from medical marijuana, men in that age range see a substantial decrease in suicide. The connection between a decrease in suicide and marijuana usage can be supported through research that was conducted by Denson and Earleywine (2006), who found that marijuana had no connection to an increase in

depression and that individuals who used marijuana generally had lower levels of depression. Some research suggests marijuana can also help those who are addicted to other substances (Powell, Pacula, & Jacobson, 2018). This would imply that medical marijuana has a potential antidepressant nature or characteristic to its chemistry and that the potential for it to be used in that field might be a viable alternative for patients who have not had success with their anti-depressant medications.

Although marijuana has benefits which potentials are being mapped out slowly, there is also evidence that it may pose risks, as research from earlier decades suggests, particularly for young users whose brains are still developing. The cultural push to acknowledge medical benefits may obscure risks. The culture and understandings of marijuana users are not well mapped scientifically, in that there is not a central or easy location for researchers to consistently refer to, to better understand cannabis culture. There are few studies addressing users' self-reported experiences and interpretations of the drug. The following research that was found had a more general reach and analysis and as a result, the primary focus was marijuana smokers at large, not just medical patients. There are three areas of interest that are present in the culture and habitual uses of marijuana users, and the three areas are religion, food, and friendship.

Several studies have shown that the more religious an individual is the less likely they are to use marijuana. Hill, Burdette, Weiss, and Chitwood (2009), found that the more religious an adolescent was, the less likely they were to use or consume marijuana. This research was further backed up years later by Hoffmann (2014), who found similar results, the more religious an adolescent identified, the less likely they were to use

marijuana and if they did they on average had a lower frequency of use. Since the church has large historical roots in anti-marijuana campaigns, Reefer Madness was funded by a Church, it would correlate that more religious individuals would not consume marijuana. With marijuana's history consistently having strong Christian republicans lead the charge against the war on drugs, it would correlate that this group of people would be against marijuana usage.

Another research area on users' experiences addresses food consumption related to the drug. Sanyal (2009) observed the relationship that marijuana smokers had to food and found that those who smoked marijuana found a culture that could exist around the food they consume, and that marijuana also allowed more individuals to be open to trying foods they may otherwise have not tried. One of the primary side effects of cannabis consumption, specifically Indica strains, is that it can cause an increase in appetite, the "munchies" are a common cultural phrase that refers to this increase of hunger after consuming marijuana. This shows that food would be an interesting avenue of research, especially in medical users who use cannabis for appetite suppression or enhancement reasons. Observing different cultural uses of food with marijuana in consumers is also another avenue for research. Generally, with smoking can come sharing and sharing with friends, but friendship is a larger part of the smoker's culture than one might think.

Research on social relationships and marijuana use have focused on its connection to friendship. Belackova and Christian (2013), explore the relationships that marijuana consumers have with their dealers, or other individuals who consume marijuana. They observe the social structure that has been established with the culture in marijuana and

themes of reciprocity and friendship that are present in the cultural expectations. This will help explain how certain themes and patterns that are present in the illegal culture can transfer to a safer more open legal context. One specific situation that Belackova and Christian (2013) found interesting was the concept of friendship that revolved around multiple different roles that revolved around marijuana. For instance, a dealer was always referred to as a friend, while those you would consume marijuana with were also coded as friends. So, it would not be uncommon for someone who was going to a drug deal to say “I am visiting a friend real quick.” Additionally, smoking was seen as a group activity that relied on certain norms such as reciprocity and sharing. With friendship as a core aspect of marijuana, this means there are many different experiences with cannabis to observe. However, this friendship culture may discourage communications about risks that may be seen as disrupting the culture of acceptance marijuana users have developed to combat stigmatization. Little research addresses how marijuana benefits and risks are discussed by everyday recreational and/or medical users. More extensive research on the culture of marijuana consumers could yield better patient to doctor relationships and risk communications.

Methodology

This thesis tackles an understudied area by addressing representations of marijuana risks, benefits, and meanings in comments posted on a public online social media forum. Data in this thesis was collected from a public online Reddit forum to address the following research questions

R1. How do commentators represent marijuana benefits in their comments in an online Reddit Forum?

R2. How do commentators represent marijuana risks in their comments in an online Reddit Forum?

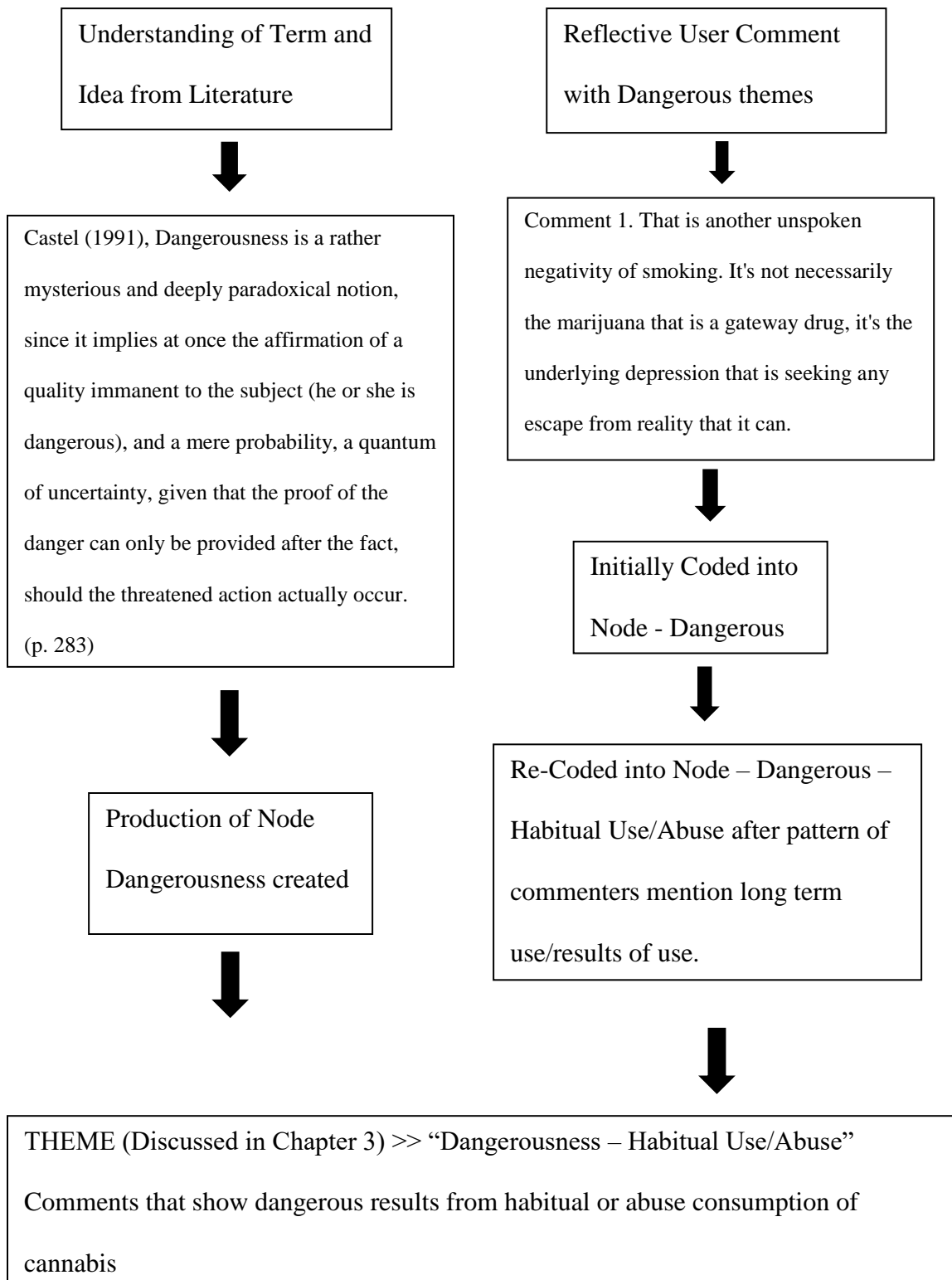
R3. What unknown dangers are represented as potentially resulting from marijuana use?

R4. What risks and benefits do commenters dispute/challenge?

Data analysis in this thesis was conducted in several different steps. First, a big-picture inductive review of the emergent themes regarding risks, benefits, and dangerousness was observed across comments. Then the coding process began with the development of node-based coding that was based in the Castell's work, which produced the large major categories of risk, dangerousness, and benefits. Additional sub-nodes were created based on general discussions and patterns of comments or ideas that were seen. Then coding of the general discussion of nodes was broken down further into sub-node categories, for example, if a common discussion occurring in the dangerous node is about driving, then a new node "dangerousness – driving" was created. Then the data set of nodes were re-examined with nodes further combined and/or differentiated based on themes and patterns consistent with risks, dangerousness, and benefits. Finally, a focus on consistent themes and patterns within these nodes was conducted to identify representative comments, while contradictions or conflicting messages to the representative comments were given special attention as distinctive comments.

The first datum for this thesis set was drawn from a Reddit post with, at the time, 781 user comments, and 5940 upvotes, in the r/trees subreddit community on [Reddit.com/r/trees](https://www.reddit.com/r/trees). The post specifically looked to highlight the potential risks that are present with smoking and consuming marijuana and attempted to bring to light the potential risks that are present. The post (https://www.reddit.com/r/trees/comments/95po84/psa_there_are_negatives_to_weed_and_we_should/) was made in August of 2018. Comments were ordered by Reddit in terms of popularity and comment engagement. This sequencing was instructive for the initial big-picture review of the content of the 781 comments collected. Data from the forum were composed of one post and 781 comments, were collected initially in September of 2018 and downloaded using Ncapture. Nvivo was used to analyze the comments. Usernames were anonymized once collected, and the source of the Reddit post was also anonymized in the transcripts collected, and comments were organized anonymously into nodes, where only the content of the comments is available to observe. An illustration of a node/theme development is shown below.

Figure 1.1: Illustration of node/theme development



Outline of Chapters

Chapter Two is the literature review which chronologically observes the medical, governmental, and media's representation of marijuana and offers a trace of the general representation that marijuana had in different historical periods. In the latter half of the literature review, more in-depth observation of current research which highlights risks, benefits, or dangerousness present in marijuana will be offered.

The third chapter is a collection of comments that will be explained, documented, and analyzed using inductive (emergent) and deductive thematic analysis, with the deductive analysis emphasizing comments and re-occurring themes across comments representing risk, dangerousness, and benefits. More specifically, discussion of driving, habitual use/abuse, health, and dreaming were the primary discussions that emerged from the comments.

Chapter Four discusses the themes and patterns present in the data in this thesis, while also paying special attention to comments that contradict one another or comments that have narratives that contradict the recognized risks and benefits in the literature review. Explanations for the contradicting nature of some of the comments in chapter three will be addressed, as well as areas that may be lacking research or discussion.

The fifth and final chapter wraps up and reviews the research questions, looks at significant findings and looks to future direction for research regarding cannabis.

Chapter 2

LITERATURE REVIEW

The history of cannabis in America is important in terms of how the public was encouraged to understand it by the government, mass media and medical research. In the early nineteenth century to the early twentieth century, we see an understanding that promoted marijuana as generally beneficial. During this period, a risk calculus understanding has not yet been established. Even a dangerous understanding has not yet been established. However, cannabis moves into an understanding as “dangerous” as America moves into the 1920s as the association of marijuana with negative actions has begun. While the American government attempts to subdue the cultural revolution of the 1960s with the Controlled Substance Act and the general understanding of marijuana will shift from dangerous to risk in the late 1960s. After the Supreme Court ruling that the Marihuana Tax Act was unconstitutional, and cases of marijuana decriminalization in different states begin to arise an understanding of risks and benefits started to form around marijuana. Finally, in the late 2010s as more than half of the states have legalized medical marijuana and a CBD product receives its first FDA approval, a more complete understanding of risk and benefits may be on the horizon. This chapter addresses how marijuana was constructed in medical research, government policy, specifically legislation, media representations and cultural attitudes across the late nineteenth, twentieth and twenty-first century in the United States.

Historical Literature Review

This section of the literature review takes a walkthrough analytical approach to the ways in which the government, media, and medical field were constructing marijuana as across time as either dangerous, a risk, or beneficial. Since some of the earliest academic literature regarding cannabis dates back to 1830, this is the best place to begin the discussion.

1830s – 1915 – Beneficial without risks or dangerousness.

This period is primarily filled with a few medical journals or articles, so the primary focus in this section will be on the medical research that was being published.

Medical research.

During the nineteenth century, cannabis had a medical understanding that was provided by O’Shaughnessy and Moreau. Willian B. O’Shaughnessy was an Irish physician who had been studying cannabis in India in the later 1830s; eventually, he published the work, ‘On the preparations of the Indian Hemp, or gunjah’. In his work, O’Shaughnessy looks at the medicinal effects that marijuana has, specifically focusing on the preparation of cannabis, and the pain-relieving and medicinal effects it has (O’Shaughnessy, 1843). Meanwhile, Jacques-Joseph Moreau, a French physician, in 1845 published “Du hachisch et de l'alienation mentale etudes psychologiques.” In his studies, Moreau focused on the therapeutic benefits that are present in cannabis and how it can be used for treating mental illness (Moreau, 1845). Both physicians allowed cannabis to be a medicinal drug, one focusing on physical effects, the other mental; Moreau focused on the pain-relieving effects of cannabis, while O’Shaughnessy observed

more of the psychological effects, such as reduced nausea. Their influence caused cannabis use to spread from England and France reaching all of Europe and then North America (Zuardi, 2006). This caused the publication boom of cannabis in the second half of the nineteenth century, which had hundreds of articles about cannabis being published (Zuardi, 2006).

The second half of the nineteenth century had the first clinical conference about cannabis in America and over 100 scientific articles being published regarding the therapeutic values of cannabis. With the widespread understanding of cannabis as a medicinal drug with therapeutic benefits, the first clinical cannabis conference in America in 1860 occurred; it was organized by the Ohio State Medical Society (Zuardi, 2006). Different medicinal benefits around cannabis were being explored before and after this conference, and multiple scientific articles were being published in Europe and the United States about this new drug (Zuardi, 2006). Over 100 scientific articles published in the second half of the nineteenth century regarding the medicinal benefits that cannabis had, this showed not only a large medical interest but also discovery in the effects that cannabis had on humans (Grinspoon, 1971). With the discoveries in Europe and America becoming more rampant, one of the more conclusive medical indications of cannabis was given in 1924.

Robinson's essay on "Hasheesh and Sajous's Analytic Cyclopedic of Practical Medicine" showed the progress that was gained in the early twentieth century. The beginning of the twentieth century carried on the torch of the late nineteenth century with the discoveries of the positive medicinal effects that cannabis possessed. Robinson (1912)

found that cannabis was useful for reducing alcohol addiction, depression, pain, and a variety of other things. The discoveries did not stop with Robinson, a clear and concise understanding of the therapeutic benefits that cannabis possessed was outlined in *Sajous's Analytic Cyclopedia of Practical Medicine* in 1924 as:

1) Sedative or Hypnotic: in insomnia, senile insomnia, melancholia, mania, delirium tremens, chorea, tetanus, rabies, hay fever, bronchitis, pulmonary tuberculosis, coughs, paralysis agitans, exophthalmic goiter, spasm of the bladder, and gonorrhoea.

2) Analgesic: in headaches, migraine, eye-strain, menopause, brain tumors, tic douloureux, neuralgia, gastric ulcer, gastralgia (indigestion), tabes, multiple neuritis, pain not due to lesions, uterine disturbances, dysmenorrhoea, chronic inflammation, menorrhagia, impending abortion, postpartum hemorrhage, acute rheumatism, eczema, senile pruritus, tingling, formication and numbness of gout, and for relief of dental pain.

3) Other uses: to improve appetite and digestion, for the 'pronounced anorexia following exhausting diseases,' gastric neuroses, dyspepsia, diarrhea, dysentery, cholera, nephritis, hematuria, diabetes mellitus, cardiac palpitation, vertigo, sexual atony in the female, and impotence in the male. (Aldrich, 1997, p. 47)

This shows that cannabis was recognized as having a variety of applications that can be used for multiple different medical experiences, primarily sedative, analgesic, and digestive. While the medical world was using cannabis in more ways, the culture of America was slowly turning against this newfound miracle drug.

The writings of O'Shaughnessy and Moreau would give an understanding of cannabis to the general medical field as beneficial; this can be seen even more with the first cannabis conference occurring in 1860 and the clear understanding of the medical potential that is present in cannabis given by Sajous's *Analytic Cyclopedia of Practical Medicine*. This means that America had a beneficial understanding of marijuana, really without the risks. This is since marijuana was viewed as a foreign remedy associated with different cultures, with O'Shaughnessy in India and Moreau in the Middle East. With Castel's (1991) analysis on risk and dangerousness, the medical industry had neither risk nor dangerousness understanding of cannabis in the late nineteenth century and early twentieth century.

Castel argues that a change in the relationship that occurs between the professional and client as medicine shifts from a personal relationship to one that exists on a more probabilistic level. The patient no longer has a relationship with a physician, their relationship is regarding their probabilities. Castel (1991) explains how risk has overtaken the medical industry when they say:

The essential component of intervention no longer takes the form of the direct face-to-face relationship between the carer and the cared, the helper and the helped, the professional and the client. It comes instead to reside in the establishing of flows of population based on the collation of a range of abstract factors deemed liable to produce risk in general. (p. 281)

This shows that the relationship of the patient no longer existed on a personal level it existed in probabilities. As the relationship between the doctor and the patient is

increasingly mediated by knowledge about disease trends and antecedent's incentive populations. Considering Castel's analysis of medical research, it will be useful to see a transitional move from how the research is reported. Here it is direct patient-to-physician contact and interactions. America in the 1920s started to turn away from their beneficial form of understanding marijuana with the blaming of immigrants and the association of marijuana as causing the Great Depression and the increase of negative media towards marijuana.

1915 – 1950 – Dangerousness

This time period would hold some of the newest and most drastic changes in Marijuana's history, seeing an almost complete reversal on the medical image that had been formed in the 1830s – 1920s.

Media representation.

Smoking marijuana and the scapegoating of associating marijuana with immigrants as the culprit of the Great Depression began the downward spiral of cannabis's image in America. While the medical field primarily focused on the tincture and powder-based products (Zuardi, 2006), the act of smoking cannabis was introduced by Mexican immigrants in the early 1920s (Musto, 1991). While tinctures and powders suffered from consistency due to their sensitive state of conditions that determined their reliability smoking yielded more consistent results (Zuardi, 2006). During the 1920s cannabis smoking was not seen as a necessarily negative thing, yet when the Great Depression of the 1930s came, an unwelcomed minority was linked with negative actions and smoking cannabis (Musto, 1991). With the Great Depression, Mexican immigrants

and their habit of smoking cannabis became associated with violence and laziness that were perceived following the consumption of this drug (Musto, 1991). Depictions of marijuana being racially associated with immigrants can be seen even as early as 1915 in the Ogden paper from Utah. In an article published an association of violence can be seen with the Mexican individual when they consume marijuana (Ogden Standard, 1915). Racist terms like “Locoed” “Greaser Bandits” are not only racist but are also starting to instill a sort of dangerousness present in the immigrant due to this drug. Even though the medical field was discovering positive effects, the social world was painting the picture that cannabis was a violent drug. The mid-1930s would seal the deal for marijuana’s fate for well over two decades. Culturally, we see an ongoing shift as mass media representations stigmatizing and racializing marijuana began to influence popular attitudes across the society in a time where prohibition was seen as a solution for dangerousness.

Anti-cannabis movements and the Marihuana Tax Act of 1937 would remove marijuana from the American culture almost entirely. The original film “Tell Your Children” (1936) later re-titled as the now cult classic “Reefer Madness” (1936), was financed by a church group and aimed at showing the negative side effects that smoking cannabis brought to the American people (Murphy and Studney, 2006). This film had dramatic depictions of teens smoking cannabis and it displayed them experiencing violent side effects. While these effects were contrary to the narrative that had been set by medical research, it would become the dominant narrative. A newspaper article from the *Evening Star* on May 16th of 1937 showed the state of the country’s relationship with

marijuana. The article from the *Evening Star* adds morality to the drug, suggesting that those that consume marijuana are immoral, suggesting that the spread of it corrupts and damns individuals and the act is “evil” (Evening Star, 1937).

Government message.

With the campaign of the Federal Bureau of Narcotics, the Marihuana Tax Act law was passed in 1937 (Zuardi, 2006). The Tax Act caused the owning of marijuana to become functionally impossible. Zuardi (2006) shows the extremity of the act when they say:

Under this Act, anyone using the plant was required to register and pay a tax of a dollar an ounce (28.35 g), for medical purposes, and 100 dollars an ounce for any other use. Despite the low value for medical use, the non-payment of this tax, however, resulted in a \$2,000 dollar fine and/or 5 years imprisonment (Zuardi, 2006, p. 156).

This made the owning of marijuana not worth the effort since the costs and penalties outweighed what most individuals deemed as beneficial. The nail in the coffin for marijuana’s image came when cannabis was removed from the American pharmacopeia in 1941. This meant that cannabis was not seen as a medically beneficial, and because of this, marijuana would largely disappear from the American culture, until the repeal of the Marihuana Tax Act in 1969. The Marihuana Tax Act was a policy that was passed with the intention of moral stigmatization of marijuana and social control of morals. Conrad and Schneider (2010) look at the ways in which the Marihuana Tax Act was a form of moral entrepreneurship that was passed: “This Campaign (The Bureau of Narcotics

campaign against marijuana), led by Commissioner Henry J. Anslinger, aroused public interest and was followed by Congress passing a law that essentially made marijuana illegal.” This means that sparked public arousal regarding marijuana was able to sway the entirety of Congress to see this narcotic as deviant and to classify marijuana smokers, users, and dealers as very deviant. The medical reports of this time were similar to the films messages, extreme violence and destruction with extreme addiction after one-time use were not uncommon.

Medical research.

The medias depiction and government message of marijuana were echoed in medical research that followed. While medical research in the late nineteenth century had seen positive side effects, medical research in the early twentieth century was seeing much stronger negative side effects with the drug. Merrill (1938) claimed that “The intense over-excitement of the nerves and emotions [While on marijuana]. leads to uncontrollable irritability and violent rages, which in most advanced forms cause assault and murder. Amnesia often occurs, and the mania is frequently so acute that the heavy smoker becomes temporarily insane. Most authorities agree that permeant insanity can result from continued over-indulgence” (p. 873). This shows a clear and violent image of the marijuana smoker was beginning to develop in the late 1930s. Armstrong and Parascandola (1972) found that most of the articles that were published in the late 1930s regarding marijuana had themes of violent and sexual impulses that the drug gave to the user they also argue that the alarmist nature of the articles that were written drove a negative cultural response to the drug (p. 27). They even find “as late as 1938, one finds

prominent pharmacists claiming that marihuana produces physical addiction, that is more dangerous than heroin or cocaine, and that turns its users into brutal criminals” (Armstrong and Parascandola, 1972, p. 28). The medical information that was being released, along with the image that was being set for marijuana, was one of violence and unknown dangerousness that it would unleash in an individual. The tide of the cultural wave against marijuana would continue to roll on into the 1930s, when a film and a tax act were released, sealing marijuana’s fate.

The fears from the Great Depression and the social stigmatization of cannabis that was associated with a negative racialized image of the Mexican immigrant caused marijuana to have a dangerous understanding. Castel (1991) highlights the distinction between understanding something as dangerousness or as a risk through probabilistic calculations that can be made:

What the new preventive policies primarily address is no longer individuals but factors, statistical correlations of heterogeneous elements. They deconstruct the concrete subject of intervention and reconstruct a combination of factors liable to produce risk. Their primary aim is not to confront a concrete dangerous situation, but to anticipate all the possible forms of the irruption of danger. “Prevention” in effect promotes suspicion to the dignified scientific rank of a calculus of probabilities. (p. 288)

Castel in his analysis on the health system in America continues his onward train of thought regarding the eventual mass-production of medication and how this changes the notion of dangerousness. With probabilities, we see risk, without we see dangerousness.

The construction of the Mexican immigrant who consumes marijuana as being filled with lust and anger depicts a very alarming image of what it means when someone consumes marijuana, at least according to the propaganda of the time. Combining this with visual depictions in films like *Reefer Madness* and governmental reinforcement through legislation such as the Marihuana Tax Act, meant that marijuana was publicly deemed dangerous and was almost removed from the public eye.

1950 – 1969 – Dangerousness to Risk

Cultural meaning sharply differed from mass media representations, individual experience, and covert operations investigating the weapon potential of psychotropic drugs during the 1950s and 1960s. While the media represented marijuana as dangerous, individual experience showed recreational benefits and potentially even medical ones, while the ideology of the government during this time regarding secret psychotropic weapon investigations would show that the government was utilizing marijuana as a tool of social control.

Media representation.

Culturally, a large racialization of drugs was continuing in the mass media. In the 1950s, different media and news outlets did not shy away from strong racial connections to certain narcotics. *The Detroit Tribune* (1951) on February 10th, 1951, had a headline reading, “90 percent of dope trafficking flowing to negroes.” The article goes on to describe the drug habits that are rampant in the African American community and how marijuana at parties is where these habits begin. The article goes on to describe how marijuana came from Mexico and that this drug needs to be removed from society and

that the government should “Quarantine involuntary addicts for 45, 60, and 90-day periods until cured of their addiction.” This shows not only very strong dangerousness still present in drugs, specifically marijuana, it also shows that marijuana has a strong depiction of being highly addictive and a true gateway drug for addiction and that it must be stopped by the government. This means that the media still has a very anti-marijuana stance that aligns closely with the government that the citizens are made to see. Despite the media depictions of marijuana, young Americans were still trying marijuana.

Medical research.

While the media may have been reporting very dangerous side effects of marijuana, young adults were still trying this drug despite those reports. A survey done in 1968 by Eells (1968) found that more students were smoking marijuana or using LSD for either interest, curiosity, or enhancement purposes. This means that young adults in college in America in the late 1960s were going against the grain of what the medical research was reporting, even with a semi-understanding of the supposed risks that were being sold to them. If what had been sold was so dangerous, then how did young American’s buy it? Well, Eells (1968) found a consistent pattern in his research: those that tried marijuana rarely would argue or believe in harsh punishment for the narcotic, while those who never tried the drug believed in heavy regulation. This shows a sharp contrast between informational and experimental knowledge, and once one contradicted the other, it caused a deep divide in what the students believed.

Government message.

Project MKUltra was a covert operation that the CIA ran during the 1950s to utilize harsh psychoactive treatments in individuals to understand the role of psychological warfare. The US Government printing office (1977) shows in their extensive report on MKUltra, the harm that was done to American and Canadian citizens across multiple different facilities. There were interrogation strategies that used narcotics and states of lucidity to trick individuals into admitting guilt to a crime they may not have committed (p. 29). This means that the federal government had an interest in not only the use of narcotics but the effect that it had on individuals. In other words, while the culture of the country was heavily against substances such as marijuana, the government behind the scenes was using things such as LSD to conduct experiments on individuals for warfare, so even then, the narcotic had some usability.

The shift from dangerousness in the early 1920s to risk in the 1950s allows justifiable governmental control of the populations. Castel (1991) highlights what occurs in the shift from dangerousness to risk:

In brief, this generalized space of risk factors stands in the same relation to the concrete space of dangerousness as the generalized space of non-Euclidean geometries has to the three-dimensional space of Euclidean geometry; and this abstracting generalization which indicates the shift from dangerousness to risk entails a potentially infinite multiplication of the possibilities for intervention. For what situation is there of which one can be certain that it harbors no risk, no uncontrollable or unpredictable chance feature? (p. 298)

This shows that in the shift from dangerousness to risk there is a justifiable situation for intervention since there can always be a present risk created in a given situation, it can allow for social justification for intervention. The previously mentioned newspaper article from the *Detroit Tribune* in the 1950s shows this already, suggesting involuntary quarantine for those addicted. The usage of terms like quarantine and involuntary already suggest a disease characteristic and violent nature of the subject at hand, and the subject in this instance is described by the media is the drug addict. Yet those that are being painted in such an evil light are breaking free from that narrative on college campuses, as displayed by the survey in the late 1960s, and young adults are trying drugs like LSD and marijuana, despite their heavy social stigmatization, for reasons of curiosity and interest. Almost simultaneously, the government itself conducted secret experiments on people to see the weaponized potential of drugs. This ever-existing world of contradictions is what was bubbling in the 1960s, and this bubble would eventually cause the Marihuana Tax Act to be repealed.

1969 -1992 – Risk to Benefits

With a wave of people continuing to try cannabis for the first time comes a change in perspective to the drug. With more and more users trying cannabis the American population sees a turn away from such strong anti-marijuana policies and the beginning of new government policies that would allow for legalization to begin in the late twentieth century.

Media representation.

The repeal of the Marihuana Tax Act would begin the change in how America viewed this once “dangerous” drug. In 1969, the Supreme Court of the United States ruled in the case of Timothy Leary who was a New York resident who traveled from New York to Mexico and then had to travel back into Texas; upon arriving in Texas, after denial of entry into Mexico, a customs officer found marijuana, and Leary was punished for his possession of marijuana (*Leary v United States*, 1969). The Tax Act was deemed unconstitutional by the Supreme Court since it would force individuals to be self-incriminated, because in this instance, for Leary to pay the tax on his marijuana in the state of Texas, he would have had to turn himself in, as marijuana was illegal at the time in Texas, which is a violation of the 5th amendment (*Leary v United States*, 1969). The repeal of the Tax Act was helped by the ever-changing image that marijuana was having in the American people, marijuana had a slow shift away from dangerousness and cultural marginalization. However, the repeal of the Tax Act may have helped nudge the Controlled Substance Act passing into law.

Government message.

The Controlled Substance Act (1970) deemed that marijuana had a high potential for abuse and had no medical benefits. Since the Marihuana Tax Act had now been repealed, the Nixon administration used the Controlled Substance Act to target African Americans and “hippies.” The Domestic Policy Chief under Nixon, John Ehrlichman, said,

We knew we couldn't make it illegal to be either against the war or black, but by getting the public to associate the hippies with marijuana and the blacks with heroin. And then criminalizing both heavily, we could disrupt those communities (Lobianco, 2016 para 2).

This criminalization came in the form of the Controlled Substance Act. This shows that the government was using drug politics to specifically target groups of individuals. The Controlled Substance Act of 1970 placed illicit drugs in one of five schedules, and those schedules had variants on severity of the drug, with 1 being the most harmful/addictive and 5 being the least harmful and addictive, the decision for what schedule each drug was to be put in, was made by the Attorney General and Bureau of Narcotics and Dangerous Drugs, later named the Drug Enforcement Administration (Aldrich, 1997). With the passing of the act, cannabis and its derivatives were placed in Schedule I, which was for drugs with a high potential for abuse and no medical use (Aldrich, 1997). The Controlled Substance Act showed that the narrative the government accepted for marijuana was one of dangerousness and having no potential for medical benefits.

The increase of usage and decriminalization of marijuana on a state level would plant the seeds for change in America. History would rapidly evolve from 1967 – 1980. In 1967, only 5 percent of the American population had tried marijuana at least once (Zuardi, 2006). The American people were experiencing the full effect of the Tax Act and the culture that had been set, yet, after the repeal of the Tax Act and the implementation of the Controlled Substance Act, use increased. In 1971, the percentage of Americans that had tried marijuana at least once increased to 44 percent and peaked in 1980 at 68 percent

(Zuardi, 2006). Oregon was one of the first states to decriminalize marijuana in 1973, making an ounce in possession punishable by fine as opposed to jail (Schlosser, 2005). As the image of marijuana was slowly changing, the general acceptance grew with it, but it was unfortunately put to a halt: The Gallup Poll on the relaxation of laws against marijuana is instructive. In 1980, 53 percent of Americans favored legalization of small amounts of marijuana; by 1986 only 27 percent supported that view (Morgan, 1991). What stopped the increasing acceptance of marijuana can most likely be associated with Reagan's anti-drug abuse act of 1986.

The Anti-Drug Abuse Act of 1986 dramatically increased the penalty for possession of marijuana and introduced mandatory minimums for possession of marijuana and/or other narcotics. While the Carter administration was looking into legalizing of up to an ounce of marijuana (Morgan, 1991), the Reagan administration wanted to take cannabis in a completely different direction. Even with the Controlled Substance Act, the increasing use among the American population was rising, and in the year 1986, President Reagan passed the Anti-Drug Abuse Act to counter that rise. The 1986 Anti-Drug Abuse Act introduced mandatory minimums into the American legal system. Mandatory minimums determined how long an individual had to serve, at the minimum if they were found in possession of a specific amount of a specific narcotic, and marijuana was included in this act (Sterling, 1999). Now if someone was in possession of 100 plants/100 kilos or 1000 plants/1000 kilos they would get respective minimum sentencing of 5 or 10 years. This means the stigma against marijuana increased it and the Reagan administration would maintain a strong anti-drug stance. President George H.W.

Bush declared a war on drugs in his first televised speech to the nation, where he argued for an increase in punishment for drug users and that the negative consequences overall be increased to strengthen the law in America (A.J, 1989). Funding for marijuana research during the war on drugs period specifically sought to link use with adverse outcomes such as delinquency. But despite this, the first state medically legalized marijuana in 1996.

Since cannabis started to move into a risk understanding, with states decriminalizing and more individuals trying the narcotic for themselves, this caused an overall break of the dangerous understanding that was once had. With the ability to understand the positives and negatives of cannabis this means that the users can understand marijuana through a risk calculus understanding. In Castel's framework of dangerousness, when something has a dangerous understanding, the negatives that can follow when engaging in that activity are unknown. Castel (1991) specifically looks at the extent to which dangerousness has been morphed into a risk to justify control: "The modern ideologies of prevention are overarched by a grandiose technocratic rationalizing dream of absolute control of the accidental, understood as the irruption of the unpredictable" (p. 289). This shows that once a risk understanding has been formed without a beneficial understanding of the thing, it can justifiably become eradicated from that specific space in which it has been deemed a risk. However, as individuals started to see and understand the risks and benefits that followed consumption, their understanding of cannabis as dangerous started to fall with it; this can help explain the large shift away from the dangerousness only understanding that was set in the early twentieth century

towards the turn of the 1960s that had been set by the media, government and medical information. This cultural shift can also explain how it held on so tight, in terms of the complete control of the narrative that had been set for marijuana, since the one terms set was one filled with only dangerousness and risk.

1992 – 2019 – Benefits start to outweigh risks

1996 began a time when marijuana representations went back to its pre-1937 stigmatization, with the medical legalization of marijuana in California. The medical industry in the late 1980s and early 1990s was finding interest in marijuana, especially regarding AIDS and glaucoma (Aldrich, 1997). San Francisco, during the AIDS crisis, looked to this research for solutions and passed a resolution in 1992 that functionally legalized medical marijuana for helping with AIDS, glaucoma, cancer, spastic and convulsive diseases for the control of chronic pain and any other healing purposes (Aldrich, 1997). While this resolution impacted thousands of citizens, it also had rippling effects on the rest of the state that would soon impact millions. By 1996, California was one of the first states to legalize medical marijuana (Norml, 1996). This monumental achievement in legalization's history would see a state decide in terms of the image that marijuana has in the state, specifically in this instance that marijuana can serve a medical purpose contrary to its Schedule I listing.

Medical research.

Recent research conducted on marijuana has shown that it has multiple medical applications and although this drug is not without risks, its positive medical effects are still being researched today. The research suggests that marijuana is primarily helpful in

three medical areas: epilepsy, depression, and addiction. Although, it is important to note that during the late 1990s research suggested that marijuana is a gateway drug, such as Desimone (1998), who found that marijuana usage leads to a 29 percent higher chance that one would do cocaine. One must take into consideration the ever-contradicting narrative that marijuana has attached to its history, and the accuracy of these reports, positive or negative, is one that history has shown cannot always be the clearest. An exploration of the most current research, considering the large wave of recent legalization, gives hope for unbiased approaches to the potential benefits of marijuana. A story about a girl named Charlotte is our first study.

Charlotte, a little girl from Colorado, had severe epilepsy, but after using cannabis she had a drastic change in her seizures. Maa (2014) conducted a study with cannabis on Charlotte Figi and found:

This extract (cannabidiol/ Δ^9 -tetrahydrocannabinol), slowly titrated over weeks and given in conjunction with her existing antiepileptic drug regimen, reduced Charlotte's seizure frequency from nearly 50 convulsive seizures per day to now 2–3 nocturnal convulsions per month (p. 783).

Charlotte had a near elimination of her seizures using cannabidiol. While this one case may be a more severe positive reaction from the cannabidiol, it would be hard to argue that there is no medical potential with Charlotte's case. Further research on cannabis and epilepsy is still being conducted, and while the illegal status that the federal government has used to classify marijuana has halted more research from being developed, what has

been conducted is that forms of epilepsy are not the only things that marijuana has been linked with helping.

Depression and suicide have both been helped by the use of medical marijuana. Anderson, Rees, and Sabia, (2014) found that:

After adjustment for economic conditions, state policies, and state-specific linear time trends, the association between legalizing medical marijuana and suicides was not statistically significant at the .05 level. However, legalization was associated with a 10.8 percent (95% confidence interval [CI] = -17.1%, -3.7%) and 9.4 percent (95% CI = -16.1%, -2.4%) reduction in the suicide rate of men aged 20 through 29 years and 30 through 39 years, respectively. Estimates for females were less precise and sensitive to model specification. (p. 2369)

While women and men that fall out of the 20 - 29 and 30 - 39 age range may not see any help in terms of suicide reduction from medical marijuana, men in that age range see a substantial decrease in suicide. The connection between a decrease in suicide and marijuana usage can be supported through research that was conducted years before.

Denson and Earleywine (2006) found that marijuana had no connection to an increase in depression, and individuals who used marijuana generally had lower levels of depression. Marijuana can also help those who are addicted to other substances. This would imply that medical marijuana has a potential antidepressant nature or characteristic to it and that the potential for it to be used in that field might be a viable alternative for patients who have not had success with their medications.

Opioid-related deaths have become a recent focus in American media and have even been spotlighted by President Trump. Powell, Pacula, and Jacobson (2015) found that opioid-related deaths in medical marijuana states had anywhere from an 18 – 42 percent decrease in opioid-related deaths after medical marijuana had been legalized. Their research concluded that once medical marijuana dispensaries opened up, individuals who had addictions to substances such as opioids switched to marijuana for use, and as a result, the occurrence of opioid overdoses went down. This is most likely due to similar characteristics that opioids and marijuana share, both having the potential for pain relief. While opioids may be a necessary measure for a patient, one positive that marijuana has that opioids do not is that one cannot functionally overdose on marijuana. Smith (2017) provides a breakdown of overdoses for different substances:

“How much is too much?” Here are a few median lethal doses to consider:

- Cocaine: 1.2 grams
- Oxycodone: 80 mg (in a single dose)
- Heroin: 75-375 mg (depending on potency)
- Sugar: 1,100 mg/kg
- Marijuana: 1,260 mg/kg (pure THC) (para. 8)

To overdose on marijuana, one individual would have to smoke around 40,000 joints in a very short period of time. So, it is functionally impossible to overdose on marijuana.

The different areas of research set the tone for the current state of legalization that is seen in 2018, where 33 states currently have legalized medical marijuana.

While most of the research conducted does show many positives marijuana is still not without risk. Gobbi (2019) found that marijuana had a risk of increasing depression, anxiety, and suicidality in young adults. This is especially important considering the target audience of most dispensaries is at young adults either through marketing strategies or customer relations. Gobbi (2019) also found that there were consistent themes of mild increases in negative mental effects from consuming cannabis, meaning heavy consumption by young adults may potentially be problematic and have negative mental side effects. As the data analysis will show later, this can be described from the escape from reality that marijuana can provide for individuals. If someone is using marijuana to mentally space from a given situation and then end up “drowning in their sorrows” so to speak, marijuana may enhance their sorrows. Since the cannabis causes individuals to either gain or lose focus, this can cause someone to hyper-focus on their negative experiences, further putting them down.

Government message.

With 33 states having medical marijuana and 10 states and Washington D.C. having recreational marijuana, the history of rapid legalization is growing almost as much as marijuana sales. With Oklahoma recently legalizing one of the loosest medical marijuana bills both on the amount of marijuana that one can own and what can be prescribed for the drug, with individuals being able to own up 3 ounces on their person at any time and 8 at home and doctors are able to prescribe cannabis for health concerns like headaches (Angell, 2018). Meanwhile, the 2018 midterm election cycle had two more states medically legalize, with Michigan becoming the newest state to recreationally

legalize (Berke, 2018). With medical legalization being present in over half of the states, it is no surprise that the opinion that America has towards marijuana has become more positive. Support for the drug reached new highs in 2018 a Gallup poll showed that 64 percent of Americans favor legalization, and even a majority of Republicans back it” (Higgins, 2018) While the issue of dangerousness is still being resolved on more individual state levels, the states that have allowed recreational marijuana have found significant benefits that come with it.

Colorado is arguably the most successful test case of marijuana recreational legalization in the United States, especially when considering the revenue earned. The Colorado Department of Revenue services consistently updates its revenue gained from recreational marijuana, and as of October 2018, Colorado has generated hundreds of millions from the tax revenue and fees (C, 2018). Some parts of the state have even reported a “green rush” where individuals from other states have visited for the sole purpose of consuming marijuana, leading to an estimated \$1.5 billion gained in revenue (Wallace, 2018). While Michigan and North Dakota might add their names to the list of recreational states, some others have faced dilemmas when endorsing this new recreational legalization. California has seen increased confusion and state licensing fees, which have led to more shops closing, and smaller businesses closing with them; this is primarily due to the state licenses being costly and approval dependent based on their local city (Reyes, 2017). While the issue of medical or recreational legalization lies in the state’s authority, some have argued that the recent FDA approval of a CBD based product might be the breakthrough marijuana needs to be removed from its Schedule One listing.

The FDA's approval of a CBD based product for epilepsy creates a contradicting narrative between CBD and cannabis. The primary difference between CBD and THC is in their psychoactive elements, Holland (2018) explains when they say:

“Despite their similar chemical structures, CBD and THC don't have the same psychoactive effects. In fact, CBD is a non-psychoactive compound. That means it doesn't produce the high associated with THC. THC binds with the cannabinoid 1 (CB1) receptors in the brain. It produces a high or sense of “euphoria” (para. 9). CBD and THC are both extracted from the marijuana leaf, and each has different positive and potentially negative effects that the user is looking for. However, where the contradiction comes about is in the recent FDA legalization of a CBD based product. A strawberry flavored CBD product that is targeted to help epilepsy patients was approved by the FDA (Sigerson, 2018). This FDA legalization of CBD has caused a change in how CBD is classified. The DEA did indeed reclassify CBD as a Schedule 5 substance, the lowest criteria available, but only for FDA approved CBD drugs that contained 0.1 percent THC or less (Sigerson, 2018). This shows the contradiction that is present, in which the government has a product that comes from marijuana and is federally legal, yet the plant that it comes from still receives the Schedule One listing that it has today. Simultaneously, there is a recent psychoactive mushroom that was approved for a therapy trial for the treatment of individuals who are resistant to normal depression medications (Lynch, 2018). While 2018 exists in a world of contradictions regarding the legality of marijuana, these contradictions have caused stark contrasts in what individuals believe and how they view this narcotic. While states are legalizing, the Federal Government

consistently continues a risky and dangerous construction of marijuana in their messaging.

Across several different United States government websites, the message about marijuana consistently stresses dangerousness or risks. The National Institute on Drug Abuse (2019) has a drug facts page where they describe different effects of the drug and warn that the youth in America are slowly believing marijuana use is less risky (para. 2). The NIH (2019) goes onto describe new forms of marijuana consumption, such as dabbing, and describe the risks associated with this, and allude to certain dangers such as visiting the emergency room or causing fires due to this method of consumption (para. 6). The White House (2019) website which represents the National Drug Control Policy's stance on marijuana, shows a similar message to the NIH, an additional warning is given to the nature of growing and the security that is involved (para 5). The White House (2019) website goes onto mention that the growers securitize their products with automatic weapons and that this has a potential for dangerous results to occur. The Substance Abuse and Mental Health Services Administrations (2019) website's main article about marijuana is titled "Know the Risks of Marijuana" and the article has very similar information to the previous websites, except this website has more specific information on addiction having claims that 1 in 10 people who use marijuana will become addicted to marijuana.

Media representation.

Marijuana's representation in the media is vastly different from what it used to be a few decades ago. With hundreds of dispensaries in America, and thousands of websites

dedicated to marijuana the image of cannabis has taken a more consumeristic turn in terms of how it is represented. An article published in the New York Times looks at *The Stoner as Gym Rat* (Reynolds, 2019) and how individuals are using marijuana to help them work out or to relax after an intense work out and how this narrative is contradicting to what many would assume is the “lazy stoner.” Different dispensary websites in America show marijuana in a similar way to other common products in America, one historical artifact of a website (<https://www.urbangreenhouse.com/>) shows a calming and easy to navigate website with information on pricing and specials that the dispensary has on cannabis. This image of cannabis is seen as a more positive or beneficial one, at least in terms of the communicative messaging of the website. A black-market drug dealer of the past in no way would openly display marijuana in the ways that dispensaries do now.

Findings on Dangerousness, Risk, and Benefits

Marijuana is reflective of risk calculus understanding relating to American medical history. Jacobs (2000) reflects on the term risk and the history it has had in America, they observe how “Risk is no longer a neutral term. It has come to mean danger, and high risk means “a lot” of danger” (para. 2). Risk was a neutral term that was used for scientific purposes (Jacobs, 2000) but in a Western context, it has evolved to imply danger. Risk communication in a Western context can be seen as a negative danger in many different aspects, such as gambling “you risk busting,” medicine “your risk of cancer” and job culture “you risk termination.” Jacobs (2000) goes onto observe the shift in rhetorical representation when they say:

The word “risk” has appeared more often in the nursing and medical literature in the last 20 years. Skolbekken identified a “risk epidemic” in medicine that emerged in the 1980s. This epidemic refers to a dramatic surge in the medical literature of references containing “risk(s)” in the title, abstract, or both. The most notable increase was found in the epidemiologic journals. Studies of risk perception, health behavior modifications, health education, and risk communication in the social sciences also have contributed to the “risk epidemic.” (para. 12)

This shows that in the 1980s medical literature started to use and refer to risk as a negative term associating some negatives and the “epidemic” of mass publishing of this literature can be correlated with the historical understanding of marijuana. The 1920s – 1950s saw a dangerous representation of marijuana that was provided to the people and as a result, most individuals abstained from usage. However, as the 1950s started to introduce more risk discussions and individuals started to observe marijuana more as a risk over dangerousness, the usage increase in America drastically. Once the Controlled Substance Act is passed in 1970 more risk orientation and understanding is given to the drug, and with the rise of risk discussion and literature in the medical field it would help explain the medical legalization that cannabis saw in America and why Robert Randall was able to medically consume cannabis in 1988.

Chapter 3

ANALYSIS

This chapter aims to analyze the data from the Reddit post (PSA: There are negatives to weed and we should speak more about them, August 08, 2018, https://www.reddit.com/r/trees/comments/95po84/psa_there_are_negatives_to_weed_and_we_should/), specifically highlighting themes and patterns of communication that emerge inductively in comments and also that align with the categories of risk and benefits identified in Chapter Two including: representations of established or experienced benefits, representations of established or commonly agreed upon risks; and representations of risk uncertainty and stigma connoting unknown dangers. Through this analysis, this thesis tackles an understudied area by addressing everyday representations of marijuana risks, benefits, and dangerous meanings in comments posted on a public online social media forum from the perspective of the marijuana user or commenter. It investigates how marijuana is represented in user comments as beneficial, either medically or otherwise, and it investigates the risks that are seen as experienced and/or scientifically established. Finally, it addresses debates about dangerousness as risks are challenged and debated. As was seen in Chapter Two, marijuana was historically recognized as dangerous because of its social and economic significations. This project interrogates how dangerousness is represented today in social-cultural representations. Accordingly, the following research questions were investigated:

R1. How do commentators represent marijuana benefits in their comments in an online Reddit Forum?

R2. How do commentators represent marijuana risks in their comments in an online Reddit Forum?

R3. What unknown dangers are represented as potentially resulting from marijuana use?

R4. What risks and benefits do commenters dispute/challenge?

Grounded Theory and Thematic Analysis

Grounded Theory and Thematic Analysis will both be instructional tools for the analysis of this thesis. Glaser and Strauss (1967), suggest grounded theory as the best approach for initial systematic discovery of the theory from the data of social research. This implies that grounded theory is when the researcher looks to their data and takes a bottom-up approach to generate different theories or hypothesis on what the data is conveying. Often inductive analysis seeks to discern themes that arise inductively from regularities of expression across data. Guest (2012), describes four basic steps in undertaking thematic analysis: 1. Familiarization with, and organization of, transcripts. 2. Identification of possible themes 3. Review and analysis of themes to identify structures 4. Construction of theoretical model, constantly checking against new data (Chapman, 2015). With a combination of both grounded theory and thematic analysis, a grounded thematic analysis will allow for a better understanding of what themes and patterns are present within the data set of comments in the analysis chapter.

Data Collection and Methodology

In August of 2018, a Reddit post was made in the r/trees subreddit, calling into question the culture that the subreddit had regarding marijuana and its negativity. A recent snapshot of the original post is below.

Figure 3.1. Picture of Reddit Post

5969 submitted 7 months ago * (last edited 7 months ago) by SenorButtmunch (self.trees) 2

PSA: There are negatives to weed and we should speak more about them

I'm a stoner, I smoke like five times a week and it's changed my life tremendously for the better. And this community is a part of that, it's one of the most wholesome subs on reddit and always leaves me smiling. In spite of this, I feel like I have to be a party pooper because I've noticed a growing trend on this community that's not sitting well with me.

A lot of people glamourise marijuana as something with no downsides and I'm beginning to see posts that flat out ignore any problems caused by smoking weed. People get down voted for going against the grain and talking about some of the negatives caused by smoking weed because they're using anecdotal experience instead of a study, or they're hit with 'WELL WHAT ABOUT ALCOHOL' to any point they make. It's the first time I've thought of this community as toxic, the last thing we want is to turn this sub into an echo chamber for a one-sided argument.

Weed may not have additives like cigarettes but that doesn't mean it's not addictive. It's the least dangerous drug out there but that doesn't mean it's not dangerous. Too much of anything can be a problem and weed is no exception, it shouldn't be relied on to get you through life unless you have a medical reason. This sub has a lot of teenagers on it and it's important to stress that, while you're entitled to have fun and be carefree, weed can often become a way to escape reality and provide short-term gratification. I can't tell you how many people I've seen fail to live up to their potential because they spent most their days getting high. If you ever find yourself skipping out on something important to smoke weed then you should take a step back and reassess your usage.

Like I said, I love weed. But, as someone who's been smoking for nearly a decade, I've seen the good and the bad of it. And I feel like it's my responsibility to provide a voice of reason because it's easy to only see the positives and not realise when it's ventured into a negative way of using it. This community is very encouraging and sometimes that can encourage excessive use to the point where it's detrimental to your life. So just be careful out there and use weed responsibly! Love!

EDIT: Thanks for all the comments, both positive and constructive! I want to stress that there's nothing inherently wrong with weed, there are people who lead full, productive lives all while being regular smokers. It truly is down to the person and their usage, everyone is different but it requires striking a balance. However, my point is that it's easy to use weed as a crutch because we feel happy when we're high, especially when times are rough, which is something we all go through. And if you find yourself only being happy when you're high then it's important to address why that is, instead of escaping into the weed. That might mean taking some time to be sober and reassessing your priorities. If you feel you want to do that, we're here for you because you aren't alone! This community is awesome but there's also [/r/leaves](#)^[1] and [/r/Petioles](#)^[2] to help.

The main point of all of this is to just make sure you're using weed in a healthy way, whatever way you feel that is.

754 comments source share unsave hide give award report crosspost hide all child comments

Since this post had a high level of user engagement through comments (754), high exposure through upvotes (5969) and a semi-controversial narrative to the post, this post was the central focus for data collection. Comments were ordered by Reddit in terms of

popularity and comment engagement. This means that Reddit initially sorts the comments first based on what has the most upvotes overall and then what comments with the most upvotes have the most engagement of replies. For instance, if a comment has 100 upvotes and 100 replies, it will be placed above a comment that has 100 upvotes and 90 replies both of these comments will, however, be placed above a comment that has 90 upvotes and 900 replies because the Reddit sorting system gives preference to upvotes. This sequencing was instructive for the initial big-picture review of the content of the 781 comments collected. Here is where an additional level of grounded inductive thematic analysis was deployed to identify the recurring language and also to identify in a preliminary way dispute in the comments about risks and/or benefits.

Data from the forum were composed of one post and 781 comments, collected by using Ncapture, and Nvivo. Ncapture and Nvivo were also used to analyze the comments. Ncapture is a program that takes a snapshot of a webpage and converts the snapshot into a pdf document that can then be opened up in the program Nvivo. Nvivo is a program that offers different types of coding to be conducted on different data sets that are uploaded to the program, allowing coding of comments that have been captured by Ncapture. Once the data has been uploaded into Nvivo, the coding process of the comments can begin. Usernames were anonymized once collected, and the source of the Reddit post was also anonymized in the transcripts collected, and comments were organized anonymously into nodes. The Nvivo program allows coding of comments into different nodes or categories by coders being able to select specific text portions of the text, highlight the desired portions and then code them into the desired node. Nodes is a

term of art referring to a categorical collection of comments based on coding. Nodes were created initially with major nodes of dangerous, risk, and benefits being the primary three. Once inside nodes, they can then be modified or moved into further subcategories.

A secondary inductive analysis was conducted of each node to more finely investigate themes, patterns, and disagreements and to more closely unpack how readers grappled with the relationship between known or established risks on the one hand, and disputed risks and unknown dangers on the other hand.

The categories that the researchers created to sort the data were generated after first carefully reading in chronological order the comments, and then re-reading the comments in chronological order to identify key thematic elements using grounded thematic approach after collection of comments in NVIVO.

Data Analysis: Organized by Nodes

The over-arching nodes were developed deductively using Castel's framework of risk and dangerousness, which explains risk as a probabilistic understanding of negative side effects, while dangerousness is an unknown result, based on a clear distinction between probabilistic risk analysis and unknown dangers, with risk framed probabilistically while dangerousness refers to unknowns or debates regarding marijuana hazards. If a commenter displays clear risk/causal analysis "smoking marijuana decreases your reaction time" versus an unknown danger "smoking marijuana and driving might cause something bad to happen" then this can allow for a clear coding distinction. The distinction between the two is in the certitude of the effect. However, sometimes a comment could be coded both concerning established and uncertain risks, for example,

“smoking marijuana causes me to have a decrease in reaction, so I might cause something bad to happen.” Here the comment has the probabilistic risk understanding of how marijuana impacts their reaction time, but this reaction time change may have a more dangerous outcome since the true risks are unknown. A further breakdown of this analysis will be shown with two example comments and explanations below.

Example comment 1: “Being a dangerous driver while you're sober doesn't give you the right to take a substance that lowers your reaction time in case of an emergency. You're capable of not being a shit driver without mind altering substances.”

Here the commenter is showing a clear risk understanding of the action if you smoke marijuana your reaction time lowers. This means that the comment would initially be commented as a risk – driving, the comment could also be coded as a dangerous one, since the commenter is discussing dangerous behaviors, but this would not be the initial coding impression. This next comment would be coded as dangerousness over risk.

Example Comment 2: Driving under the speed limit is dangerous, just don't drive while under the influence of drugs. It's not that hard!

Here the commenter is showing an unknown result from driving under the influence and from driving under the speed limit, yet there are no clear or presented results to the reader. With the understanding that risk requires probabilistic understanding, this means the comment can best be coded as dangerousness – driving. The next example comment can be coded with ease since a beneficial stance on a topic is easily distinguishable from risky or dangerousness comments.

Example Comment 3: Dude honestly, the the effects of only being able to drive with one hand when I have a blunt in the other are far worse than the effects that being high have on driving. I'm not saying it's good for everyone, but when im high I drive safely the speed limit and when im sober I go way over.

Here the commenter clearly shows a positive side effect when under the influence of cannabis. Coding comments in terms of benefits was much more straightforward since positive experiences can generally sharply be distinguished from negative ones, as illustrated in the third example comment. “I drive under the speed limit when I am high.” This shows that the commenter has a beneficial or positive experience from smoking cannabis, so their comment would be coded as benefits – driving.

Therefore, the overarching nodes of risk, dangerousness, and benefits are followed by sub-node discussions that are found across nodes, such as the sub-node of driving that can be found in comments about risks, benefits, and dangerousness. These sub-nodes were created from consistent themes and patterns of discussion or dialogue that had previously been identified through inductive analysis as emergent across the comments. For example, if a comment is talking about driving and the consumption of marijuana in a risky way then the comment would be coded as “Driving: Risk.” While a comment that was discussing the positives of consuming marijuana and driving would be coded as “Driving: Benefit” and so on. One important note to make is that comments can be coded across several nodes and are not exclusive to one node, this is because some comments had recognition of risks and benefits or some comments had multiple themes present. The primary nodes were: Risk, Dangerousness, habitual use/Abuse, Health,

Dreaming. A table of contents of the nodes is below. In addition, a quantitative breakdown of how many comments per nodes is provided below the table of contents.

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Figure 3.2: Picture of Diagram

Search Project

Code 2

Name	Files	References
Abuse v2	1	44
Addiction v2	1	66
Alcohol and MJ v2	2	31
Alcohol v2	1	9
Benificial v2	1	25
Dangerous v2	2	45
Dreaming v2	1	33
Driving v2	2	61
Friendship v2	1	31
Health negative v2	2	147
Health positive v2	1	66
Long Term Use v2	1	97
Productivity v2	1	102
Recreational v2	1	18
Risk v2	2	54

Table 3.1		Table of analysis steps
Step #	Steps of analysis	Description
Step 1	Initial impressions and readings of the Reddit post	This step involved an initial reading of the Reddit post, looking for comments or discussions that focus on risk, dangerousness or benefits. These research terms were informed by Castel's (1991) description of dangerousness and risk.
Step 2	Downloading the post with Ncapture and uploading the post into Nvivo	Ncapture is a program that allows a pdf snapshot of the Reddit post, while Nvivo is a program that allows coding of the PDF document.
Step 3	Second major re-reading of the post with initial coding into primary deductive nodes and coding of secondary inductive nodes began	After the document was uploaded into Nvivo, the post was re-read, this time coding comments into primary nodes of dangerousness, risk, or benefits. Comments could be coded across multiple nodes, since some comments were longer and covered multiple topics. As consistent themes and patterns arose in comments, these were used as second nodes for coding. For example,

		driving was a consistently discussed topic, so a node for driving discussions was made.
Step 4	Secondary Review of Each Nodes and Further coding into Secondary Nodes	After the first round of coding was conducted a secondary review of each node was conducted. This was done by carefully reading each comment that was coded into its respective node and then after a secondary re-evaluation seeing if the comment needed an additional coding or to be de-coded from that node.
Step 5	Secondary Round of Coding	After all nodes were reviewed and further coded the second and final round of coding was conducted. This is where a review of currents nodes was conducted, and some node categories were better organized and collapsed into larger nodes to allow for better organization.
Step 6	Thematic Analysis and Review of Comments in Nodes	Once the comments were coded a second time they were then reviewed by the researchers, looking for consistent themes or

		<p>patterns present in the different discussions. Once themes and patterns were recognized, note of these were made for each node, and then major nodes with important distinctive and thematic comments were observed.</p>
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Node – Risk

This node was coded using analysis from the literature, specifically focusing on Castel’s analysis regarding risk. Castel (1991) highlights that risk understanding requires analytic or clear causal understanding of actions when they say, “It (Risk) comes instead to reside in the establishing of flows of population based on the collation of a range of abstract factors deemed liable to produce risk in general” here Castel is saying “it” or risk is showing the probabilistic understanding of how the population has probabilistically handled the current risk situation. So, for example, if someone smokes a cigarette, their risk of cancer increases by x, a probabilistically known and established amount based on how population statistics have shown the rates at which cigarette smokers also lead to cancer. Comments about risks show commenter understanding of risks linked to experience or expertise.

Node – risk - driving.

This node was coded based on themes and patterns of comments and conversations that revolved around driving in general, comments that were seen to display risks when consuming marijuana and driving a vehicle were coded as Driving: Risk. Commenters

show general themes and patterns that would argue that driving while being under the influence of marijuana is generally risky. Reaction time and general awareness are two areas that are brought up as concerns. However, as we shall see in the benefits section later in this chapter, not all users will agree that marijuana is always dangerous for driving. Those comments arguing that it may enhance driving or may not inhibit driving will be addressed later.

Thematic Findings for Node – Risk - Driving

A representative comment that illustrates general themes regarding the established risks of driving while consuming marijuana is illustrated below in the comment on reaction time and general awareness. First, comments that look at reaction time:

Comment 1

There is absolutely data that shows being high drops your reaction time and impairs your ability to react to emergencies.

Here the first commenter is showing a clear risk that is associated with smoking or consuming marijuana and driving: one's reaction time and ability to properly react to emergencies is decreased. Other commenters generally make comparisons to alcohol or other substances when observing or commenting on the effects of being high and driving:

Comment 2

Definitely not a good idea, but there are situations where you don't really have a choice, and thankfully it can be done safely (not suuuper drunk, familiar area) and I'm naturally way more cautious and compliant of laws if driving drunk (under the speed limit, check 8 times before making a turn)

let's compare it to alcohol: you can be above the limit and feel sober enough to drive, especially if you drink a lot of alcohol, it still impairs reactions and makes you a more dangerous driver. stop making excuses and being a dick who is putting other people at risk. the same with being high.

Here the second commenter is taking a comment from another user, and taking their justification for being high, and replacing the narrative with alcohol. Another commenter explained why they should be allowed to smoke and drive, and they replaced the narrative with alcohol. In the original comment, the user was justifying them driving high, so this commenter replaced all of their instances and iterations of high or marijuana with alcohol to show the contradicting narrative of safety. This is done by the commenter to show the contradicting narrative that being high and driving have. In an interesting counter-narrative, a commenter specifically does not see consuming marijuana and driving as a risk while another justifies driving high due to experience. While the majority of the conversations surrounding driving were either risk or dangerousness oriented, some commenters were distinctive in their discussions.

Distinctive Comments for Node – Risk - Driving

However, although the trend was for comments to identify driving under the influence as an established risk, some commentators challenged this representation, as illustrated in the distinctive challenge posed by the comment below:

Comment 1

Honestly I don't view it as a risk, on the contrary.. Angry driving, tired driving, mind altering prescription medicine driving, are probably all much worse. When

you're kinda stoned, you tend to not get angry at idiots that cut you off or hog the passing lane, etc .. and you tend to let those things slide instead of getting pissed off and doing dangerous maneuvers out of that anger. I'm not advocating taking a bong hit while driving, but I think the 0 tolerance for driving and cannabis is unrealistic.

Here the first commenter is arguing that being under small influences of THC could be ok for driving and that other things are much worse for driving. This would suggest that minor dosing or contextual consideration of individuals would allow for a different experience in the ability to drive. While according to some commenters other potentially physically altering situations, such as tiredness, should be considered just as risky:

Comment 2

Thank you. As I will say again, I've smoked longer than some of these posters have been alive. And I'm all about safety and responsibility. I'm not going to drive on the freeways of Houston during rush hour, stoned as hell with my kids in the car. I'm also not going to walk 4 blocks to the local gas station in a town where I've lived my entire life when I decide I need Cheetos at 10pm just because I've been smoking, sorry but I'm fucking driving my old ass there lol. Not to make light of a serious topic but I'm just amazed that so few people refuse to see life in either black or white with absolutely no in between. There are some gray areas, omg just use good judgement. It's called adulting. If I get in my car and realize oh shit, I'm so stoned I can't find the gearshift, then the Cheetos can wait lol. It's not as complicated or black and white as some people are making it.

The second commenter is justifying or explaining specific contextual situations in which, counter to what others are implying, the risk of driving high might be minimal or irrelevant. Meaning that driving while under the influence of THC should not be considered a risk for some but not others, according to this commenter. Other commenters would use personal experience to mitigate or reduce risks present in certain activities while under the influence of cannabis.

Node – risk – habitual use/abuse.

This node was coded based on users discussing risks that are present in addictive or abusive consumption patterns, regarding marijuana. While some comments may have a dual nature to them, displaying dangerous and risk communication patterns, special attention will be given to more risk-oriented comments.

Commenters show a general risk understanding when discussion of habitual use and abuse with marijuana. General themes include calls for moderation, an escape from reality, and psychological addiction, while some commenters dispute these results. As the benefits section will later show, some users view addiction to marijuana as beneficial. Those comments will later be observed. Thematic findings for the node – risk – habitual use/abuse will be observed.

Thematic Findings for Node – Risk – Habitual use/abuse

A representative comment that illustrates general themes regarding the established risks of habitual use and psychological escapism can be found below, with an extended call for moderation. First, comments looking at easy gratification:

Comment 1

The 90 percent that abuse it including me have discipline issues and instant gratification issues and we would need to quit because moderation is not something we are good at. Also, sober people fail to reach their full potential everyday so I don't think weed prevents your from doing that.

Here the first commenter is showing that their joy or gratification is being achieved almost too easily. Since the user is implying that marijuana causes the user to feel as if they have achieved something, this shows a riskful understanding of receiving too much gratification. Another general trend is in addictive consumptive patters following long term usage. An example comment is below.

Comment 2

As someone who has smoked off and on for 13 years, I can't agree with you more. In my younger years (shortly out of highschool) my smoking took over my life. I was smoking 3-7 times a day, if not more, for about 3-4 years and unsurprisingly I probably held a steady real job for a total of 8-9 months during that span. I was lethargic and was trying to stay high every waking hour to escape reality and fight this depression that I was causing myself. It was a vicious cycle. Luckily, in my particular case I had a hard slap in the face from life when my wife (girlfriend at the time) got pregnant with our first child. I grew up and realized what was important real quick. I've since toned it down to a few times a week and there will be months at a time where I don't smoke at all because I have too much going on to be setting time aside to get stoned. If my 21 year old self could see my 31 year old self now he'd think I was a buzz kill, but it couldn't be further from the truth.

I've found that balance between responsibility and being high and because of that I am happier than I've ever been.

The second commenter is showing not only a pattern of heavy usage in the past, but they are also viewing the positives of now consuming less. This would imply that users seek specific consumptive patterns that can lead to the most beneficial results. Users display a common risk of long-term usage or habitual use in the form of psychological addiction:

Comment 3

Habitual marijuana use fits the medical definition of addiction. It is both psychologically and physiologically addictive. Anyone who tells you otherwise does not understand how addiction and/or marijuana work on a biochemical level.

Comment 4

Totally true. I tend to smoke a lot in college, especially on hard weeks when I had too much work. It helped me a lot with sleeping, relaxing and forgetting about work at the end of the day. I'm a programmer and I think a lot about work because it bugs your mind constantly. I thought that smoking weed hadn't too many negative effects. But then I realised that sometimes it turned me lazy on the next days reducing my productivity; felt depressive and pessimist too. Also, too many times I thought 'doing this task would be really nice with a joint'. I realised that I wasn't physically addicted of course, but felt some kind of psychological addiction. I realised that I had to reduce my consumption and try to reach such relaxing states by myself. Now I only smoke with friends casually...

Both the third and fourth comments recognize the risk of psychological addiction present

in consuming marijuana. This means that some users do recognize there is a chance and potential for addiction that can occur based on specific patterns of use. While these users recognize the risk of psychological addiction, there is a dispute among commenters on how addicting it may be. Some commenters have distinctive views on habitual use and potentially abusive situations when using risk calculus.

Distinctive Comments for Node – Risk – Habitual use/abuse

Although the general trend in habitual use and abuse discussions was to observe the risks, some comments had distinctive discussions and viewed other risks as needing to be addressed further. First, comments on addiction:

Comment 1

I hear you. It can be psychologically addictive. I think the push back you get here is that it isn't physiologically addictive. If you live somewhere where people are dying left and right due to heroin overdoses, it can strike a person as a little bit offensive when someone calls cannabis "addictive." It's confusing a larger issue with a lesser one. With a little bit of willpower anyone can stop using cannabis, and the "withdrawal" might include a week of restless sleep and thinking pizza doesn't taste quite as good for a while. Compare this to death...

Here the commenter is displaying a riskful understanding of degrees of addiction and the potential limits of addiction that are present within the drug. The comparative analysis of the addiction to marijuana to the addiction of heroin and the result of those addictive extremes shows this understanding. While this commenter is making concessions on some risks that are present in marijuana, they are specifically trying to analyze what risks

are and are not present, in this situation physical dependency. Other commenters look to the risks that are connected to health.

Node – risk - health negative

Commenters show general patterns of risky conversations when focusing on health effects of cannabis, these patterns include smoking, eating, and withdrawals. While later in the benefits section commenters will display positive, those comments displaying positive health effects will be observed later.

Thematic Findings for Node – Risk – Health negative

A representative comment that illustrates general themes regarding the established risks while consuming marijuana and the effects it has on health is illustrated below in the comments on Smoking, eating, and withdrawals. First, comments that observe the risks with smoking will be observed:

Comment 1

My lungs are so filled with tar that I can't smoke anymore. Otherwise I cough until I vomit. Bong rips can be unhealthy.

Comment 2

There are also physical ramifications as well. Most people smoke via blunt/joint, pipe, or bong. All of which require the combustion and release of carcinogens.

I've started running recently and can feel the years of smoking on my lungs.

Smoke responsibly, friends!

Comments 1 and 2 show distinctive risks that are present with smoking, effects on the

lungs being the primary. This shows that the commenters have an understanding of the risk that smoking cannabis presents. Other commenters look to the impact that marijuana has on hunger:

Comment 3

The only long term issue I've had with smoking on a regular basis is that I feel like I developed my way of eating while smoking all the time. I'm 40 now and don't smoke anymore but I still over eat way too much and I can't help but feel like this is a hangover from always eating too much when I smoked. I struggle with my weight a lot because of it.

Comment 4

Damn :/ I feel you, I struggled with weight issues for a while and God knows I LOVE to eat when I am lit! Do your best to keep junk food outta your life. I don't know about you, but if I open a bag of chips, they are all gonna get eaten. Keep more fruits and veggies laying around and you will see that they are even MORE enjoyable than junk food when you are stoney-bologna. Fruits help with cottonmouth too ;)

Comment 3 and 4 show the impact that marijuana has on hunger, these users show that their appetite increases significantly while under the influence of cannabis, and both commenters display a negative relationship towards this appetite change that cannabis brings. The next comments look to different side effects that cannabis has on health:

Comment 5

I've been smoking pretty consistently since 2010. I stopped a month ago and had

severe depression because of it. The depression faded over the course of 2 weeks but holy shit was it rough. It's not as bad a real withdrawal but I'd call it withdrawal nonetheless. Now I'm only gonna smoke for fun a few times a year vs every night.

Comment 6

I have had physical withdrawal symptoms when I stopped smoking cold turkey for a tbreak. I agree that more research needs to be done, but when I typed my symptoms into a web search and get hit with a lot of people having the same physical symptoms, I say that's a pattern that can't be ignored. I'm not trying to be a buzz kill here, I'm saying that there may be actual physical dependencies that absolutely do effect people. I love weed. I use it almost every day but I agree with the OP. We gotta stop jumping to defense every time someone mentions that weed might have some negative physical effects.

Comment 5 and 6 show withdrawal effects such as increased depression or physical symptoms. This means that some users experience negative effects while consuming marijuana and some of them recognized that abstaining from usage was more beneficial. While commenters have a risk understanding of what cannabis can do to one's health, some distinctive comments should be addressed.

Distinctive Comments for Node – Risk – Health Negative

While the general trend of comments is to recognize the inherent risk present on one's health, some distinctive comments provide alternative solutions:

Comment 1

You should try using sativa or sativa dom strains more, indica strains really make me eat too much.

While the first comment does not disagree with the negative effects that cannabis can have on one's appetite, specifically in increasing it, the commenter suggests using a different strain of cannabis, Sativa, which is more widely known as being an appetite suppressant. Other commenters look to the effects of withdrawals:

Comment 2

As for addictiveness: also depends on the individual. Some have significant withdrawal symptoms. I smoked 5 years multiple times a day, and didn't have any withdrawal which was not psychological. Haven't smoked in over a year. I'd bet most, if not all, "physical" withdrawal some people describe wouldn't be a problem if they had their issues straight to begin with.

The second comment brings doubt into the narrative of withdrawals that had been set above and argues that the commenter personally had not experienced withdrawals themselves, meaning that this user is implying that their experience can potentially counter what this commenter is implying. Other commenters look at the impact that cannabis has on dreaming, which is the next node to be observed.

Node – risk - dreaming.

One of the general trends of comments is in the risk of losing dreams. While some commenters may display an increase of negative dreams, those will better be addressed in the dangerous section, while users that experience positive effects with the removal of

dreams will be addressed in the benefits section. Thematic comments for this node will be observed.

Thematic Findings for Node – Risk – Dreaming

The general risk that is accepted among comments is a removal of dreams, comments below can be seen as representative of the observed risks:

Comment 1

I feel you, I stopped smoking for a couple of weeks, by week two I was dreaming again. I now have several distinct dream memories from that second week, very surreal indeed.

This commenter mentions a return of dreams after they quit smoking cannabis, this means that dream suppression is a potential effect of marijuana. Other commenters look to consistent effects that cannabis has on dreaming:

Comment 2

Not that it matters any, but I too, am a long time, on and off smoker, and I never dream when high or burnt out when going to bed.

This comment displays a similar theme to the last, implying that being high while going to sleep may cause a decrease in dreaming. Some commenters look to the effects that taking a break has concerning cannabis:

Comment 3

Yeah, I'm always struck by how vivid my dreams get when I'm on a t-break. I almost never dream when I've smoked in the same day, or at least I don't

remember it. Doesn't seem to be strain specific for me either.

T-break is another term for tolerance break, and this user is implying that when on a break from cannabis they experienced a return of dreams. Other commenters look at expert resources to understand the impact of cannabis on sleep:

Comment 4

Google it. Joe Rogan actually did a podcast with a dream expert and explained how the actually suppresses your rem stage of sleep. Or maybe it was that it postpones it, or something along those lines. It fucks with it, that's the point, and we all know REM is really important. Essentially the guy was saying even though you might feel

like you are getting better sleep when you smoke before bed, you're absolutely not.

Comment 5

It completely obliterated dreams for me, 4 weeks of no smoking and I've finally started dreaming again

These commenters show that they lose or have not experienced dreams due to dreaming and other commenters refer to outside sources to look at ways that THC impacts sleep cycles. While these comments are the more general theme of comments, some distinctive comments should be observed.

Distinctive Comments for Node – Risk – Dreaming

While a general risk accepted amongst comments is that marijuana can remove dreams, some distinctive comments call into question these narratives:

Comment 1

Hold up, you don't dream when you smoke? I usually avoid smoking before I sleep because I thought it made my nightmares worse. I have really vivid, usually bad dreams almost every night. Do you smoke any specific strain to help that issue or have I just been wrong about the way weed affects my dreams?

The first commenter shows that smoking makes their nightmares worse, implying an opposite effect to what the other commenters generally were displaying. Other commenters dispute even having dreams:

Comment 2

Wait... You mean people actually remember dreams? Not even trying to be funny, i can recall 1 dream from when i was 8years old, sometimes i remember fragments in the morning but i lose em as soon as i get up.. Also not implying that ive been smoking since i was 8. I started back in highschool when i was 16 but even before that i never remembered any dreams

The second commenter calls into question the loss of dreams by bringing in their antidotal explanation for at least why they contextually never remember the experience of dreams, so the loss of dreams from consuming cannabis would not be possible to recognize.

Node – Risk – Conclusion

These series of comments had different and interesting perspectives on different topics and while there seems to be a consistent understanding of risks associated with cannabis usage, there is still division among some commenters. There is a consensus

among commenters that there is risk when consuming cannabis and driving, this is, however, one of the most disputed risks in the comments with some commenters explaining away the risk with experience. Commenters generally agree that addiction is a potential risk present in marijuana and that there is a risk of potential side effects with long term usage of cannabis, there are some commenters that dispute these risks with experience or view this addiction as a positive. Commenters recognize a risk associated with smoking and the impacts that cannabis can potentially have on health, such as causing an increase in appetite, while some comments suggest alternative uses of cannabis, such as trying different strains as solutions to these problems. Commenters recognize a risk associated with cannabis and a loss of dreams, but some comments try to dispute these with personal experience or other explanations, such as never having dreams, to begin with. While the risk comments can best be seen by a clear or probabilistic understanding of the impacts that can occur when consuming cannabis, dangerous comments or comments that have dangerousness to them can be more unknown in their results.

Node – Dangerous

This node was coded using analysis from the literature, specifically focusing on Castel's analysis regarding dangerousness. Castel (1991) explains that an idea is understood as dangerous when probabilities or percentages are not present. Simply put, if someone is advising against a certain danger and their fears or negative outcomes cannot be quantifiably understood, then it is dangerous. E.g. "If I smoke marijuana and drive something bad may happen." While the comment has a negative effect, it can better be

understood as a dangerously understood negative effect, since the commenter could not display how likely or what the increased odds of getting in an accident are.

Node – dangerous – driving

This node was created when commenters displayed trends or patterns of communication that either had driving as a central location of dialogue or the topic of driving under the influence was primarily being addressed. For specifically dangerous driving, commenters who displayed negatives with driving under the influence are unquantifiable or cannot be understood through probabilistic risk calculative understanding then the comment can better be understood as a dangerous comment over a risk comment.

Commenters show general negative comments and trends when discussing dangerousness and driving. Acknowledgment of present danger, driving under the speed limit, and harsh opposal of driving under the influence are present general trends of dialogue.

Thematic Findings for Node – Dangerous – Driving

A representative comment that illustrates general themes regarding the established dangers of driving while consuming marijuana is illustrated below in the comments on present danger, driving under the speed limit and harsh opposal:

Comment 1

Back when I just started using weed, I drove while totally stoned all the time. I now see that that was very stupid. Don't drive high. If your life depends on it, don't get high my dudes.

The first comment is displaying a negative and dangerous view of driving under the influence and even implying that smoking marijuana is negative. The commenter, however, does not have any probabilities or risk calculus meaning this comment can best be understood and coded as a “dangerous” comment. Other commenters suggest that extra precautions people may take while under the influence of cannabis can be dangerous:

Comment 2

Driving under the speed limit is dangerous, just don't drive while under the influence of drugs. It's not that hard!

Comment 3

I can agree on that, but no such limit exists as of now that I know of. And if you are driving 10 mph below the limit because you are high it's pretty clear that your ability to drive is significantly lowered. And AFAIK drunk driving starts at 0.08 BAC in most states, which to me seems way to high.

The second and third comment both express concern for driving under the influence and would suggest that even counter to what some other commenters may argue, that even driving under the speed limit can be a present risk or dangerousness for other individuals on the road. Some commenters harshly oppose the notion or idea of driving under the influence of cannabis:

Comment 4

This argument is so fucking stupid. Just don't drive while high you cretin, it's not that difficult. A fun cruise is not worth potentially ending someone's fucking life

The last comment resorts to attacking the other commenters and resorts to name-calling. While this aggressive comment might appear more distinctive, it displays the harsh opposition that some commenters have to what they view as a dangerous activity, consuming THC and driving. Even some users who admit to driving high may argue that the dangers present in others is why driving while high is problematic. Some distinctive comments need to be addressed, ones that question outside sources as being dangerous instead of cannabis consumption itself.

Distinctive Comments for Node – Dangerous – Driving

Some distinctive comments broke from the trends of discussion and called into question outside sources as appose to internal sources as being the potential dilemma:

Comment 1

I enjoy driving high, but I don't do it anymore. Even though I am still a very good driver, there are just too many variables on the road

Comment 2

I think the biggest thing is sure you may be a good driver, hell you could even be a better driver while high, infact you could be the best driver in the world. That person right next to, in front of or behind you isn't and worse of all they're completely unpredictable. It's really not worth it, either don't light up right before you leave or wait it out for a little while.

Here both the first and second comments point to other situations or individuals being the primary reason for not smoking and that individual responsibility is important for these situations. This implies that there is an unknown danger that is always present on the road

and that individuals always need to be at their most cognitive state since addressing them is always best done with a sober mindset or mentality. These comments may agree with other commenters that there are dangers present while consuming cannabis and driving but where they would differ is in arguing that the others that surround them are the dangers, not the act of consuming cannabis and driving. Other comments look to contextual situations for dangerousness:

Comment 3

Definitely not a good idea, but there are situations where you don't really have a choice, and thankfully it can be done safely (not suuuper baked, familiar area) and I'm naturally way more cautious and compliant of laws if driving high (under the speed limit, check 8 times before making a turn)

The third comment admits to a present danger but implies that sometimes individuals may not have a choice given a contextual situation and even more so gives themselves an individual pass when considering things such as familiarity of the area and personal experience and knowledge with marijuana.

Node - dangerous – habitual use/abuse

This node was created when users showed dangerous understandings of addictive or abuse patterns of marijuana usage. This means that users showed negative results when being addicted to, or abusing, marijuana but these results, in these comments, were often unquantifiable or had no clear result. A general trend in comments that discuss habitual use and or abuse is a dangerous escape from reality, depressive tendencies, and addiction trends.

Thematic Findings for Node – Dangerous – habitual use/abuse

A representative comment that illustrates general themes regarding the established dangers of habitual use and abuse while consuming marijuana is illustrated below in the comments on escape from reality, depressive tendencies, and habitual use trends:

Comment 1

I knew it in my early 20s, but my craving and need to escape had a way stronger hold on me then. I have tended to look back on those 5 or 6 years with regret...

This commenter shows signs of cravings or habitual use that were tempting them. The last sentence clearly shows a negative experience or view of the time while consuming marijuana. Other commenters look at a loss of control that can come from cannabis consumption:

Comment 2

I'm glad you figured this out on your own before it got completely out of control, there are way too many people that never figure it out and when the weed no longer curbs their depression they turn to harder substances. That is another unspoken negativity of smoking. It's not necessarily the marijuana that is a gateway drug, it's the underlying depression that is seeking any escape from reality that it can. You're much stronger than you probably think you are for breaking that cycle and you should be proud.

This commenter explains a loss of control and explains that there is a present danger for other people that may be present that they do not know about. The commenter also discusses a break from reality or removing oneself from a place of existential location.

Some comments address a vicious cycle. Another theme is an enhancement of depression:

Comment 3

I was lethargic and was trying to stay high every waking hour to escape reality and fight this depression that I was causing myself. It was a vicious cycle...

This commenter describes a state of constant use, and enhancement of depression and negatives and specifically a description of a vicious cycle that the commenter felt trapped in. This would suggest that the user not only had a negative experience, but they see it as a state that they had to constantly be in. Some distinctive comments have experiences that should be addressed.

Distinctive Comments for Node – Dangerous – habitual use/abuse

Some comments were distinctive on how they viewed individual motives being the thing that should be questioned, not the substance itself:

Comment 1

Honestly, I thought this was a given. Weed can be turned into an addictive form of self-medication just like alcohol, eating, and even shopping. However - that is usually an outcome of being mentally unhealthy. If you feel happy and normal then you should never have any problems smoking weed.

This commenter recognizes the addictive qualities that marijuana has but correlates the problematic nature coming from the issues present in the user, not the drug. So, the person consuming the drug is at fault if they are addicted, according to this commenter. Other commenters look to potentially dangerous side effects such as addiction:

Comment 2

While not addictive in the sense we all think, weed certainly can have addictive properties for some people. I know MULTIPLE people that simply cannot eat unless they've smoked. This is real. To me, this is a definite sign that there are some addictive properties. I agree it's MOSTLY psychological and habitual, but there's definitely some physiological things that go along with that as well. No one wants to talk about it though.

This person recognizes that some of their friends need to smoke before eating. This to them is a sign of addiction since there is a need for the drug during certain basic aspects of life, such as eating. This commenter focuses on the mental addictive aspect of marijuana and in doing so is arguing that marijuana does not have what most would argue is physically addictive. Other commenters focus on the chemical makeup of cannabis:

Comment 3

Non-smoker here, isn't there a difference between a chemical dependence and mental dependence? Like, nicotine being chemical and gambling being mental (yes, I know the mental addiction comes from chemical releases in the brain, so technically it's chemical as well). Is there proof that marijuana can be chemically addictive? Obviously, there are many people who rely on marijuana as a crutch or an excuse, either consciously or not, but I'm just curious on the addiction itself. But yea, in addition to the addiction part, most smoke it and the inhalation of the smoke, just like tobacco, can lead to lung issues as well.

Here this commenter focusses on the chemical limitations that cannabis has and

questioning the possibility of chemical addiction and observes other substances like nicotine, the commenter does, however, recognize the possibility of harm that can be caused to lungs. Some comments look too dangerous side effects that could impact health.

Node – dangerous - health negative

This node was coded based on themes and patterns of commenters displaying negative health effects of marijuana in a more dangerous or unquantifiable way. There was a general trend of comments displaying dangerous results such as a slippery slope, depression, and negative effects on appetite. This user recognizes the risk of smoking, specifically the impact that it can have on their lungs, and the negatives it can present.

Thematic Findings for Node – Dangerous – Health negative

A representative comment that illustrates general themes regarding the established dangers on one's health while consuming marijuana is illustrated below in the comments on slippery slopes, depression, and appetite:

Comment 1

I'm glad you figured this out on your own before it got completely out of control, there are way too many people that never figure it out and when the weed no longer curbs their depression they turn to harder substances. That is another unspoken negativity of smoking. It's not necessarily the marijuana that is a gateway drug, it's the underlying depression that is seeking any escape from reality that it can. You're much stronger than you probably think you are for breaking that cycle and you should be proud.

This comment shows that the commenter is expressing concern for destructive patterns or habits that can occur often in an unknown situation. This commenter also expresses that depression can be a potential negative or the risk of a user increasing their risk of depression. Other commenters observe the impact that smoking consistently can have:

Comment 2

I smoked on and off for about 10 years. The off was mainly because a lot of that time has been since I've moved home, and lived with mum. I smoked a lot, like if I wasn't I. Work I was getting stoned, for pain relief when my shoulder was bad after I dislocated it. However, after making a few changes in my life, I realised that it was affecting me a lot more than I realised mentally, I was always depressed after smoking... Which made me want to smoke more.

This commenter in a similar way expresses a pattern or cycle of use that is destructive, and specifically, they outline that marijuana usage started to increase in many aspects of their lives. This would suggest that the usage of marijuana for this commenter was a progressively increasing experience. Some commenters view a dangerous increase of appetite that can occur from cannabis consumption:

Comment 3

In my case, weed makes me have both zero self control around food and an incredibly insatiable desire to eat. It only stops when I sober up or go to sleep, and even then I often wake up in the middle of the night, still high, and go straight for the remainder of whatever package I didn't finish off earlier. Whenever I mention this, people chime in with advice like "oh just try this strain/blend" or "make your

dinner before you smoke and resolve to eat only what you prepared in advance." Dude. No. You don't get it. I do not have any resolve when high. Even straight CBD's do it. Maybe it's psychosomatic in that case, I dunno. Doesn't matter. What matters is that I am already overweight, struggling to lose it, and every extra snack is a major setback, not to mention the platter of pasta that my goofy ass convinced itself would be okay "just this once." I do smoke occasionally. I need the stress relief, and it is healthier than other vices. But I keep it to a small amount, and always right before bed. If I ignore those rules I'll be sluggish, groggy, bloated, and about 5 pounds heavier the next day. At some point in the future maybe I will be able to partake more frequently/responsibly. But right now, it's just not good for me, and the advice people give often totally disregards the statements I've made. I know myself. I know I will overeat. I can't keep doing that to my body.

This commenter expresses a destructive negative present when they consume marijuana, specifically an uncontrollable pattern of eating that follows consuming marijuana. This user also expresses that CBD has a similar result, potentially implying that their state is placebo, however, eating destructive habits are a common theme of comments seen. While these comments prior show the impact that cannabis can have on health, some comments are distinctive in their conversations.

Distinctive Comments for Node – Dangerous – Health Negative

While some comments recognized dangers present in marijuana, some individuals called into question the individual issues that may be underlying that are being avoided by potentially putting the focus on the drug itself:

Comment 1

Weed definitely has benefits, and I'm a strong believer in legislation. However, it cannot be ignored that it has negative side effects, otherwise you're no better than the tobacco companies lying about a verse impacts on health about tobacco.

Bottom line is this: there's plenty of research showing benefits AND drawbacks of it. Your mileage will vary from other people's. Just have a good overall view.

The first comment brings into the light the role that individuals have in being informative on the negatives that are present in marijuana and urges individuals to be informed of the negatives and positives that are present in cannabis. This comment calls into question some of the dangerous understanding that has been formulated by individuals, in terms of not have a clear understanding of the risks and benefits. Other comments look to the masking of mental health issues that cannabis can cause:

Comment 2

It took me a while to realize it wasn't because I got high but because I didn't address underlying issues with my mental health. I stopped for a long time and worked to improve myself and I have gotten to the point where I enjoy being high and not being high. Sometimes I would see posts talking about how nothing bad can come from smoking and a couple times I tried to put my two cents in but it

was just downvoted. There are situations where people shouldn't smoke as much as was the situation with me but overall weed is dope.

The second comment calls into question the individual habits that are being exercised in mental health situations, and they go on to argue that self-improvement should be a focus and a quitting of smoking might be the solution. The second comment would imply that marijuana may not be the thing that is solely responsible for putting an individual in a negative situation, but that the individual may need to readdress their situation. There were consistent discussions about the dangerous impacts that cannabis can have on dreaming.

Node – dangerous – dreaming

This node was coded based on trends and patterns of discussions that revolved around dreams while under the influence of marijuana. Since most commenters do not fully understand their side effects and the calculus understanding of those side effects is unknown the comments can best be coded and understood as “dangerous.” There two general trends present in these comments are a return of dreams after abstaining from marijuana usage and the other is a forgetting of dreams.

Thematic Findings for Node – Dangerous – Dreaming

A representative comment that illustrates general themes regarding the established dangers on dreaming while consuming marijuana is illustrated below in the comments on the return of dreams after abstinence and forgetting of dreams:

Comment 1

Yeah I get weird dreams when I take breaks, and the nightmares are usually late-

onset (after a few weeks) and not every night (maybe once every few weeks), but they relate to a childhood trauma and it fucks me up pretty bad emotionally for a while so I try to keep them at bay.

Comment 2

I don't dream for months on end if i smoke daily. A 2 day break brings hyperrealistic, vivid, terrifying nightmares

Comment 3

Nope. But if I take a T break, I will have crazy vivid dreams

The first three comments display trends of a return of dreams after taking a break from marijuana (sometimes referred to as a T or tolerance break) and during these breaks a return of hyper-vivid or real dreams is brought to the commenters, some see a return of nightmares or traumatic experiences that can be relived through these dreams. Some commenters look to a loss of memory as a possible culprit:

Comment 4

I miss dreams :/ I wake up. And forget whatever happens. Maybe I didn't dream. Maybe I didnt even sleep. Idk I'm a pothead. I forget.

Comment 5

It affects different people differently, but since weed affects your memory, he probably still has dreams but forgets them as he wakes up. YMMV.

Comment 6

You still dream when you smoke, however immediately after waking up in the morning you forget about them.

The last three comments suggest that a loss of memory might be the culprit from the removal of dreams, and some even suggest that dreams are still being had by the users of marijuana, but the problem is the users are forgetting them. Some comments were distinctive but should be addressed.

Distinctive comments for Node – Dangerous – Dreaming

While the general trend of dangerous comments regarding dreaming showed a removal of dreams, come distinctive comments displayed either opposite or slightly different experiences:

Comment 1

I get vivid dreams, but rarely nightmares. I use only indica if that matters. This commenter expresses that they have vivid dreams from their usage of marijuana, implying that they have not lost their dreams like some other commenters. Other commenters have had experiences of dreams returning:

Comment 2

I've smoked every day for a few years now, I've recently been having super intense dreams, action movie levels of intense. Which is odd because usually, I never dream. Could also be the heat, I wake up sweating my tits off.

This commenter is expressing the opposite effect of some other commenters, not only suggesting that their dreams have returned, but that their dreams are also very “intense” suggesting that marijuana could potentially increase the effects of dreams. Other commenters expressed that marijuana had no impact on their dreams:

Comment 3

i dream maybe once a month. weed didnt effect my ability to dream at all.

This commenter is counteracting the other commenters by providing their case of the state of their dreams, more specifically they imply that marijuana had no effect on their state of dreaming.

Node – Dangerous – Conclusion

The discussions in these comments were informative on some potentially dangerous side effects that are either brought up or questioned within marijuana culture. There is a consistent theme of comments that warn about the dangers of driving and being under the influence of cannabis, while some commenters attempt to dispute these claims with experience. There are also dangerous effects that can potentially impact health, that some commenters question by discussing potential strain alternatives. Some commenters also look at the dangerous impact that cannabis can have on dreaming while some dispute the potential of dreams being present before cannabis. While the comments that have dangerous tendencies do not have clear results or directions they are still important to consider. While distinguishing a risky or dangerous comment can be potentially challenging, finding and distinguishing beneficial comments is quite simple.

Node – Benefits.

This node was the easiest to code considering beneficial comments can be sharply contrasted from risk or dangerous comments. This means that comments that argued or discussed the benefits of marijuana were coded as beneficial. Care and attention were given to benefits that potentially contradict the literature and some benefits that may not

be recognized in the literature. First an observation on how commenters view beneficial impacts on driving.

Node – benefits - driving

This node was coded based on beneficial analysis that was conducted by users when either discussing driving or being under the influence of marijuana and the effects it has on one while they are driving.

Commenters generally did not defend consuming cannabis and driving, however, when some commenters did they used to experience or negated the negatives that others argued for in their counter-response and some users found consuming THC as a benefit to their driving abilities or experiences. Comments that found benefits in driving were mostly few and far between, so a few distinctive comments will be observed.

Distinctive Comments for Node – Benefits – Driving

These comments were distinctive in nature since there was not a primary narrative arguing for the benefits of driving and being under the influence of THC:

Comment 1

Dude honestly, the the effects of only being able to drive with one hand when I have a blunt in the other are far worse than the effects that being high have on driving. I'm not saying it's good for everyone, but when im high I drive safely the speed limit and when im sober I go way over.

The first commenter is implying that they are more attentive to the road and safety laws while under the influence of marijuana, which would imply that smoking marijuana would be more beneficial for safe driving. While this one instance may not be enough

justification for all users, there is a question to be had about the role that marijuana can play in a user's ability to better focus on attaining to laws. Some commenters look to personal experience:

Comment 2

Yeah, I've smoked for 17 years now, every day, and have never ever felt once like I couldn't operate a vehicle. I mean I get it, I get the concern and I understand not everyone is the same, but geez.. if I get in an accident it has nothing to do with me being stoned and everything to do with me just flat out not paying attention, or driving carelessly, etc. Has nothing to do with being high

The second comment is using personal experience to justify their smoking habits, and if anything, may not argue that marijuana is beneficial, but is implying that it has no negligible effects. Other commenters look to recreational benefits:

Comment 3

Gotta admit it's pretty fun going on a blunt cruise and blasting some good music going 10km under the speed limit lmao

The third commenter is implying that smoking can be recreationally beneficial and that driving and consuming marijuana might have "fun" qualities to it, while some may argue that this is problematic it does bring into question what role fun may have in a simple activity such as driving. Another comment brings into question the conflicting nature present for some medical patients:

Comment 4

I completely agree and I myself do not drive while high, but it certainly does leave us medical users in a weird place. I can't drive fully sober because of medical issues, but I won't drive high because of doubting myself. This issue has actually made me make several bad choices that seriously risked my life because I chose to go out sober. Being a medical user is weird. So many times I don't want to smoke but have to.

The fourth comment brings to light an interesting question, what is the role that medical users must take when consuming cannabis? Some medical users may be required to regulate their pain with a constant dosage of THC or CBD, so what is the role that those users should have when it comes to driving? Other commenters look at the positive effects of consuming cannabis habitually or in heavy quantities.

Node – benefits – habitual use/abuse

This node was created when users showed trends of dialogue that showed either benefit from using marijuana, mitigation of arguments against marijuana's addictive traits were seen as beneficially positive or the side effects of long-term consumption were seen as an overall benefit. General trends include personal recreational experiences, a call for individual responsibility, and mood satisfaction.

Thematic Findings for Node – Benefits – Habitual Use/Abuse

A representative comment that illustrates general themes regarding the established benefits of habitual use/abuse while consuming marijuana is illustrated below in the comments on personal recreational experience, individual responsibility, and mood satisfaction:

Comment 1

Wellll I am probably an addict then, but I don't look at it as something terrible in my life. My addictions could be a lot worse. I am also addicted to helping people, it makes me feel good and fulfilled. Call me addict, sure, but it isn't in a negative sense.

The first comment views addiction as a positive rather than a negative thing, since one being addicted to doing good things, according to the commenter, should not be viewed as a negative. This could suggest that the idea of addiction can be different for some others. Other comments look at recreational activity as main motivations:

Comment 2

And hell, who am I kidding, there were some fantastically outrageous and fun times...that either I was constantly trying to live in or recreate. Couldn't just move on or live simple, more sober moments

The second comment looks to recreational activity as a primary motivator for engaging in their THC inducing habits. This person recognizes that times of addiction could have been a positive experience. Some comments look at mood satisfaction:

Comment 4

People get addicted to that high because it feels good. There's nothing wrong with wanting to feel good but it's when you start using that high as a substitute for the lows when you're sober without addressing the root of the lows. To some they may not see it like that; my friend smokes with me but has a successful job, a positive outlook on life etc, he has no physical or mental reason to get high aside

from it being fun. But he's able to understand when the right time is to get high and when he has to be productive.

The fourth comment looks to mood satisfaction as being a primary motivator for individuals getting high. This person looks to their friend when addressing the question of habitual use and views their friend as a counter to the negative habitual use culture.

Individual responsibility is another area of focus for some comments:

Comment 5

I've noticed a growing trend in all communities where misinformation is spread as truth, and here is no exception. Cannabis is not addictive. It is habit-forming.

There is a difference. Additives have little to do with the addictive properties of cigarettes. Nicotine itself is addictive. Ditto alcohol. Ditto caffeine. The main negative is that cannabis will interfere with mental development, and should not be used until adulthood. That means you, teenagers. There are medical exceptions. The positives are many, including killing cancer, reducing systemic inflammation, pain management, psychiatric disorder management (anxiety, Tdepression, PTSD), etc.

the issues posted here are not with the plant, but with people. If any of this post resonates with you, please speak with a counselor.

They can help you assess your individual situation, create a plan for improving your life, and provide constructive feedback on your progress. Anecdotes are not evidence. RIP inbox.

While the fifth comment calls into question the role that cannabis should be attributed in addictive situations, they view individual responsibility as being the primary focus as appose to viewing marijuana as an inherent risk. Some distinctive commenters view their habitual use as a positive, or a stepping stone or band-aid solution to their current situation, while others recognize the risk that is present in either addictive or their addictive habits. Some distinctive comments in the discussion of the benefits can help bring new light to this issue.

Distinctive comments for Node – Benefits –Habitual use/Abuse

While the general trend of beneficial discussions was shown above, some distinctive comments argued that marijuana was a band-aid solution to individual situations:

Comment 1

Basically, weed can help, but it isn't a cure and can be easily abused. This abuse may not be as bad as other drugs, but can still push people into bad habits or other addictions if they aren't careful.

The first comment recognizes the potential for abuse inherent in marijuana but also recognize the potential for help. Additionally, the comment recognizes the potential for individuals getting involved in problematic habits. Some commenters do call into question the motivations for individuals smoking:

Comment 2

It sounds like you have depression (I have it too, just sayin'). Maybe MJ is a negative because you are using it like a band-aid for your depression rather than

actually dealing with your depression. I use MJ as a band-aid for my depression too, but I use see a psychiatrist and a therapist and I work really hard to manage depression in a more permanent way.

Comment 3

I'd definately say I'm addicted. But, considering I use it to treat mental health problems, I try to give myself a pass that I shouldnt. If you're high beyond functioning multiple times a week, it's not fuckin good for you. It's just not.

The second and third comments call into question the abusive or addictive habits that individuals may be expressing and using marijuana as a temporary solution and justifying it with a medical condition, may only temporarily appear to solve the dilemma. This is also consistent with other themes of use where users may try to justify or explain their specific situation to justify usage. Other comments looked at the health positive effects that cannabis can bring.

Node – benefits - health Positive

This node was created when users were displaying positive health effects that marijuana was providing them. This node had some of the larger discussions so as a result representative comments will be the focus since distinctive comments regarding negative health effects of marijuana have already been addressed prior. Reduction of Anxiety, Appetite, Pain, and Sleep are the general benefits seen.

Thematic Findings for Node – Benefits – Health positive

A representative comment that illustrates general themes regarding the established benefits of marijuana is illustrated below in the comments on Anxiety and pain management. The first few comments observe anxiety reduction:

Comment 1

I'm also an introvert, and have pretty bad anxiety as well. Since a couple of months ago I smoke weed, and it has changed my life so much. I'm much more able to be social and talk to people when I'm on weed. I often take a couple of hits from my pipe before going to social stuff, and I don't even feel anything except more talkative. Also, for me weed has opened up a lot of social stuff. When I used to spot old friends we would just talk for a bit (if that!) and leave. In the last few weeks I've been smoking with a lot of old friends and it feels really good to reconnect. This is coming from someone that basically didn't leave his home for a year, and who used to get nauseous whenever I needed to go anywhere. I do realize I'm probably using it as a crutch, but hopefully with time I won't need it as that anymore, and will just be using it recreationally.

Comment 2

What I describe as "stoner chill." MJ use grounds me and helps me truly understand what is important in life, helps weed out (pun intended) the illogical worries from actual life concerns I need to take care of, keeps my anxiety at bay, calms my temper, and makes me a more tolerant and accepting person.

The first two comments show consistent themes and patterns present with a reduction of anxiety and an increase of positive moods or emotional states. Some commenters even describe great turnarounds from previous anxious states that marijuana helped them come out of. Other commenters look to the physical side effects that cannabis can have:

Comment 3

I cannot over emphasize how amazing it has been for me to help me “out of my shell” in social situations or just to allow me to not be in pain (physical) for a time [due to a chronic Ninjury].

Comment 4

You're probably right, but I also have Crohn's which allows for a prescription and works wonders on my stomach pains and appetite.

The last three comments display the positive physical effects that cannabis has on pain management and, in a similar light to the previous three, some comments describe a dramatic improvement in their physical state from marijuana use. The impacts that cannabis has on appetite and sleep were consistently discussed topics.

Thematic Findings for Node – Benefits –Appetite and Sleep

A representative comment that illustrates general themes regarding the established benefits of consuming marijuana is illustrated below in the comments on Appetite and Sleep, first observations on appetite:

Comment 1

I have a naturally low appetite so weed does help me in that regard. I probably wouldn't even need weed if I could stimulate my appetite with something else.

Comment 2

I used to smoke to escape pain, now I think I've finally gotten past that. Now I just smoke to help sleep and eat.

The first two comments focus on the benefits that cannabis provides to one's appetite and specifically stimulation of appetite that cannabis brings to individuals and would suggest a beneficial characteristic of marijuana's being appetite stimulation. The next comments look at the impact that cannabis has on one's sleeping schedule or sleeping ability:

Comment 3

I recently came to this realization myself. I've cut back from two or three bowls a day to a hit in the morning for anxiety and two or three at night to help me sleep. Almost immediately my motivation spiked, it's wonderful being clear headed during the day, and I don't feel stupid anymore.

Comment 4

Totally true. I tend to smoke a lot in college, especially on hard weeks when I had too much work. It helped me a lot with sleeping, relaxing and forgetting about work at the end of the day. I'm a programmer and I think a lot about work because it bugs your mind constantly...

Comment three and four looked at their habits of consumption with how they consume now. There is a general trend of individuals still consuming marijuana, just not as much as before. While a removal of dreams could seem like a negative for some, some commenters view this as beneficial.

Node – Benefits - Dreaming

This node was coded based on themes and patterns of dialogue that were consistent with a beneficial understanding of the positives that marijuana may have on one's dreams. One of the general themes present in the positive's seen in marijuana is the reduction or suppression of dreams or nightmares.

Thematic Findings for Node – Benefits – Dreaming

A representative comment that illustrates general themes regarding the established benefits of consuming marijuana is illustrated below in the comments on reduction/suppression of dreams/nightmares. The first comments look at the removal of nightmares:

Comment 1

My nightmares are definitely related to anxiety and cannabis generally helps with that for me AND it is associated with changing your sleep patterns as discussed in this article. So it works for me.

Comment 2

I used to know someone who used it for nightmares. I think that's the most underrated thing it treats.

This commenter expresses that treatment for nightmares might potentially be positive for people: some individuals may have excessive or consistent nightmares that might affect their sleeping cycle or ability to fully sleep. Other commenters have similar experiences with the removal of dreams:

Comment 3

I don't know about weed hangovers or any of the other anecdotal stuff, but I do know that I don't dream when I smoke, which is fine because otherwise I have terrifying nightmares

This user explains that smoking marijuana removes their dreams. This may be considered a negative, however, this user expresses that they generally would experience nightmares, so the removal of dreams is a positive for this commenter. Another commenter looks to the effects of low dosage of cannabis edibles in combination with anxiety medication:

Comment 4

Mine are related to anxiety too. But the medication I take for anxiety supposedly can make dreams worse. So meds help with my daytime anxiety, but not my sleep anxiety. I tried eating a low dose indica gummy last night to see if it would help, and I still had dreams, but they didn't keep me awake and make me paranoid and fearful. So I guess I'll have to start smoking before bed and see if it continues to help.

This commenter explains that marijuana was a helpful alternative to anxiety medicine since their other medicine had a risk of increasing nighttime troubles, the user expresses that after consuming an edible they had a decrease of nighttime troubles while trying to sleep. In some important distinctive comments, some users experienced a benefit to their dreams when they stopped their consumption of marijuana. Some distinctive comments look at the impacts that cannabis can have on dreaming.

Distinctive Comments for Node – Benefits – Dreaming

These comments were distinctive in how marijuana has impacted their dreams, and instead of removal some individuals see a return of dreams:

Comment 1

Not sure if it just me but since i quit for outside reasons my dreams are absolutely fantastic. I was a once a day man in my hay day and would go to sleep and wake up with little to no memory of dreams. Now its like i could write a short story about every dream sequence i get.

Comment 2

I feel you, I stopped smoking for a couple of weeks, by week two I was dreaming again. I now have several distinct dream memories from that second week, very surreal indeed.

Both comments see a return of not only enhanced but distinct, memories that they are now acquiring that they could not access while under the influence of marijuana. One commenter highlight that their dreams have recently become more “intense” and that marijuana may be a potential cause of their dreams becoming this way.

Node – Benefits – Conclusion

The beneficial comments were very distinctive and easy to code in the large sum of comments and this was since a comment that is beneficial shows positives and not negatives, instead of having to distinguish between negatives such as dangerousness or risk. Some distinctive comments view either recreational or physical positives to

consuming cannabis while driving, while this is the minority these comments should still be observed. Other commenters look to the impact that cannabis has on long term usage, and how this can lead to positives such as mood satisfaction. Other commenters look to the health positives that cannabis can have on lifestyles, such as reducing anxiety. Finally, another consistent theme of benefits seen is the removal or sometimes enhancement of dreams that cannabis can bring. Significant contradicting finding in the comments that either contradicting the literature or other experiences will be observed.

Significant Contradicting Findings

This spiral or dangerous side effects of potentially increasing depression directly contradicts some of the medical research presents in the literature review. Denson and Earleywine (2006) found that there was no connection between an increase in depression and experienced a decrease in depression in male patients specifically. Some commenters have found opposing side effects of marijuana and have found positives in other negatives and vice versa, such as marijuana increasing or decreasing appetites or decreasing or increasing dreams. Doctors were pro-tobacco in the 1930s – 1950s and there are historical advertisements that can prove this suggestion (Klara, 2015) and while these doctors faced backlash years later for their contradicting narratives, a question can be raised that if doctors in a similar way may be advertising benefits that are either fabricated or are not consistently true across all user experiences, there might be a similar backlash seen in the marijuana industry that the tobacco industry is seeing today if false effects are consistently advertised to consumers or patients.

The benefit of reducing anxiety is lacking in the research and users are expressing narratives that contradict the current medical research. The literature review showed a lack of recent data that addresses anxiety and marijuana usage, most of the research that has been conducted has been done pre 2009, arguably a time when marijuana was seeing a slow rise in popularity but would not see a positive shift until 2010 (Newport, 2011), suggesting that the research that has been conducted showing a consistent pattern of increasing anxiety, might be questionable. Users in these comment threads very clearly display a decrease in anxiety when consuming marijuana, which directly contradicts some research which argues that marijuana usage increases anxiety. While research from 2001 – 2008 (Comeau, 2001; Buckner, 2007; Buckner, 2008) shows anxiety increasing as a primary risk associated with smoking marijuana, specifically in younger adults, the comments in the analysis section regarding would show the opposite, there were no distinctive comments arguing for an increase of anxiety as a result of smoking marijuana, and while this appears to be consistent in the literature, at least in the literature that is a little over a decade old, there seem to be new user experiences that are expressing opposite effects, such as a decrease in anxiety from consuming marijuana.

Most users did not understand the impact that marijuana has on their appetite and even with a study from Yale recently published, the confusion is still prevalent. Koch et al. (2015) looked at the ways that different strains of cannabis can impact appetite. They found that Sativa dominant strains would reduce the chemical reaction in the human body that causes hunger, while the Indica dominant strains would increase the chemical reaction, causing increased hunger. This means that four years ago scientists began to

understand the impact that cannabis has on appetite, yet commenters still seem confused, with some suggesting strain alternatives while others suggest that there is no difference between strains.

A potential benefit to cannabis that is being overshadowed by current research is the potential reduction in anxiety. Published research on cannabis in the recent decade would suggest that cannabis has a chance of increasing anxiety in patients and that cannabis can cause worsened symptoms in patients (Buckner, Silgado, Wonderlich, & Schmidt, 2012; Buckner & Carrol, 2010). Yet commenters express a very clear opposing opinion to this research, with commenters seeing massive decreases in anxiety or social anxiety. This means that either, the research that has been published consistently by researchers has never come across individuals who found decreases in anxiety or the researchers are fabricating results of their research to fit a specific narrative. There were seven distinct conversations in the comment thread regarding anxiety, and two of them expressed increases in anxiety, while five expressed massive decreases in anxiety. While this comment thread is limited, it is still questioning that the researchers in previous studies found no individuals who benefited from a decrease in anxiety from cannabis usage. This means that some commenters or users find relief in anxiety issues with cannabis usage. So, while current research that has been massively published by authors like Buckner and the federal government heavily suggest anxiety as a risk for cannabis usage, this research has confusing results that contradict what real users are experiencing.

Chapter 4

DISCUSSION

Discussions about negative health effects were the most discussed and coded comments as seen in the picture of a diagram on page #53. While comments talking about habitual use or long-term use were the second most commented. With discussions about productivity being the third most discussed. The comments that had the largest difference of opinions were found in the driving discussions, with several commenters disputing the negative effects of marijuana on driving. While this thread was filled with discussions of risks, beneficial discussions were also very prevalent, with many discussions having benefits of marijuana mentioned in passing, as a primary topic of discussion and/or a counter-argument, meaning risk and beneficial comparisons were present within comments consistently.

Dangerous

One of the larger dangers that are not very apparent across the literature and user comments is the effects that marijuana has on dreaming and if the removal of dreams is a positive or negative effect. Some user comments under the dreaming sections under dangerous and risk experience the removal of dreams, while some even experience a return of the dreams. While in the benefits section some users say that the removal of those dreams is beneficial since they were haunted by nightmares or negative dreams. These patterns of inconsistency suggest that the psychedelic effect that marijuana has on everyone may have large differing effects on the dreaming patterns of individuals who consume marijuana. As some comments suggested smoking different strains might be the

solution for some but overall the opinions on the effects that marijuana has on dreams are drastically different.

One area of contention that should be addressed is the danger that is present with driving and the limit of THC that should be attained when discussing driving limitations. This brings to light an important question for cannabis that is not directly addressed in the literature, and that is dosage or how to properly determine dosage. In the comments, one distinctive comment suggested micro-dosing as a solution to risk, but one thing most comments failed to address is how much is too much? Unlike other substances such as alcohol, there is not a clear measure of how much THC an individual has consumed (Source). This means that individuals who have consumed cannabis may consume too much for their desired effects or not enough depending on how their understanding of dosage is acquired.

A better understanding of dosing is needed to remove the dangerous understanding that cannabis has acquired for itself. One article titled *How to dose cannabis in its various forms*, (Royal Queen Seeds, 2019) suggest different base dosages that individuals should consider or start with, even within the article itself there are inconsistencies present within each different type of marijuana that can be consumed because quality and potency can drastically vary between products. This means that individuals who have consumed cannabis may be receiving unique dosages that may not be consistent across different ways of consuming, or even in similar ways of consuming. For example, one flower strain might have very high THC content, for example 40 percent THC, while a lower quality flower strain might have a very low THC content, for

example, 5 percent, this means that both flower strains may appear the same to the naked eye, but the actual THC levels present could be drastically different per hit. If cannabis is going to be better regulated and recognized as a medical drug, then a proper understanding of dosing needs to be better accomplished. With increased dosing, this can lead to users dangerously escaping reality.

Some comments warn that marijuana's abuse is linked to use as an escape from reality, and some commenters suggest this escape from reality may be positive. While users in the dangerous section describe that marijuana became an escape from reality, some marijuana users recognize this escape and even aim to achieve this for positive purposes. One commenter expresses that their goals for consuming marijuana are to achieve this escape or a high "high."

A cultural artifact known as the "highness chart" can help better conceptualize what some individuals have identified as different degrees of highness. The chart shows the varying degrees at which users may experience different levels of highs. Generally, users rate their "highness level" from a 1-10 scale, with 1 being sober and 10 being considered the absolute highest. Generally, users expressed that reaching a 10 is very rare, while generally Reddit posts express users in the 5 -8 range when posting content. While users express an escape from reality as a negative, some might aim to achieve it, bringing into question if the escape from reality a true danger is if some users are more experienced with that side effect of heavy dosing of THC. An important historical distinction between how commenters rhetorically communicate dangerousness and how

marijuana had its understanding as constructed as dangerous in the early twentieth century.

The “Dangerous” Future

Marijuana with its dangerous construction set a little under a century still exists in comments today but not in the way it once used to. The cultural impact of reefer madness was trendsetting in that it allowed the dangerous image of the marijuana smoker to be so prevalent. With the film depicting images of violence or sexual lust, it is interesting to see commenters not fall into any of these conversations regarding the negative outcomes of consuming cannabis. Users if anything expressed a decrease in motivation and an escape from reality, and no comments expressed dangerous violence or sexual lust that is present after consumption. While this may not be surprising, the depictions of marijuana in *reefer madness* can be summed up in the closing of its trailer (<https://www.youtube.com/watch?v=sbjHOBjZhb0>) “Smoking the soul-destroying reefer they find a moments pleasures but at a terrible price, divorcercy, violence, murder, suicide and the ultimate end of the marijuana addict hopeless insanity” (Reefer Madness Trailer, 1936). This violent and dangerous imaging may not be consistently present in how commenters are displaying the dangerous effects of marijuana, but a few themes are present, specifically, the dangerous impact marijuana can have on one’s psyche.

While the past may have displayed the impact on the psyche to be one that leads to disillusion and insanity, in a similar light, commenters display a negative dangerous impact on individuals’ psyche. Comments in the habitual use/abuse section of the dangerous node analysis describe a trend of pattern present in users viewing marijuana as

a band-aid or an escape from reality for those that are consuming it. While this may not be the same image that was set in reefer madness, one of a smoker who has random violent outbursts, the central location where the danger is still present is still located in comments in the psychic that it has on one's ability to cognitively process certain thoughts, in this situation enhancing depressive thoughts or escaping into a void are the dangers that are seen. This means that when viewing the negatives that are present in marijuana an area of focus that would be important to consider is the effect that THC can have on the psyche of an individual. If users are displaying a negative impact on their psyche this means that the psychedelic effects of THC may be dangerous enough to where different users across comment experiences express concern regarding this psychedelic effect. While the impact on the psyche is not seen to be one of sexual lust or violence, the health comments in the dangerous section provide a better understanding of how the impact on the psyche might best be understood.

Although not confirmed empirically in the research marijuana might have a dangerous risk of enabling depressive tendencies in users. The health section under the dangerous section and the discussions regarding habitual use and abuse show an interesting consistent theme. The first is that users in the abuse/habitual use section view marijuana as an escape from reality or a mental placing into another location, while users in the health section show a slippery slope or an increase in depressive habits as dangers this can be attributed to the framework set up of an escape from reality that was seen in the comments in the abuse/habitual use section. If users are using marijuana in a way that escapes reality, and this escape from reality is causing that slippery slope into further

abusive habits, this means there should be better risk research conducted on the mental effects that extensive THC has on individuals with depression or addictive/habitual use.

Risk

One of the larger areas of research needed is the effects that marijuana has on an individual's ability to operate a motor vehicle. Commenters continuously disagreed with not only the results but the effects that marijuana has on driving. While some commenters viewed driving and smoking as a risk, some would mitigate this risk by correlating experience and tolerance with ability and ableness to drive. While some research on driving and marijuana has been conducted the realistic conditions or scenarios present have also been questioned regarding the legitimacy of the results, meaning that the current risk understanding present may not be fully accurate to the actual side effects that marijuana may induce on individuals.

More research needs to be conducted on the addictiveness of marijuana and the impacts of long-term habitual use. Commenters in the risk section consistently mention a loss of productivity as a result of long-term habitual use and others warn of addiction that can follow. With marijuana being viewed as a non-addictive substance in most social media platforms, at least in terms of physically, the risk of marijuana addiction on the psyche may need to be explored. Considering marijuana medical and recreational legalization are both under three decades-old each, the long-term effects of habitual use has not had proper time to be observed, especially considering that marijuana is still a Schedule One drug on the federal level this means that there cannot be research funded or conducted by most universities.

More research needs to be conducted on the impact of smoking cannabis vs consuming cannabis through edibles. Commenters stress the impact that cannabis has had on their lungs through smoking marijuana with some commenters saying that they cannot smoke anymore due to their lungs being so damaged from smoking. Considering smoking is a primary method for consuming cannabis the impact that the smoke-infused with THC has on the lungs, especially with long term habitual use, needs to be better explored. Having better risk understanding of the impact that smoking THC has needs to be produced, in comparison the research behind cigarettes is so consistent that some people can argue such specifics such as “smoking one cigarette takes off 7 minutes of your life.” While consuming cannabis through edibles may seem like the safe alternative some users express stomach issues related to cannabinoids overloading. So, while consuming cannabis through edibles may be the safer alternative more research needs to be conducted to understand the risk associated with smoking or eating marijuana.

The impact of marijuana on people’s appetite needs further research conducted. Commenters have conflicting experiences with marijuana and appetite with some commenters expressing massively increased appetites from consumption of marijuana and others express an appetite suppressing result. While this can better be explained through the understanding of the difference between Indica and Sativa strains this still means that there is an area of side effects that needs to be further explored and understood by the physicians and patients. If users can utilize marijuana more effectively for its appetite capabilities, then they can have a better risk understanding of the results of consuming their specific strain of marijuana.

The effect of THC on the brain and the impact it has on dreams needs further research. With some users have contradicting effects on their dreams after consuming THC, with some users expressing increase in dream intensity and some expressing a complete removal, this means that marijuana may have different effects on dreaming for different individuals. With some commenters enjoying the removal of dreams, since it may remove nightmares as well, this means a better risk calculus understanding of the impact that marijuana has on dreams needs to be better conducted since some users may find this result as a positive side effect.

The “Risky” Future

With the contradicting narrative that marijuana has had over the years, it has caused side effects to be relatively unknown or unreported among commenters. With the early 19th century understanding of marijuana it can be seen there was a general understanding of medicinal side effects but once the early 20th century started to see the large wave of anti-marijuana policies spread it saw a massive increase of negative side effects. While the image of marijuana that was set by media like *Reefer Madness* may be considered folklore some individuals continue to believe in this violent image of marijuana. If marijuana is to continue its trend of increased legalization and usage by people, then a full understanding of the risks and benefits needs to be present to the consumers. With dispensaries and websites advertising the positives of marijuana with limited discussion on the risks of consumption, this may cause individuals to engage in risky consumption habits without them having any warning to them doing so.

It is the responsibility of both dispensaries and media outlets to responsibly display the effects of cannabis to the consumers. Two different historical artifacts of both a dispensary and media outlet revolved around cannabis both show problematic trends and habits in terms of the ways they display information. With the dispensary website (<https://www.curaleaf.com/cannabis-101/>) displaying bright and colorful photos of cannabis and different effects, they forget to display any negatives about the consumption of cannabis on their website. With dispensaries having specials like “buy one get one” this can encourage users to increase their purchasing and consumption habits and if users believe there may be limited, or no risk associated with doing so they may have destructive consumption habits. Another media outlet shows information about a cannabis strain Blue Dream (<https://www.leafly.com/hybrid/blue-dream>) yet in a similar vein to the dispensary website fails to show any negatives with consuming the strain or drug, meaning the false narrative that cannabis is without negatives may be present to the individuals.

Benefits

The benefit of marijuana assisting attention issues or increasing focus is an area of research that could use more focus. Commenters in the benefits section look to marijuana as a tool to help them focus, with some commenters sharing their vast academic or career accomplishments while being an active consumer of marijuana. The commenters consistently mention marijuana’s aid to help them focus on their work or their task at hand. While some commenters have expressed a loss of focus others express the opposite. This shows that research on the impact of marijuana on productivity and the

benefits it can provide to individuals who struggle with focusing could be impactful. Individuals with ADHD may have an alternative to standard prescription medication, especially patients who may have not found a solution in pharmaceutical drugs.

The benefits of marijuana in increasing appetite and enhancing the enjoyment of food is a topic of discussion that needs to be addressed. Commenters in the benefits section look at the impact that marijuana has had on their eating habits, with some commenters expressing healthier eating habits (either increasing or decreasing) due to cannabis. Since cannabis can either increase or decrease an individual's appetite this means that the benefit of using marijuana as an appetite suppressant or enhancer could potentially help patients with eating disorders. With some commenters expressing increasing eating habits from consuming cannabis, this could be a potentially helpful remedy for individuals suffering from anorexia or other medical disorders that impact food consumption. Other individuals also express decreased appetite from smoking Sativa cannabis strains, this means that individuals who may suffer from over-eating may also be of aid from cannabis.

An area of research that needs more focus is the beneficial impacts on the removal of dreams that cannabis can bring. With commenters consistently reporting a loss of dreams from cannabis this might be a potential medical benefit for individuals who would prefer to be dreamless. Individuals who suffer from intense nightmares/terrors, PTSD, or other negative mental triggers that occur while sleeping may find comfort in removing these thoughts. With some commenters expressing joy from their dreams being removed it may need to be explored as a potential alternative to other medications that

aim to remove dreams. With some individuals suffering from extreme nightmares or PTSD episodes having the ability to have a full night's rest or sleep could be life-changing for that person.

An area that needs more research is the effects of cannabis on anxiety. While current research suggests that cannabis increases anxiety in individuals, the user comments above show otherwise. With some commenters expressing a need for marijuana to decrease anxiety or to decrease social anxiety.

The “Beneficial” Future

With more states increasing their legalization of medical or recreational marijuana the future of cannabis study needs effective researchers. Being able to understand how the patient feels or why the individual is choosing to recreationally or medically consume cannabis can better help the market reach its customer more efficiently and effectively. If states continue to legalize marijuana without better information about positives or benefits of cannabis individuals could mistakenly be prescribed marijuana to treat a specific symptom, E.g. an over-eating disorder but due to misinformation the consumer purchases an Indica dominant strain, cause their eating habits to worsen. This would cause individuals to either miss out on a potential benefit or to have negative experiences with cannabis that are unjustified leading to an increased risk of legalization being overturned or individuals having negative side effects.

The future of cannabis research needs federally protected research grants or options to be available for schools or organizations. Currently, since marijuana is still a Schedule One drug in America, this means that research cannot be federally protected or

supported. Angell (2018) reports that federal restrictions on cannabis are holding back the potential for research about this drug, and if there is any research conducted it is very limited. This means the removal of marijuana as a Schedule One drug is a vital first step to allow more research to be conducted on cannabis. A more conclusive study conducted on the full benefits and risks of marijuana would be vital information for patients and customers, allowing better selling of products and better prescribing of cannabis.

Indica vs Sativa a potential answer

Finding indicates there is very little consensus about consistent benefits and risks that are associated with marijuana as described by commenters. Commenters in the analysis section present a wide array of risk and beneficial understanding of different side effects of smoking marijuana, E.g. loss of dreaming, some view those as negatives while others view them as a positive. User comments often expressed conflicting interpretations of effects and their emotional valences as positive or negative. The primary theory behind why users present so many consistent inconsistencies is twofold, first cannabis has two primary strains which both can have drastically different effects and since there is no true consistency in strains some users may be experiencing one strain when they believe they were sold the other. Second, cannabis has different reactions based on individual body chemistry, a person's mood, and environment.

Indica and Sativa are the two-dominant subspecies of the plant cannabis, which growers can either visually or chemically identify depending on different visual cues from the plant or physical reactions from an individual's reaction to consuming the cannabis. Crescolabs (2010), provides a chart that helps show the difference between the

two-dominant subspecies of cannabis Indica and Sativa, with Indica being the “nighttime high” aimed at increased appetite and causing individuals to become more tired while Sativa being the “daytime high” causing individuals to have increased creativity and potentially increased energy. Crescolabs goes on to explain that the primary differences between Indica and Sativa are in the effects the user experiences. As seen above Sativa is considered a more uplifting or “daytime” high, while Indica a “nighttime” high. The reason why these two strains are considered useful during different situations is important because an individual consuming marijuana may not know what exact strain or side effect they will experience, Black (2017), says

There is scientific evidence that certain strains produce wildly different effects, and each strain's specific effects are complicated by each individual person's mood, body chemistry, and environment. That's partly why the Indica versus Sativa distinction is pervasive—it offers an easy delineation when the reality is complicated (p. 59).

This shows that individuals can consume the same strain and based on their body composition can experience a drastically different effect. This means that the effects of cannabis even in medical research have some open-ended questions regarding the side effects it may have on the user.

It can be important to consider funding for further research on the true chemical composition present in the plant itself and actual consistent side effects that are present. Black (2017) explains that terpenes are the answer to the question and that scientist can find almost near identical reactions with a better understanding of terpenes,

scientists are just starting to understand how these terpenes affect people and have begun attributing effects to individual terpenes. For example, alpha-pinene, a terpene that smells like pine needles, has been found to induce alertness and memory retention. Limonene, which smells like citrus, can elevate your mood and maybe anticarcinogenic. (para. 7)

Different terpenes are the potential key to side effects, not necessarily the strain. So, if individuals are consuming the same strain but each has been subject to different terpenes due to either chemical crossbreeding or growth patterns, those two individuals smoking the same strain from different growers might experience drastically different effects.

If the risks that are associated with marijuana are more inconstant and potentially even unknown in certain situations, this would make marijuana unique when taking into consideration risk literature. Risk literature has implied that for a risk to truly be identified or understood it has to be a probabilistic occurrence that consistently happens to a degree (Castel 1991, 1996). However, as was is seen with the discussion regarding terpenes there is a not a clear understanding or basis on what reactions individuals will experience when they are consuming a specific strain. This means that in the current state that marijuana exists it, it can best be understood with a more dangerous risk calculus understanding, since some users may experience such drastically different results. This means that for marijuana to properly be understood in a risk calculus understanding the research that is done on marijuana needs to be increased so that terpenes and the way that cannabinoids function in the plant can best be understood so that there is minimal variance in the consumer experience. While the literature review may show expert

opinions that show more consistent effects of marijuana, a discussion about how commenters differ from expert opinion will occur in each major discussion regarding the apparent dangers, risks, and benefits as observed by the literature and by the commenters from the Reddit post.

Major topics lacking discussion

An interesting note to be made is that there was a complete lack of discussion of sex or sexual pleasure as a benefit that is seen from marijuana. Whimn (2018) looks into the role that cannabis plays in the sexual life of certain individuals by observing a personal statement “It just makes sex so much better. You feel your entire body relaxing, and every sensation is heightened. I don’t know how, but it somehow delays your orgasm, too. I actually rarely have sex without getting high these days” (p. 4). Here a consumer is smoking for sexual pleasure. The stereotype of cannabis increasing sexual pleasure or even sexual lust is one that can be seen in media like reefer madness in 1936, and with the “hippie” movement of the 1960s expressing free love and sexual expression, drugs, and more specifically marijuana, were not absent from these experiences and were enhancers for them. Yet in this entire thread, there was no discussion of marijuana either enhancing or harming one’s sexual experience. The only time sex was even mentioned throughout all 781 comments was separate from marijuana. This is most likely due to the already scandalous nature that marijuana has been subjected to, understood as American culture is still heavily influenced by puritanism and sexuality is ultimately being a private nature. This means discussing things that may enhance one’s sexual pleasure may be seen as a taboo nature in general. This links harder into a larger perspective on fun in general,

but there is an important note to be made that not one comment mentioned sex as a benefit for marijuana in an entire thread that ended up discussing risk and benefits. The lack of sex as a discussion and the limited discussion of recreational fun might further support this theory.

One of the most lackluster areas of discussion was any discussion about recreational positives or experiences regarding marijuana. This was a node category that was preemptively created with the hypothesis that users would flag benefits such as recreation or fun as a primary benefit, however, only 18 comments were coded as being recreational. Considering one of the primary benefits that are displayed in the media from marijuana is the more “fun” or recreational habits, it is surprising that in a discussion of risks and benefits commenters avoided discussing recreational reasons for smoking cannabis. Further clarification, recreational coding was conducted when commenters displayed that the primary purpose for them smoking marijuana was for recreational or “fun” purposes. This means that medicinal reasoning was absent from their purpose of dosing. The theme and pattern present in these sets of comments showed that when showing benefits of marijuana most commenters focused on observable medical benefits. This is most likely due to the negative culture that marijuana has existed in for so many decades, and the stigmas that it is combating. As seen in the literature (Desimone, 1998: Merrill, 1938) there is a strong narrative that was established early on in American history that made marijuana one that is seen as dangerous with no medical benefits. So in a logical counter thrust initiative from pro-cannabis commenters, they would focus on medicinal effects that would benefit those that might have medical conditions, the

literature has shown that there is fear and stigmatization around having recreational activities.

Further Research

Further research needs to be conducted on user experience regarding marijuana. The research present in the literature review has already suggested a lack in experiential research on how individuals consuming marijuana feel, as appose to just the medicinal effects, and as the data of comments shows users have strong opinions about how marijuana causes them to feel. This means that users have a strong desire to not only identify their own experience but there is a desire to find either similarity in experience or even question others experience's that might contradict their own. This means that a focus on how users express themselves while under the influence of marijuana is an untapped area of research that not only shapes the market of marijuana from a consumer standpoint, it also shapes how patients to physicians communicate. If a social or knowledge barrier is present when trying to understand the marijuana smoker then the efficiency of best meeting the needs of the consumer cannot be achieved, since the intentions or experiences of those who are smoking is not being properly considered in the data. While some research (Keyhani, 2018) does have beneficial perspectives of marijuana brought forth, this is primarily done through more quantitative means such as survey responses, while more qualitative understanding of why individuals engaging in the consumption of marijuana do so. Better understanding the motivation and desires of patients and consumers can not only enhance communication between physicians and patients it can help the recreational industry better understand its customer.

Another area lacking significant data or research is in the recreational benefits that marijuana can bring about to individuals. Some research does bring to light non-medicinal purposes for marijuana, such as enhancing food experiences (Sanyal, 2009) but a few studies do not properly encapsulate why users are recreationally experiencing marijuana when there are significantly more studies that highlight how recreational use is problematic or has risks and or dangerous effects (Anderson, 2014; Schierenbeck, 2008; Cerda, 2017), this means that there is a lack of research that is present in the literature regarding the experiences that users aim to achieve while under the influences of THC. While forum discussion is a place to locate more authentic discussion about the experience, the question about the quantitative representation of the individual user experience is brought to light since one comment may be a distinctive, not representative experience. Larger quantitative data needs to be conducted regarding why users engage in recreational habits if recreational suppliers want to best sell their product, in addition having a better understanding of the habits of the users would allow for better and more efficient regulations and policies for recreational purposes, as some comments suggested when discussing being under the influence and driving there currently is not a clear understanding of how much is too much to drive with, specifically in regards to being under the influence of THC.

Chapter Five

Conclusion

With more states legalizing both recreational and medical marijuana more places and locations are being woken up to the reality that cannabis brings both positives and negatives when consumed. This thesis aimed to bring some user and commenter perspective into the light and to allow further understanding behind the risks, benefits, and dangerousness of cannabis from a historical and commenter perspective. A review of the research questions that guided this thesis will be conducted.

R1. How do commentators represent marijuana benefits in their comments in an online Reddit Forum?

Commenters represent marijuana benefits openly in their discussions and have found many different forms of benefits that cannabis brings about. As seen in the analysis chapter the commenters see many positives in cannabis on both their mental and physical health. Commenters have shown beneficial side effects from cannabis, these benefits include but are not limited to: reducing anxiety, increasing appetite, decreasing appetite, regulating sleep, increased focus, increased productivity, decrease in nightmares, mood satisfaction, recreational enjoyment, and many more benefits.

While this drug has many benefits some of the users are not fully aware of the potential benefits that cannabis has since there is misinformation very present in cannabis literature. Commenters frequently express concern about negative side effects of cannabis, such as an increase of appetite, yet it would appear these users are unaware that certain strains of cannabis can increase or decrease appetite, meaning their experience

and knowledge with cannabis is limited. While negative risks of cannabis were mentioned and debated about, commenters did not engage in discussion or argumentation over beneficial side effects of cannabis. For instance, a commenter may argue that cannabis does not impact one's ability to drive but a commenter would not argue that an individual was not seeing a decrease in anxiety from cannabis.

R2. How do commentators represent marijuana risks in their comments in an online Reddit Forum?

Some commenters represent marijuana risks with some formal understanding of consistent results or reactions while other commenters may bring into question the narrative of these risks. In the discussions about driving, commenters would have very drastic opinions about the risks associated with consuming cannabis and driving. Some commenters would argue that marijuana improved their driving ability, by either decreasing aggression or increasing focus and others would argue that marijuana would decrease focus or attention, making driving worse. Other risks were disputed, such as the impact on productivity and addictive potential. Individuals who argued that marijuana can be physically addicting would be disputed consistently, with individuals either arguing that marijuana is not addicting at all or some conceding that marijuana can become psychologically addicting.

R3. What unknown dangers are represented as potentially resulting from marijuana use?

Commenters present several unknown dangers in marijuana usage, an escape from reality, depressive thoughts, and uncontrollable appetites are some of the most

apparent dangers. An escape from reality can best be described as a person attempting to mentally or physically put themselves in a state where it feels as if they are detached from reality. Individuals who are very high on drugs, or the common “runners high” may be large or small experiences of this escape. Commenters expressed that this escape has caused negativity in their lives, either through a decrease in responsibility or recognition of time, leading to decreased productivity or connections with others. Depressive thoughts are when individuals snowball into depressive habits or tendencies. Commenters argue that marijuana causes individuals to focus and if individuals consume marijuana and focus on depressive thoughts. This can cause an increase of depressive thoughts or tendencies to occur in the individual. Uncontrollable appetites are semi-self-explanatory: cannabis has appetite increasing chemicals, and in the Indica dominant strains, this can cause a massive increase in appetite in individuals as seen by some comments who argue they cannot control their eating habits if they consume cannabis.

R4. What risks and benefits do commenters dispute/challenge?

Commenters dispute driving risks, but rarely challenge or dispute benefits made by commenters. Commenters dispute risks to driving, risks of addiction, and risks of appetite changes yet do not challenge benefits. In the discussions about driving some commenters would dispute risks to driving by bringing up experience while some would dispute risks by referring to chemical reactions of cannabis on humans to show that it should have no impact. Commenters dispute risks of addiction by referring to the chemical makeup of cannabis and explain that THC cannot be physically addicting, and some admit that there is a risk for mental addiction but those that do generally quickly

diffuse this argument by stating “anything can become mentally addicting.” Commenters challenge other commenters who argue that cannabis increases their appetite to unhealthy levels by first distinguishing the differences between Indica and Sativa, potentially explaining the habits of that human by their limitation of strains, or by the individuals explaining that a placebo effect has taken hold of these people. It is important to note that no commenters disputed benefits that were explained by commenters, this means that if someone explained that they received a specific benefit from cannabis, some ranging from anxiety reduction to nightmare removal, to weight loss, they would not find a counter-argument or point being made to rebut this. This means that commenters either accept benefits or there is a general wide understanding of benefits that are not challenged by commenters.

Significant Findings

This thesis found that commenters have limited benefit and risk calculus understanding when it comes to marijuana and the information that the people are receiving regarding cannabis is incredibly mixed including many dangerous messages and beneficial ones without risks. Within the comments, there was commonly disputes made regarding risks or dangers surrounding marijuana on the flip side benefits were rarely challenged. This means that negative information about cannabis in cannabis communities may have a larger stigma against perceived negatives, and as a result, may not believe or accept them as true. Additionally, dispensaries and websites that have heavy relation to cannabis are not doing their fair share either, in terms of not actively informing the community about risks and benefits of marijuana. With dispensary

websites consistently showing cannabis in a positive consumer light, this may encourage people to actively engage in the habit without consideration of risks.

This thesis also found that there are many benefits present in cannabis that commenters do not know about, additionally, some benefits reported by comments drastically differ from published scientific research. Some commenters have negative experiences with cannabis that may be specific to a strain, more than to marijuana in general. Some commenters found massively increased appetites from consuming cannabis, yet current research shows that the Indica dominant strains may be the cause of the increase of appetite while Sativa dominant strains may cause a decrease in one's appetite. This means that current users may be unaware of the benefits that different strains of cannabis may bring. Some commenters also report drastically different side effects from cannabis, which published research has reported as impossible, such as anxiety reduction. Countless articles have been published linking cannabis usage to increased rates of anxiety. Yet several comments mention cannabis completely removing or massively reducing their anxiety. Yet, published research, supported by the government, has not found a link to anxiety decreases, only increases. This means that either these government-supported studies have had the probabilistic odds of never encountering someone who has seen a decrease in anxiety from cannabis usage or there is something wrong with their method of research.

Limitations

Several limitations exist for this thesis including but not limited to, the nature of the post, lack of discussions, and time. The primary data source of the thesis, the Reddit

post, had a negative challenging nature to it, as seen above on page #47 the post was calling into question the nature of the subreddit and the subject that the subreddit revolves around. This means that there is a higher chance that individuals were more defensive in the conversation since the subject they have enjoyed is being questioned. This means that certain discussions could have been limited to a more debate-style format instead of an open discussion observing risks and benefits. For the sake of winning an argument, a commenter could bend the truth by fabricating either risks or benefits to fit their argument, meaning the chance for an honest discussion on this online social forum decreases. Additionally, as noted in the discussion section, there was a lack of discussion regarding specific topics, such as sex, and this may be due to the nature of the post or other circumstances, thus limiting a potential area of risks and benefits to be discussed. While enhancing sexual pleasure is a benefit that is discussed in media and by certain published work, it was not discussed at all in this forum. The final limitation was the time given to analyze the data by the researcher. With over 700 comments and multiple chain interactions and discussions and potential coding, it is possible that more coding and more organizing and analysis could have been conducted given more time, however, one could arguably analyze and organize for eternity.

Future Direction

The rescheduling of marijuana is needed for future research to be conducted about the risks and benefits of cannabis, especially considering the massive medical and recreational state legalizations the United States of America has recently seen. With marijuana as a Schedule One drug, this means that the drug cannot be used for research

purposes since it is “highly addictive and has no medical purpose.” Without the rescheduling of marijuana away from Schedule One into any of the other schedules, this means that formal and official research is severely limited and as a result, only a few narratives regarding cannabis can become published or even researched. Current researchers of cannabis also need to consider their research paradigms; if Moreau and O’Shaughnessy, two researchers from over a century ago, were finding medical results that current-day researchers, with their vastly superior technology, are not reporting and commenters and individuals who are experiencing the drug firsthand are aligning more with O’Shaughnessy and Moreau research, this means there is a need for better and more accurate research to be conducted on cannabis.

REFERENCES

- A., J. (1989, September 14). From George Bush, A Convincing Declaration of War on Drugs. Retrieved from <https://www.heritage.org/civil-society/report/george-bush-convincing-declaration-war-drugs>
- Armstrong, W., & Parascandola, J. (1972). American Concern Over MARIHUANA in the 1930's. *Pharmacy in History*, 14(1), 25-35. Retrieved from <http://www.jstor.org.ezproxy1.lib.asu.edu/stable/41108749>
- Aldrich M. (1997) History of therapeutic cannabis. In: Mathre ML, eds. Cannabis in medical practice. Jefferson, NC: Mc Farland; p. 35-55.
- Anderson, D. M., & Rees, D. I. (2014). The legalization of recreational marijuana: how likely is the worst- case scenario. *Journal of Policy Analysis and Management*, 33(1), 221-232.
- Anderson, D. M., Rees, D. I., & Sabia, J. J. (2014). Medical marijuana laws and suicides by gender and age. *American journal of public health*, 104(12), 2369-2376.
- Angell, T. (2018, June 27). Oklahoma Voters Legalize Marijuana For Medical Use. Retrieved from <https://www.forbes.com/sites/tomangell/2018/06/26/oklahoma-voters-legalize-marijuana-for-medical-use/#5baa57281374>
- Belackova, V., & Christian, A. V. (2013). "A friend with weed is a friend indeed": Understanding the relationship between friendship identity and market relations among
- Berke, J. (2018, November 07). Here's where you can legally consume marijuana in the US in 2018. Retrieved from <https://www.businessinsider.com/where-can-you-can-legally-smoke-weed-2018-1>
- Black, L. (2017, August 23). Please Shut Up About Indica Versus Sativa. Retrieved from <https://www.thestranger.com/weed/2017/08/23/25380755/please-shut-up-about-indica-versus-sativa>
- Buckner, J. D., Bonn-Miller, M. O., Zvolensky, M. J., & Schmidt, N. B. (2007). Marijuana use motives and social anxiety among marijuana-using young adults. *Addictive behaviors*, 32(10), 2238-2252.
- Buckner, J. D., & Carroll, K. M. (2010). Effect of anxiety on treatment presentation and outcome: Results from the Marijuana Treatment Project. *Psychiatry research*, 178(3), 493-500.

- Buckner, J. D., Crosby, R. D., Silgado, J., Wonderlich, S. A., & Schmidt, N. B. (2012). Immediate antecedents of marijuana use: An analysis from ecological momentary assessment. *Journal of behavior therapy and experimental psychiatry*, 43(1), 647-655.
- Buckner, J. D., & Schmidt, N. B. (2008). Marijuana effect expectancies: Relations to social anxiety and marijuana use problems. *Addictive Behaviors*, 33(11), 1477-1483.
- C. (2018, October). Marijuana Tax Data. Retrieved from <https://www.colorado.gov/pacific/revenue/colorado-marijuana-tax-data>
- Castel, R. (1991). From dangerousness to risk. Pp, 281-298 in G. Burchell, C. Gordon and P. Miller, eds., *The Foucault Effect: Studies in Governmentality* (2011).
- Chapman, A. L., Hadfield, M., & Chapman, C. J. (2015). Qualitative research in healthcare: an introduction to grounded theory using thematic analysis. *Journal of the Royal College of Physicians of Edinburgh*, 45(3), 201-205. Citing Guest G, MacQueen KM, Namey EE. Introduction to applied thematic analysis. In: *Applied Thematic Analysis*. Thousand Oaks, CA: Sage; 2012. p. 3–20.
- CNN. (2016, February 27). History of marijuana in America. Retrieved from <https://www.cnn.com/2013/08/14/us/gallery/marijuana-history/index.html>
- Comeau, N., Stewart, S. H., & Loba, P. (2001). The relations of trait anxiety, anxiety sensitivity, and sensation seeking to adolescents' motivations for alcohol, cigarette, and marijuana use. *Addictive behaviors*, 26(6), 803-825.
- Conrad, P., & Schneider, J. W. (2010). *Deviance and medicalization: From badness to sickness*. Temple University Press.
- Cresco Labs (2010). Indica vs Sativa. Retrieved March 9, 2019, from <https://www.crescolabs.com/indica-vs-sativa/>
- Denson, T. F., & Earleywine, M. (2006). Decreased depression in marijuana users. *Addictive behaviors*, 31(4), 738-742.
- DeSimone, J. (1998). Is marijuana a gateway drug? *Eastern Economic Journal*, 24(2),

- 149-164. Retrieved from <http://login.ezproxy1.lib.asu.edu/login?url=https://search-proquest-com.ezproxy1.lib.asu.edu/docview/198039315?accountid=4485>
- Douglas, M. (1994). *Risk and blame essays in cultural theory*. London ; New York: Routledge.
- Eells, K. (1968). Marijuana and LSD: A survey of one college campus. *Journal of Counseling Psychology*, 15(5), 459-467.
doi:<http://dx.doi.org.ezproxy1.lib.asu.edu/10.1037/h0026208>
- Eldridge, L., & Hughes, G. (2018, February 25). What Percentage of Smokers Get Lung Cancer? Retrieved August 8, 2018, from <https://www.verywellhealth.com/what-percentage-of-smokers-get-lung-cancer-2248868>
- Evening star. [volume] (Washington, D.C.), 16 May 1937. *Chronicling America: Historic American Newspapers*. Lib. of Congress.
<<http://chroniclingamerica.loc.gov/lccn/sn83045462/1937-05-16/ed-1/seq-64/>>
- Green, M. (2018, January 09). Reefer Madness! The Twisted History of America's Marijuana Laws. Retrieved from <https://www.kqed.org/lowdown/24153/reefer-madness-the-twisted-history-of-americas-weed-laws>
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*.
- Gobbi, G., Atkin, T., Zytynski, T., Wang, S., Askari, S., Boruff, J., ... & Mayo, N. (2019). Association of cannabis use in adolescence and risk of depression, anxiety, and suicidality in young adulthood: a systematic review and meta-analysis. *JAMA psychiatry*.
- Grinspoon, L. (1971). *Marihuana reconsidered*. Cambridge, Mass.: Harvard University Press.
- Higgins, T. (2018, November 05). Not just Congress: Marijuana legalization and election reform also on midterm ballot in 2018. Retrieved from <https://www.cnbc.com/2018/11/05/marijuana-legalization-and-election-reform-also-on-midterm-ballot.html>
- Hill, T. D., Burdette, A. M., Weiss, M. L., & Chitwood, D. D. (2009). Religious involvement and adolescent substance use. In *Adolescent Substance Abuse* (pp. 171-189). Springer, Boston, MA.

- Hoffmann, J. P. (2014). Religiousness, Social Networks, Moral Schemas, and Marijuana Use: A Dynamic Dual-Process Model of Culture and Behavior. *Social Forces*, 93(1), 181-208.
- Holland, K. (2018, June 27). CBD vs. THC: What's the Difference? Retrieved from <https://www.healthline.com/health/cbd-vs-thc>
- Jacobs, L. A. (2000). An Analysis of the Concept of Risk. *Cancer Nursing*, 23(1), 12-19.
- Keyhani, S., Steigerwald, S., Ishida, J., Vali, M., Cerdá, M., Hasin, D., ... & Cohen, B. (2018). Risks and benefits of marijuana use. *Ann Intern Med*, 169, 282-290.
- Klara, R. (2015, June 18). Throwback Thursday: When Doctors Prescribed 'Healthy' Cigarette Brands. Retrieved from <https://www.adweek.com/brand-marketing/throwback-thursday-when-doctors-prescribed-healthy-cigarette-brands-165404/>
- Koch, M., Varela, L., Kim, J. G., Kim, J. D., Hernández-Nuño, F., Simonds, S. E., ... & Rakic, P. (2015). Hypothalamic POMC neurons promote cannabinoid-induced feeding. *Nature*, 519(7541), 45.
- Leary v. United States, 395 U.S. 6 (1969). (n.d.). Retrieved from <https://supreme.justia.com/cases/federal/us/395/6/>
<http://www.legisworks.org/congress/75/publaw-238.pdf>
- LoBianco, T. (2016, March 24). Report: Nixon's war on drugs targeted black people. Retrieved from <https://www.cnn.com/2016/03/23/politics/john-ehrllichman-richard-nixon-drug-war-blacks-hippie/index.html>
- Lynch, M. (2018, August 23). FDA approves 'magic mushroom' psilocybin therapy trial for treatment-resistant depression. Retrieved from <https://www.outsourcing-pharma.com/Article/2018/08/23/FDA-approves-psychoactive-psilocybin-therapy-trial-for-treatment-resistant-depression>
- Maa, E., & Figi, P. (2014). The case for medical marijuana in epilepsy. *Epilepsia*, 55(6), 783-786.
- Merrill, F. (1938). Dangerous Marihuana. *The American Journal of Nursing*, 38(8), 872-874. doi:10.2307/3413932
- Moreau, J. (1845). *Du hachisch et de l'alienation mentale etudes psychologiques*. Fortin, Masson & C.

- Morgan, E. P. (1991). *The '60s Experience: Hard Lessons about Modern America*. Temple University Press.
- Murphy, K and Studney, D. (2006). *The history of Reefer Madness*
- Musto, D. F. (1991). Opium, cocaine and marijuana in American history. *Scientific American*, 265(1), 40-47.
- ProCon (2019) 31 Legal Medical Marijuana States and DC. *ProCon*.
<https://medicalmarijuana.procon.org/view.resource.php?resourceID=000881>
- National Institute on Drug Abuse. (n.d.). Marijuana Drug Facts. Retrieved July 13, 2019, from <https://www.drugabuse.gov/publications/drugfacts/marijuana>
- Newport, F. (2011, October 17). Record-High 50% of Americans Favor Legalizing Marijuana Use. Retrieved from <https://news.gallup.com/poll/150149/record-high-americans-favor-legalizing-marijuana.aspx>
- NORML. (June 6, 1996). "Medical Marijuana Initiative Qualifies For November Ballot" retrieved from <http://norml.org/news/1996/06/06/medical-marijuana-initiative-qualifies-for-november-ballot>
- O'Shaughnessy, W. B. (1843). On the Preparations of the Indian Hemp, or Gunjah: Cannabis Indica Their Effects on the System in Health, and their Utility in the Treatment of Tetanus and other Convulsive Diseases. *Bmj*, S1-5(123), 363-369. doi:10.1136/bmj.s1-5.123.363
- The Ogden standard (25 Sept. 1915). *Chronicling America: Historic American Newspapers*. Lib. of Congress.
 <<https://chroniclingamerica.loc.gov/lccn/sn85058396/1915-09-25/ed-1/seq-13/>>
- Perucca, E. (2017). Cannabinoids in the treatment of epilepsy: hard evidence at last?. *Journal of epilepsy research*, 7(2), 61.
- Powell, D., Pacula, R. L., & Jacobson, M. (2015). Do medical marijuana laws reduce addictions and deaths related to painkillers? (No. w21345). National Bureau of Economic Research.
- Powell, D., Pacula, R. L., & Jacobson, M. (2018). Do medical marijuana laws reduce addictions and deaths related to pain killers? *Journal of health economics*, 58, 29-42.

- Us Government Printing Office. (1977). Project MKUltra, the Central Intelligence Agency's Program of Research into Behavioral Modification. Joint Hearing before the Select Committee on Intelligence and the Subcommittee on Health and Scientific Research of the Committee on Human Resources, United State Senate, Ninety-Fifth Congress, First Session. Us Government Printing Office: Washington.
- Reyes, E. A. (2017, December 28). As California legalizes recreational marijuana, this L.A. pot shop weighs closing its doors. Retrieved from <http://www.latimes.com/local/lanow/la-me-ln-marijuana-clash-20171228-story.html>
- Reynolds, G. (2019, May 08). The Stoner as Gym Rat. Retrieved from https://www.nytimes.com/2019/05/08/well/mind/exercise-marijuana-cannabis-pot-workout.html?nl=todaysheadlines&emc=edit_th_190514
- Robinson, V. (1912). An Essay on Hasheesh. *New York: Medical Review of Reviews*, E.H. Ringer.
- Royal Queen Seeds. (2018, October 03). HOW TO DOSE CANNABIS IN ITS VARIOUS FORMS. Retrieved from <https://www.royalqueenseeds.com/blog-how-to-dose-cannabis-in-its-various-forms-n1013>
- SAMHSA. (n.d.). Know the Risks of Marijuana. Retrieved July 13, 2019, from <https://www.samhsa.gov/marijuana>
- Sanyal, S. (2009). POT LUCK: CULTURE, FOOD AND THE MARIJUANA EFFECT. *Celt: A Journal of Culture, English Language Teaching & Literature*, 9(2), 105.
- Schierenbeck, T., Riemann, D., Berger, M., & Hornyak, M. (2008). Effect of illicit \ recreational drugs upon sleep: cocaine, ecstasy and marijuana. *Sleep medicine reviews*, 12(5), 381-389.
- Schlosser, Eric(2005). "The Politics Of Pot: A Government In Denial." *Rolling Stone*.
- Sigerson, J. F. (2018, October 29). FDA endorsement of CBD-based drug signals bright future for legal cannabis market | Articles | Chief Innovation Officer. Retrieved from <https://channels.theinnovationenterprise.com/articles/fda-endorsement-of-cbd-based-drug-signals-a-bright-future-for-legal-cannabis-market>
- Smith, M. (2017, May 28). Can You Overdose on Marijuana? Retrieved from <https://www.coloradopotguide.com/colorado-marijuana-blog/article/can-you-overdose-on-marijuana/>

- Sterling, Eric. (1999). Drug Laws and Snitching: A Primer. *Frontline*.
<https://www.pbs.org/wgbh/pages/frontline/shows/snitch/primer/>
- The Detroit tribune. (Detroit, Mich.), 10 Feb. 1951. Chronicling America: Historic American Newspapers. Lib. of Congress.
 <<http://chroniclingamerica.loc.gov/lccn/sn92063852/1951-02-10/ed-1/seq-4/>>
- The Ogden standard. (Ogden City, Utah), 25 Sept. 1915. Chronicling America: Historic American Newspapers. Lib. of Congress.
 <<http://chroniclingamerica.loc.gov/lccn/sn85058396/1915-09-25/ed-1/seq-13/>>
- Wallace, A. (2018, February 10). Colorado pot sales hit a record \$1.5 billion in 2017, and border towns saw a green rush from neighbors. Retrieved from
<https://www.denverpost.com/2018/02/10/colorado-pot-sales-2017-border-towns/>
- Whimn, L. (2018, February 23). 'I actually rarely have sex without getting high these days'. Retrieved from <https://nypost.com/2018/02/23/the-connection-between-smoking-pot-and-better-sex/>
- WhiteHouse. (n.d.). Marijuana. Retrieved July 13, 2019, from
<https://www.whitehouse.gov/ondcp/key-issues/marijuana/>
- Zielinski, G. (2001, June 08). Activist Robert C. Randall Dies. Retrieved from
https://www.washingtonpost.com/archive/local/2001/06/08/activist-robert-c-randall-dies/c6e832a4-55e2-47fc-a3c8-5e011da66e04/?noredirect=on&utm_term=.be9e8fa3f052
- Zuardi, Antonio Waldo. (2006). History of cannabis as a medicine: a review. *Brazilian Journal of Psychiatry*, 28(2), 153-157. <https://dx.doi.org/10.1590/S1516-44462006000200015>