

# **Should the United States Legalize Cannabis?**

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## **ABSTRACT**

The purpose of this IQP was to determine if the American federal government should legalize cannabis. To begin, we investigated the history of cannabis in the US. Then, we explored the current state of cannabis in the US in regards to existing policies, economic impacts, medical research, public opinion, and incarceration and prohibition enforcement. Next, we performed a literature review of national surveys, expert analysis, academic research, and economic data. From our review, we developed a methodology, utilizing a mixed methods approach, to determine if the US should legalize cannabis. We completed a qualitative review of our identified research sections, and then translated that review into a quantitative analysis in the form of a weighted sum model. We performed this on a pass/fail basis, with an overall weighted score of 0.50 as the threshold. Although we employed data from external sources as part of our weighted sum model analysis, we also conducted a survey to obtain additional data to support our model. Both analyses indicate that the US should legalize cannabis, with an overall score of 0.783 in our weighted sum model and 78.3% of survey respondents stating they believe cannabis should be legalized. From these results, we conclude that the US should legalize cannabis for recreational and medical use. Using our holistic perspective as a base, we recommend future research to evaluate the potential impacts of legalization from an in-depth perspective and to determine how to design and implement cannabis policies.

## **EXECUTIVE SUMMARY**

The use of cannabis has been documented as part of human history for thousands of years. However, cannabis is currently illegal to grow, use, and distribute under US federal law. Despite federal prohibition, American states have passed legislation to legalize cannabis with the intent of encouraging legalization at the national level. These states are forcing the nation to consider the necessary question: should the US federal government legalize cannabis? The focus of this report is on five aspects of society that have great impact on the decision to legalize cannabis: current cannabis policies in the United States, public opinion, incarceration and enforcement of cannabis prohibition, economic impacts, and the medical community. Thus before an analysis could be performed, a review of current literature on cannabis within these sectors of society was necessary.

The current cannabis policies in the United States are in a state of flux due to the contemporary legalization movement: cannabis use is fully legal in four states and the District of Columbia; legal strictly for medical use in twenty-one states; decriminalized in four states; and illegal in twenty-one states. There are currently twenty states planning on voting to legalize cannabis in the 2016 elections. However, it is critical to recognize where the country is and the direction in which it is moving on this issue; this growing trend of legalization at the state level indicates that legalization on a federal level is likely.

Over the course of this project, we looked at public opinion regarding cannabis prohibition to determine whether it was actually a contributing factor towards states legalizing cannabis. Since its prohibition, there have been people who disagree with that decision. However, in the last forty-five years, the percentage of US citizens in favor of legalizing cannabis has seen a steady increase, from 12% in 1969 to 53% in 2015 (Pew, 2015). This trend

shows the nation slowly shifting towards the legalization of cannabis on a national scale. It appears that a state's decision to alter its policy on cannabis stems from voter and/or public opinion.

With prohibition of a popular substance comes an increase in incarceration rates and enforcement costs. We investigated incarceration and enforcement to determine what would change within that area of society if legalization were to occur. Millions of citizens have been arrested for the possession or use of cannabis since prohibition began. The annual cost of cannabis criminalization enforcement is in the billions of dollars. Consequently, upon legalization, arrest rates would go down and the costs of enforcing criminalization would disappear.

The economy has a major influence on the United States as a whole; with a new drug potentially becoming legalized, we found it critical to include economic impacts into our analysis. When Colorado fully legalized and regulated cannabis, it created a multimillion dollar industry. Jobs were created as new businesses that focused on cannabis were established. With a developing industry at its fingertips, Colorado generated over \$75 million in 2014 by taxing cannabis. If legalized on a federal level, the US government could potentially collect billions in tax revenue annually from cannabis sales alone.

Another large societal impact of legalization would occur within the medical field. Medical experts disagree on whether the medical benefits of cannabis outweigh the risks. Due to its current classification as a schedule one substance, the national government has labeled cannabis as incapable of providing any medical benefits. However, the controversy over cannabis in the medical community is leading many medical experts to push for reclassification of the plant so further research may be performed.

After establishing the selected social sectors through research, we answered our question by evaluating the key societal elements affected by cannabis legalization through a quantitative analysis. This was done using two methods: a weighted sum model and a survey. Our weighted sum model consisted of five sections: economics, medicine, incarceration and enforcement, policy, and public opinion. We assigned each section a weight based on its potential impacts on legislative decisions in the US. This was determined by investigating how the sections we identified generally drive policy change in the US. We established the respective weights for each section as: economics = 0.30; medicine = 0.20; incarceration and enforcement = 0.15; policy = 0.25; and public opinion = 0.10. We assessed each section using evaluation questions, which served as a means to determine if each section would experience a net positive or negative effect from cannabis legalization. We computed the scores of each section based on how relevant data regarding cannabis and its potential societal impacts helped us to answer the evaluation questions. We evaluated the overall weighted score was on a pass/fail basis: an overall score greater than 0.50 implied the US should legalize cannabis, whereas a score below 0.50 indicated the US should not legalize cannabis. This was our primary means of analysis.

To complement our weighted sum model, we conducted a poll utilizing the snowball method. Our aim was to gather data from a selection of states that covered a wide range of stances on cannabis legalization, essentially acting as a national representation. The states of focus were: Colorado, Oregon, Washington, California, Massachusetts, New York, Louisiana, Alabama, and Texas. We chose to focus on the states listed because of their influence on policy change, their stance on cannabis, and their political ideology. To qualify respondents, we first asked demographic questions such as age, citizenship, state of residence, and gender. If the participants qualified, we prompted them to answer questions regarding the economic, medical,

public opinion, and incarceration and enforcement impacts of cannabis legalization. To conclude, we asked them to rank, from most to least influential, each section's influence in changing cannabis policy on a national level. This last question served as a means of validation for our weights in our weighted sum model, as well as providing insight into how we as researchers view this complex issue versus the ordinary citizen.

Once we completed the weighted sum analysis, we determined the overall weighted score by multiplying the raw score of each section by its respective weight to produce a weighted score for each section, and then summing the weighted scores of all sections. The raw scores of each section were: medicine = 0.600; economics = 0.938; incarceration and enforcement = 1.000; public opinion = 0.712; policy = 0.644. The weighted scores of each section were: medicine = 0.120; economics = 0.281; incarceration and enforcement = 0.150; public opinion = 0.071; and policy = 0.161. The overall weighted score was determined to be 0.783.

In addition to our overall weighted score, we were able to obtain some significant survey data; however, the data received was principally from Massachusetts rather than the range of states we anticipated. Nevertheless, our survey data yielded interesting results, including that: 78.3% of Massachusetts respondents said they thought the use of cannabis should be legal; and 68.4%, 60%, and 56.2% of Massachusetts respondents said they thought incarceration and enforcement, medicine, and economics, respectively, would experience a net positive effect from cannabis legalization.

As stated in our methodology, an overall weighted score above 0.50 meant that the US should legalize cannabis. With an overall weighted score of 0.783, we concluded that the US should legalize cannabis. In addition to the overall weighted score being greater than 0.50, every section we analyzed also had a score greater than 0.50. This means that every section we selected



would experience a net positive effect from cannabis legalization, or in other words, no section we selected would experience a net negative effect from cannabis legalization. This implies that each section would have a net negative effect if the prohibition of cannabis use is continued.

From our research, we acknowledge that there is much more to this issue than we could include in the scope of this report. We primarily focused on a holistic perspective as to how cannabis legalization would affect society. In doing so, we were unable to dive deeply into one specific area. Using our work as a foundation, we recommend in-depth research be performed on the following topics: 1) analysis on how cannabis legalization would affect a single societal section; 2) comprehensive evaluation of the effects of cannabis legalization that combines research from individual section analyses and holistic analyses; and 3) policy analysis to determine how cannabis legalization should be implemented. As the country appears to move toward cannabis legalization at a federal level, it is imperative to research this issue in order to determine how to implement policies that are safe and provide a greater net benefit to all.

# INTRODUCTION

Cannabis sativa, commonly referred to as marijuana, is a plant with a long history in civilization and, more recently, controversy over its use. People have used the plant in many ways, from food and medicine to clothing and rope. However, under current US federal law, the cannabis plant is illegal to grow, use, and distribute. The legality of cannabis has become divisive in American discourse, between those who want cannabis legalization (across varying degrees of legality) and those who want it to remain prohibited. Within the past ten years, many American states have passed initiatives to legalize cannabis, nudging legalization at the national level and raising an important question: should the US legalize cannabis? This report investigates this question from a holistic perspective, examining different aspects of society that would be affected if the US were to legalize cannabis at the national level.

To begin, we approached our research by dividing the concept of “society” into five main sections to evaluate our research question. These sections are: public policy, incarceration and enforcement, public opinion, economic impacts, and medical research. We conducted extensive background research to further understand the history of cannabis, its current socioeconomic and legal status, and its relationship to each section of society we identified. During the early history of the US, cannabis was widely accepted; it was not until the 1930s that cannabis was made illegal. However, consistent efforts to enforce the prohibition laws did not appear until the Controlled Substances Act was passed in 1970.

As a result of cannabis prohibition, millions of citizens have been arrested for the possession and/or use of cannabis, and enforcement has cost the government billions of dollars. According to recent national polls, the majority of American citizens want cannabis use to be legalized (Pew, 2014). In states where legalization has been implemented, millions of dollars

have been generated in sales and tax revenues. Many economists agree that the introduction of cannabis to the legal market would create a multi-billion dollar industry at the national level. Experts are less certain about the medical benefits of cannabis versus the risks; the general consensus among the medical community is that more research needs to be done.

After completing background research, we executed a thorough literature review. In the literature review, we examined a range of relevant sources, including national surveys, expert opinions, academic research reports, and economic data. We then developed our methodology to answer the question: should the US legalize cannabis? Our research employed a mixed methods approach. We performed a qualitative review of our identified research sections, and then translated that review into a quantitative analysis in the form of a weighted sum model. This analysis was performed on a pass/fail basis, with an overall weighted score of 0.50 as the threshold, with the data used in this analysis obtained from external sources. Additionally, we conducted a survey to obtain additional data to support our weighted sum model.

From the weighted sum analysis, we determined that the US should legalize cannabis because of our overall weighted score of 0.783. Each of the five sections analyzed had individual scores greater than 0.50, implying that each section studied would experience a net positive effect if cannabis were legalized at the national level. Positive effects – job creation, greater tax revenue, lower law enforcement expenditures, and more medical research – contributed to the overall score favoring cannabis legalization. Our own survey produced similar results: 78.3% of Massachusetts respondents in our analysis indicated that the use of cannabis should be legal, compared to the 21.7% of Massachusetts respondents that did not. For the sections we assessed in the survey, the majority of respondents agreed that cannabis legalization would provide more benefits than costs.

Based on our extensive research, we concluded that the US should legalize cannabis; our survey and weighted sum analyses both support this stance. As legalization approaches, we recommend further research to be done on this issue, using our work as a foundation. Further research should be conducted on the following topics: 1) in-depth analysis on how cannabis legalization would affect a single societal section; 2) comprehensive evaluation of the effects of cannabis legalization that combines research from individual section analyses and big picture analyses; and 3) policy analysis to determine how cannabis legalization should be implemented.

# **BACKGROUND**

## **EARLY HISTORY OF CANNABIS IN AMERICA**

Cannabis, commonly known as hemp, marijuana (also spelled marihuana), weed, and pot, is a unique plant with a roller-coaster history in the United States. It has gone from being unregulated at any government level, to state regulated, to federally regulated, to federally illegal, and is now becoming decriminalized and legalized at the state level. Dating back to the early 1600s, cannabis played a large role in colonial agriculture (Abel 1980). Not only was the production of cannabis encouraged by the government, it was actually required in certain colonies, such as Virginia and Massachusetts (Abel 1980). Even notable public officials, such as US Presidents George Washington and Thomas Jefferson, grew cannabis (Abel 1980). By the 1800s, cannabis was utilized in all aspects of society, ranging from medicinal to industrial purposes (Abel 1980).

Cannabis was not portrayed in a negative light until the early 1900s, when Mexican immigration into the US was on the rise (PBS). Mexican immigrants, who primarily lived in lower-class neighborhoods, reportedly used cannabis as a recreational drug (PBS). At a time when racism was prevalent, the public began to associate cannabis with immigrants and minorities, demonizing the plant (PBS). This perspective began to spread to the state and federal level, leading to an increase in cannabis opposition across the public and levels of government (PBS). As a result, states began to restrict the use the cannabis, in turn leading to the enactment of federal policies in the 1900s (PBS). These policies are expanded upon in the next section.

## **POLICY**

Policy implementation regarding cannabis use, production, and distribution (especially at the state level) has been a main indicator of the nation's stance on cannabis. Federal legislation

regarding the regulation of cannabis did not appear until the early 1900s (PBS). The Pure Food and Drug Act of 1906 was the first federal measure to regulate drug use, requiring the labeling and licensed distribution of substances such as cannabis (Carpenter 2004). The Harrison Narcotics Tax Act of 1914 followed, increasing law enforcement protocols and levying taxes on narcotic substances, which, by their definition, included cannabis (Schafer). In 1936, the propaganda film “Reefer Madness” was created, persuading the public to fear the alleged dangers of cannabis proposed in the film (Gasnier, 1936; PBS).

Following the anti-cannabis campaign, the Marihuana Tax Act of 1937 was passed, restricting the possession and use to licensed individuals and levying greater taxes (Schafer). Although this act effectively outlawed it, cannabis prohibition was not federally enforced at large until the Comprehensive Drug Abuse Prevention and Control Act of 1970 (US Government Publishing Office). This law, commonly referred to as the Controlled Substances Act (CSA), classified numerous substances by their potential for abuse and accepted medical use. Cannabis was (and still is) considered a schedule one substance under this provision, the highest class of dangerous substances. To be classified as a schedule one substance, the policy requires that “the drug or other substance has a high potential for abuse... [and] has no currently accepted medical use in treatment in the United States” (FDA, 2009). After the passing of the CSA, cannabis became completely illegal across the entire nation. Cannabis regulation, along with legislation on other controlled substances, was enforced by the newly formed Drug Enforcement Administration (DEA).

Although cannabis had become illegal and strongly enforced at the federal level, the prohibition did not last very long. In 1973, just three years after the CSA was enacted, Oregon became the first state to decriminalize the possession of small amounts of cannabis (Scott, 2010).

Since then, twenty-seven states and the District of Columbia have legalized medical cannabis and/or decriminalized recreational cannabis (ProCon, 2015; Norml). In 2013, Deputy Attorney General James Cole issued a Memorandum to all US attorneys regarding the guidance of cannabis enforcement, calling for the prosecutorial discretion of cannabis use, production, and distribution in states where legalization and decriminalization policies have been established (Cole, 2013). In his Memorandum, Cole advised attorneys and federal government officials to monitor (but allow) state and local government enforcement of their respective legislation, as long as the states are able to ensure the priorities set forth by the Department of Justice are met (Cole, 2013). This trend in policy change and enforcement suggests that states prefer cannabis legislation to be different than current federal policies, as the majority of states have implemented legislation they deem to be more appropriate.

## **PUBLIC OPINION**

This trend of growing support for cannabis decriminalization and legalization can also be seen in American public opinion polls. The Pew Research Center has collected data from national polls that span over forty-five years, which includes the question: “Do you think the use of marijuana should be made legal, or not?” (Pew, 2015) The participants were given the choices of “yes, legal,” “no, illegal,” and “don’t know” (Pew, 2015). In 1969, the year before the CSA was initiated, 84% of adults thought the use of cannabis should be illegal, compared to just 12% who thought it should be legal (Pew, 2015). In 2000, 63% of adults thought the use of cannabis should be illegal, with the amount of adults supporting legalization rising to 31% (Pew, 2015). In 2015, the adults who thought cannabis use should be legal jumped up to a majority of 53%, while those who opposed legalization dropped to 44% (Pew, 2015). This means the public support for legalization has risen 41% since 1969, whereas opposition to legalization has

dropped 40%. Table 1 provides a visualization of the change in cannabis support over time, which can be seen below:

*Table 1. Responses to Question: Do you think the use of marijuana should be made legal, or not?*

<b>Year</b>	<b>1969</b>	<b>1985</b>	<b>2000</b>	<b>2015</b>
% pro-legal	12	23	31	53
% pro-Illegal	84	73	63	44
<b>% change pro-legal from 1969</b>	<b>0</b>	<b>11</b>	<b>19</b>	<b>41</b>

## **INCARCERATION & ENFORCEMENT**

The consequences of cannabis prohibition in the US are showcased in the national incarceration data provided by the Federal Bureau of Investigation (FBI). From 1995 to 2013, over 248.5 million arrests were made in the U.S, of which approximately 31 million were drug-related (FBI). Of those 31 million drug-related arrests, approximately half of them pertained to cannabis: 5.57% (of 31 million) were attributed to the sale and/or manufacture of cannabis and 40.44% (of 31 million) were due to possession of cannabis (FBI). That means from 1995-2013, over 14.2 million arrests were made regarding cannabis, of which over 12.5 million arrests were for mere possession charges. In other words, out of all people arrested in the US over a nineteen-year span, over one in twenty (5.04%) were arrested for possessing cannabis.

## **ECONOMIC IMPACTS**

Whenever a new product is introduced into an economy, companies emerge to capitalize on its potential. In the 2014, Colorado was the first state in the US to allow cannabis to be sold recreationally, which led to the creation of companies throughout the state focused on cannabis sales. As a result, Colorado has since become a leader state to which other states look as a policy model in their considerations of whether they should legalize. In Colorado, “legalization



basically created an economy out of thin air” (Sarich, 2014). Cannabis legalization in Colorado has created over 10,000 “marijuana-related” jobs due to recreational use with a prediction of 200,000 more jobs created in 2015 (Bennett, 2015). Through cannabis taxes, licenses, and fees, the state of Colorado collected over \$75 million in 2014 alone (Colorado Marijuana Tax Data, 2014). Thus, throughout this report, we use Colorado as an example of a policy model for other states if the national government were to legalize cannabis, not only because Colorado has legalized, but also because “the prevailing view among legalization advocates is that Colorado will be the leader in developing model policies and practices” regarding cannabis (Weiss, 2013).

Over half of Colorado’s revenue from cannabis has been through medical sales (Ingraham, 2015). Unfortunately, the legal sales in Colorado still have competition: the black market. Transactions on the black market obviously avoid taxes and licenses, and they maintain buyers’ anonymity. To go into the cannabis industry legally, companies must purchase licenses to grow and/or sell. As a result, the cost of legal cannabis is higher due to license fees and sales taxes. It is easier for black market growers and sellers to hide behind legalization because there is so much more cannabis on the streets and almost anyone can grow now (Rabouin, 2015). However, the black market is expected to dissipate once the operating costs of legitimate cannabis businesses begin to decrease with the development of better, legal supply chains and the increase in overall legal supply (Sullum, 2014).

## **MEDICAL RESEARCH**

Although Colorado has seen tax benefits from medical marijuana sales, the use of cannabis for medical applications is controversial. The medical field prescribes cannabis to ease the pain of patients who undergo difficult surgeries and to ease the symptoms of severe diseases and conditions. However, there are still many people who believe cannabis presents a greater

danger to the human body than the benefits are worth. Since the legalization movement has grown in the United States, key figures have joined it. Dr. Sanjay Gupta initially dismissed cannabis in 2009 and its usefulness in the medical field (Ferris, 2013). However, Gupta followed up with an article on why he changed his mind; he apologized for overlooking key facts regarding cannabis, its usefulness in the medical field, and the bias in medical research against cannabis (2013), points which are addressed in greater depth in the literature review.

People may be prescribed cannabis for medical purposes because of the effects that delta-9-tetrahydrocannabinol (THC) and Cannabidiol (CBD) – two naturally-occurring chemical compounds found in cannabis – have on the body. Cannabis has the potential to provide a range of uses in the medical field for the overall well-being of patients, yet we are not fully aware of the long term effects of cannabis on the human mind and body. Studies are currently being conducted to delve deeper into cannabis and the way it alters lives.

## **BACKGROUND CONCLUSION & RESEARCH QUESTION**

Current trends in policymaking and public opinion suggest that the United States at both state and national levels is moving towards different policy solutions to replace the existing federal legislation (CSA). With the majority of states implementing their own cannabis legislation (state level) and a majority of citizens supporting the legalization of cannabis (national level), we hypothesize that a majority of the American public would support changes to federal legislation in favor of legalizing cannabis. More specifically, we hypothesize that a majority of the American public would support changes to federal legislation that would legalize recreational cannabis use.

From this hypothesis, we developed the research question: Should the US legalize cannabis? To answer this research question, we reviewed: existing and emerging state policies

that challenge federal prohibition of cannabis, national public opinion surveys on cannabis legalization, incarceration research that shows the societal impacts of cannabis prohibition, economic research that shows the potential outcomes of legalization, and medical research that demonstrates potential benefits of usage.

# **LITERATURE REVIEW**

This project focuses on the historical and current legal status of cannabis in the United States and the foreseeable impacts from legalization of cannabis on a national level. As such, we analyzed sources from varying fields and perspectives to provide the paper with an academic framework on the current – and potential future – state of cannabis in the United States.

## **POLICY**

The current federal prohibition of cannabis in the US shares many parallels with the prohibition of alcohol in the early 1900s. In hindsight, alcohol prohibition was a massive policy failure. The goal of alcohol prohibition was to reduce alcohol consumption of the population, reduce crime, and improve the economy. However, alcohol prohibition led to unacceptable social and economic costs, including: the creation and vast expansion of a large black market; increases in violent crimes; increases in law enforcement expenditures; increases in federal government power; and decreases in tax revenue (Hall 2010). Ultimately, the support for prohibition declined, culminating in the repeal of prohibition in 1933.

Like the current War on Drugs, the prohibition of alcohol was created to reduce alcohol consumption. Supporters of the prohibition claimed that alcohol was leading to the moral corruption of the nation and that, if alcohol was outlawed, there would be a decrease in crime (Thorton 1991). Contrary to this belief, homicide rates increased significantly throughout prohibition (Thorton, 1991). And, not only did violence increase, but the very thing they were trying to reduce, alcohol consumption, actually increased during prohibition as well (Thorton, 1991). This trend in consumption is similar to what occurred with cannabis use after the CSA was implemented: the amount of Americans who tried cannabis increased from 4% in 1969 to 44% in 2015 (Gallup, 2015).

With drug use already prevalent, enforcing prohibition of such use can prove difficult and expensive. The prohibition of alcohol, just like the War on Drugs, was almost impossible to enforce (Nadelmann 1991). Instead of stretching law enforcement thin, and thus having to increase enforcement expenditures, Nadelmann believes alternatives should be considered (1991). He concludes by saying, “repealing the drug prohibition laws clearly promises tremendous advantages” to society, such as economic growth and greater medical care (Nadelmann, 1991).

## **PUBLIC OPINION**

Public opinion polls can be used as an indicator to determine the Americans’ stance on public policy topics such as cannabis legalization. In their analysis, Galston and Dionne investigate public opinion trends over the past forty years on the legalization of cannabis using data from the Pew Research Center. In their analysis, strong relationships between age, political affiliation, political ideology, and religion emerge with respect to overall opinion of cannabis. According to Galston and Dionne’s analysis of Pew’s data, particular demographic categories were more likely to be against legalization: respondents who were sixty-five years of age and older, Republican party affiliation, conservative political ideology, and regular religious attendance (one or more religious services per week) (2013). Despite these pockets of resistance, the majority of each and every demographic polled (including demographics stated above) agreed that government efforts to enforce marijuana laws cost more than they are worth and that federal governments should not enforce federal cannabis laws in states that allow cannabis use (Galston and Dionne, 2013).

The Pew Research Center provided its own analysis of the data, also investigating the change of public opinion over the past forty years regarding drug policies. Pew’s analysis

touches on several key points, beginning with drug treatment and mandatory prison sentences. According to Pew's data, the majority of citizens prefer providing treatment over prosecution for drug users, as well as believing that the trend in states moving away from mandatory sentencing is a good thing (2014). Not only did the majority of citizens across all demographics disagree with jail time for possessing small amounts of cannabis, they viewed alcohol as more harmful than cannabis (Pew, 2014).

In order to further understand Americans' stance on this issue, it is important to look at how they come to their opinion. In its analysis, the National Bureau of Economic Research (NBER) investigated potential key factors that impact individual preferences regarding substance use policy. The NBER hypothesized that beliefs about the costs/benefits of drug use, personal history drug use, and extent of peer drug use were main influences of policy preference (2011). According to the NBER's analysis, researchers found that current and past use of cannabis are major determinants of being pro-legalization (2011). In addition, the NBER found that those who used cannabis for a longer period of their lives and those who used cannabis more recently were more likely to support cannabis legalization (2011). The NBER concluded that, on average, benefits of cannabis legalization outweigh potential costs for both past and present users of cannabis (2011). This should be obvious, as legalization efforts would allow users (who already use cannabis regardless of legality) to use cannabis without having to commit a crime.

## **INCARCERATION & ENFORCEMENT**

Among the costs of cannabis criminalization has been high rates of incarceration for users and suppliers. Millions of citizens have been arrested and incarcerated for the use and supply of cannabis due to the War on Drugs. This massive influx of inmates has led to severe ramifications for the federal prison system and society as a whole. In her analysis, Miles

investigated prison overcrowding in the US and how the War on Drugs has impacted the problem of overcrowding. According to the Federal Bureau of Prisons, just under 50% of current federal inmates are serving sentences for drug offenses. This has increased substantially from 1970, when only 16% of the inmates were serving drug sentences (Miles, 2014). According to a 2012 Congressional Research Service report, the federal prison population has increased almost 800% from 1980 (25,000 inmates) to 2013 (219,000 inmates). This staggering amount of inmates is 36% over the rated capacity of the federal prison system for 2013 (James, 2014), which results in overcrowding. In addition to overcrowding, the per capita cost of incarceration for all inmates increased almost \$8,000 from \$21,603 in 2000 to \$29,291 in 2013 (James, 2014). The War on Drugs has not limited drug consumption and, consequently, is an overall policy failure (Miles, 2014).

Much of Miles' analysis was inspired by the analysis of Nathan James. James, representing the Congressional Research Service, investigated the significant increase in the federal prison population since the early 1980s (the same time the Sentence Reform Act was passed). According to James, the federal prison population has increased by approximately 5,900 inmates per year since 1980 (2014). The largest population of newly admitted inmates are for drug offenses (James, 2014). James notes that changes in federal sentencing and correctional policy occurred during the same time period that the prison population explosion began. Due to the high volume of incoming inmates, the federal prison system has become significantly overpopulated, with high and medium security male facilities operating at about 50% over capacity (James, 2014). This has caused many financial problems for the prison system and, ultimately, for tax payers (James, 2014). James concludes by recommending that Congress

reconsider the strict drug sentencing policies in place, as they are causing a negative effect on the US.

As James stated, it is important to consider policy reform due to the state of the federal prison system. Jacob Hicks investigated prison overcrowding in the US and how cannabis policy reform could help to solve the overcrowding problem (2014). Hicks touched on several key points, starting with sentencing of drug offenses and the War on Drugs. According to Hicks' research, stricter policies of the past have gradually "worked themselves out of the system," with more states implementing decriminalization efforts and lesser penalties for committing infractions (2014). In the states Hicks analyzed (Colorado, California, Washington, and North Carolina— all of which implemented some type of decriminalization policy), prison populations have leveled off or declined. Due to the overcrowding problem of the US prison system, Hicks concludes that large scale decriminalization of cannabis (and other drugs) will keep non-violent drug offenders out of prison, ultimately bringing benefits to society on a global scale by alleviating unnecessary tax payer money and providing these non-violent offenders a fresh start.

## **ECONOMIC IMPACTS**

Studies on the economic effects of cannabis legalization focus predominantly on findings and predictions from Colorado and California. These two states try to control the impacts of Medical Marijuana Dispensaries (MMDs) through many restrictions to protect the communities around them (Nemeth and Ross, 2014). Nemeth and Ross performed an analysis to see how different rules and regulations regarding zoning would affect where MMDs could be located, and thus how they could affect the value of land and homes nearby. Some people would prefer to stay away from MMDs, while people who use them regularly may desire a home closer to them.



This can start to affect the communities nearby and create cannabis friendly zones throughout a state, greatly altering the property values (Nemeth and Ross, 2014).

Yet the potential cannabis friendly zones would not be realized if there is no demand in a community for cannabis; therefore, we also looked into the research on demand, including a study that purports to be the “first to use an experimental simulated purchasing task to examine the RRE indices for marijuana” (Collins et al., 2014). Collins et al.’s results show that almost half of cannabis users spent \$100-\$200 on cannabis each month, with about a quarter of users above and below that threshold (2014). Like other supply and demand analyses, Collins’ research team observed that the more expensive cannabis is, the less people will buy it (2014). However, the curve tapered off far less as it got more expensive, meaning more people are willing to spend far more than initially predicted to continue using cannabis (Collins et al, 2014).

If cannabis is legalized, it will become an export for the United States, probably on both legal and illegal markets, while eliminating the cannabis imports we currently receive. Currently, the cost of cannabis throughout the US is greatly influenced by the distance it is being sold from Mexico (increasing by \$325-\$475 per pound per 1,000 miles from the border), showing that we import primarily (possibly exclusively) from Mexico (Caulkins and Bond, 2012). Upon legalization, once the cannabis industry matures in the US, importing from Mexico would no longer prove economically beneficial. Smuggling cannabis from the US to countries overseas where it is still illegal will become possible and, in turn, could drop the price of cannabis nationally and internationally (Caulkins and Bond, 2012). Yet, we will continue to see varying prices in the cannabis market as long as there is cannabis coming in from Mexico and being grown locally in the US (Caulkins and Bond, 2012).

As noted, eliminating cannabis imports from Mexico would change cannabis pricing in the US of, the extent of which cannot be predicted at this time. The details of the legislation passed would determine how it would affect the cost of domestically grown cannabis (Caulkins and Bond, 2012). Legalization will also create separate markets due to quality of product and purchasers' demographics. As seen in Sifaneck et al.'s article, there are varying methods of buying and selling cannabis, which are directly correlated to the quality of cannabis and consumer (Sifaneck et al., 2007). For example, white men tend to be charged more for cannabis than other demographics, while black men tend to be charged less (Sifaneck et al., 2007). Female buyers are also usually charged more (Sifaneck et al., 2007). In uptown New York City, the cost per gram is \$5 cheaper than in downtown (Sifaneck et al., 2007). This has to do with overall profit margins, quality of product, and risk of purchase. The risk of purchasing illegal substances is higher in a more affluent area where there are more law enforcement officials. Designer cannabis is simply more expensive than commercial cannabis, yet some people are willing to pay more for a higher quality product, just like luxury products in any other market (Sifaneck et al., 2007). Thus, the introduction of legal cannabis to the American public has the potential to create an entire new industry that will help the American economy and fund proactive government projects.

## **MEDICAL RESEARCH**

There is a lot of controversy that surrounds the use of cannabis in the medical field. Some medical experts believe it is too dangerous and risky, while others see how it can help their patients in need. At this time, cannabinoids have only been FDA approved in tablet form; however, they can also be smoked legally in twenty-three states and the District of Columbia (Fife, 2015). "Medical marijuana" is already used to treat a range of ailments (Table 2), such as

spasms, central/neuropathic pain, bladder dysfunction, tremors in Multiple Sclerosis, Huntington's disease, dopamine-related dyskinesia in Parkinson's disease, Tourette syndrome, and epilepsy (Fife, 2015). Despite some existing availability in medical practice, research studies that look at the benefits of medical cannabis are rare in the literature. Cannabis is still a schedule one substance, which means it is already assumed to have no medical use; as such, the government will not support studies for a research area in which they have already drawn conclusions and developed policy responses (Fife, 2015), contributing to the lack of research.

Although there is initial confirmation that cannabinoids can provide medical benefits, there are also many risks that are present with legalization, such as abuse of medical cannabis by recreational users. The main argument for not legalizing cannabis for medical use is “that the benefits of cannabis – particularly when smoked – remain scientifically unproven, not only on its own merits but also compared with other available treatments,” which relates directly back to there not being enough experimentation regarding the issue (Bostwick, 2012). At this point, only four pharmaceutical cannabinoids have been marketed, and only two of those are in the US: dronabinol and nabilone, which both use the plant's primary drug, THC (Bostwick, 2012).

Upon legalization, problems regarding cannabis will remain for some time. For example, those in the medical field will need to be properly educated regarding administration and use (Ware and Ziemianski, 2015). This education will also cost money, money that will have to come from stakeholders with interest in making medical cannabis a large market (Ware and Ziemianski, 2015). New drugs are typically produced for a specific purpose, tested, then distributed, and cannabis has clearly not followed this process (Ware and Ziemianski, 2015).

The ability to isolate the two main chemical components from cannabis that can be utilized and highlight the positives and negatives on the human mind and body is critical to the

widespread use of cannabis in the medical field. In his review, Carlini had to look to research performed outside of the US due to the bias of research we have in the US. Carlini observed there to be four uses of medical cannabis that are essentially irrefutable; it can be used to address nausea/vomiting, appetite issues, pain, and symptoms of multiple sclerosis (MS) (Carlini, 2004). Meanwhile, cannabis can affect the psyche, cognition, and psychomotor performance of the user (Carlini, 2004). Different people react differently to THC; some relax, while others become anxious and there is no way of knowing how someone will react until they experience the drug (Carlini, 2004). Legalization will allow for the proper data to be gathered on medical cannabis while improving patients' quality of life.

## METHODOLOGY

To answer our research question, we evaluated the key societal elements affected by cannabis legislation by utilizing a weighted sum model. Weighted sum models are used to illustrate the importance of specific elements of a whole in comparison to other parts. We utilized the weighted sum model to help determine whether cannabis should be legalized on a national level. The weighted sum model helped create an accurate balance between different elements to answer the question at hand.

A common example of a weighted sum model is a grading rubric for a class. Multiple sections are evaluated, with each section carrying a weight. For example, a teacher might designate grading sections as the following: exams as 60%, assignments as 25%, and attendance as 15% of the total grade. In this case, exams, assignments, and attendance have weights of 0.60, 0.25, and 0.15, respectively. Each section produces a weighted score, with the sum of the weighted scores producing a total score. The following table illustrates the calculation of the total grade for a student with a 60% exam average, 100% assignment average and 100% attendance average:

*Table 2. Weighted Sum Model Example with Results*

<b>Section</b>	<b>Weight</b>	<b>Raw Score</b>	<b>Weighted Score</b>
Exams	0.60	60/100 (60%)	0.36
Assignments	0.25	100/100 (100%)	0.25
Attendance	0.15	100/100 (100%)	0.15
<b>TOTAL</b>	<b>1.00</b>	<b>260/300 (87%)</b>	<b>0.76 (76%)</b>

As can be seen in this example, the total raw score and the total weighted score differ significantly. Although the raw score would have been an 87%, the weighted score is only a 76%

due to certain sections having more weight than others. This is done to prioritize the importance of evaluation criteria relative to each other. Since the raw score of exams is deemed more important than the other sections, exams have a greater weight than assignments and attendance, and, therefore, have a greater influence over the final grade.

We decided to utilize the weighted sum model in order to accurately represent the importance of each one of the sections in our report. This helped demonstrate how each of our sections had a different level of influence on policy change in the United States. For example, there was significant weight assigned to the economic and medical elements because both are backed by companies who influence politicians and legislature through funding. With the data we acquired, it became evident that the economic, policy, and medical elements of this report had the potential to carry the most influence in policy change, and therefore have the highest weights.

In our model, each element was given a weight, with the weights of all elements summing up to 1. Each element’s weight was determined by the extensive research we performed on the topic and how each typically drives changes in legislature in the United States. Our weighted sum model can be observed in Table 3 below.

*Table 3. Weighted Sum Model with Weights*

<b>Section</b>	<b>Weight</b>
Economic	0.30
Medical	0.20
Policy	0.25
Public Opinion	0.10
Incarceration & Enforcement	0.15
<b>TOTAL</b>	<b>1.00</b>

Over the course of completing our literature review, we were unable to find any reports that explicitly stated how each element would drive policy change. Therefore, we determined our own weights based on the research we conducted on previous major changes in legislation. From our research, we found that one of the biggest reasons cannabis has been legalized in many states is due to the overwhelming revenue that can be generated from cannabis sales. For example, Colorado served as America's test case for legalization. Once it became clear how much revenue Colorado was able to generate from cannabis taxes (\$53 million in the first year), other states took notice (Colorado Marijuana Tax Data, 2014). The economic benefits from cannabis legalization have thus been given the most weight because they clearly inspired additional states, such as Ohio, to try to legalize (Phillips, 2015).

Widespread policy changes at the state level apply pressure on the national government as well, as can be seen from previous laws that have been passed from the state level up to the national level (such as prohibition, women's suffrage, interracial marriage, same-sex marriage). There was a clear trend showing states legalizing cannabis at a rapid rate, only eight having legalized for medical use by 2000, then twenty-three and the District of Columbia by 2015. The spread of cannabis legalization state-by-state has produced pressure on the federal government to legalize at a national level in order to harmonize regulation. As a result, the policy element also carries significant weight in our weighted sum model.

Another important driving force for legalization lies in the medical benefits of cannabis. Despite the lack of sufficient research in the United States regarding cannabis and its use in the medical field, it is clear from research performed in other countries that cannabis can help people with a range of medical issues. Many states legalized cannabis for medical purposes and not for recreational use. This has helped the legalization movement in the long run because they have

familiarized people and began making changes with a far less controversial concept (helping people with medical problems) than using cannabis recreationally. The amount of time and resources spent on enforcing the current laws against the use of cannabis nationwide could be used in other areas: for example, projects to better society's daily life, national security, or education. The general public has the power to make changes in legislature through voting and by applying pressure on companies and government officials through market choices. However, less than 60% of the public voted during the 2012 presidential election (Bipartisan Policy Center, 2012). Additionally, Americans generally do not take an active role in the fight for legalization unless they are very passionate about it. Therefore, we ranked public opinion as the lowest influential element of the legalization process, and consequently have given it a lesser weight in our model.

The assessment of each section was executed using evaluation questions. We determined the score of each section based on how current data and trends regarding cannabis and its potential societal impacts answer these evaluation questions. Current data include national polling data on cannabis, our survey data, and economic, medical, incarceration, and enforcement research from credible sources. Trends include changes in the public's opinion on cannabis over time, changes in cannabis policy implementation over time, and the trends in previous controversial issues moving from state legislation to national legislation (such as same-sex marriage, women's suffrage, etc.). Each section and their respective criteria are as follows:



Table 4. Section and Respective Evaluation Criteria

Section	Criteria
<b>Economic</b>	<ul style="list-style-type: none"> <li>• Determined how legalization would affect the economy on both micro and macro scales and determined if the economic benefits outweigh the costs. Evaluation questions can be found in Appendix C.</li> <li>• In addition to our evaluation questions which were based solely off our research, the economic evaluation questions from our survey and the subsequent scores were implemented into the analysis. The economic evaluation questions from our survey can be found in Appendix A.</li> </ul>
<b>Medical</b>	<ul style="list-style-type: none"> <li>• Determined if cannabis could be used in the medical field, and if so, if the positive effects outweigh the negatives. Our evaluation questions can be found in Appendix C.</li> <li>• In addition to our evaluation questions which were based solely off our research, the medical evaluation questions from our survey and the subsequent scores were implemented into the analysis. The medical evaluation questions from our survey can be found in Appendix A.</li> </ul>
<b>Incarceration &amp; Enforcement</b>	<ul style="list-style-type: none"> <li>• Determined how cannabis and its current legal status effects incarceration rates and the federal prison system, if the costs of incarcerating cannabis users outweighed the benefits, and how legalization would affect the prison system and society at the macro and micro scales. Evaluation questions can be found in Appendix C.</li> <li>• In addition to our evaluation questions which were based solely off our research, the incarceration and enforcement evaluation questions from our survey and the subsequent scores were implemented into the analysis. The incarceration and enforcement evaluation questions from our survey can be found in Appendix A.</li> </ul>
<b>Public Opinion</b>	<ul style="list-style-type: none"> <li>• Determined how the general public felt about legalization, how the changes in public opinion regarding cannabis legalization changed over time, and what influencing factors made them feel the way they do regarding cannabis and the argument surrounding legalization. Evaluation questions can be found in Appendix C.</li> <li>• In addition to our evaluation questions which were based solely off our research, the public opinion evaluation questions from our survey and the subsequent scores were implemented into the analysis. The public opinion evaluation questions from our survey can be found in Appendix A.</li> </ul>
<b>Policy</b>	<ul style="list-style-type: none"> <li>• Analyzed and compared state and federal policies to determine if legislation regarding cannabis moved toward or away from legalization. Evaluation can be found in Appendix C. Since we did not ask policy questions in our survey, the evaluation of this element was based solely on our research.</li> </ul>

The overall weighted score was evaluated on a pass/fail basis: an overall score greater than 0.50 would imply the US should legalize cannabis, whereas a score below 0.50 would indicate the US should not legalize cannabis. A score of 0.50 would indicate more research must be done to determine a conclusive score. We decided to use a pass/fail evaluation method because of common decision making practices. If the benefits of a particular decision outweigh all associated costs, then common decision making practices dictate that the particular decision should be made. A score greater than 0.50 would indicate the benefits outweighed the costs, which means this decision (legalizing cannabis) should be made. Due to the fact that the benefits of legalization would help some states more than others, we could see where more influential states in policy change stand on the issue as well as how it would affect the country as a whole.

To strengthen our evaluation, we polled citizens across the United States on different aspects of cannabis. The poll (Appendix B) was held online, which allowed us to reach a larger sample at a relatively low cost. We polled citizens across the country, utilizing snowball sampling through email and social media requests to collect data. We began our polling by contacting personal friends, associates, and online groups across the country. From there, we asked all participants to reach out to all of their associates and friends, and so on and so forth. Our goal was to receive significant data from the following states: Colorado (CO), Oregon (OR), Washington (WA), California (CA), Massachusetts (MA), New York (NY), Louisiana (LA), Alabama (AL) and Texas (TX). The survey was distributed twice, once in December and once in January. We sent out the first notice on December 9<sup>th</sup>, after quickly being approved by the IRB. The second notice was sent out January 20<sup>th</sup>. The survey was open until February 3<sup>rd</sup> at midnight, allowing for eight weeks of data collection. We chose eight weeks as our data collection range to allow enough time to obtain data from the states we were most interested in.

At the start of the survey, we included a prompt that explained the common synonyms of cannabis. We let participants know that we would be using the term ‘cannabis’ throughout the poll. In addition, we notified the participants that: participation was voluntary; they could end their participation at any time; they did not have to answer every question; and that the survey was completely anonymous. First, we asked two qualifying questions: citizenship and age. If the participant indicated that they were neither a US citizen nor that they would be 18 years of age before the next presidential election, their survey would end. We were only interested in obtaining responses from US citizens who would be eligible to vote for the upcoming presidential election.

Once we qualified our participants, we asked some basic demographic questions. These were used in our analysis to see if there are any correlations/trends among demographics. Next, we asked them some questions pertaining to the economic, medical, public opinion, incarceration, and enforcement impacts of cannabis legalization. To conclude, we asked participants to rank, from most to least influential, each topic’s influence in changing cannabis policy on a national level (1 being most influential, 5 being least influential).

We chose to focus on the states listed above for polling because of their influence on policy change, their stance on cannabis, and their political ideology. Texas (anti-cannabis state where cannabis is currently illegal), California, and New York are populous states that have large effects on policy change. Colorado, Oregon, and Washington have all legalized recreational cannabis (pro-cannabis). Alabama and Louisiana are very conservative states (according to Gallup poll) and are anti-cannabis (states where cannabis is currently illegal), whereas California and Massachusetts are very liberal states (according to Gallup poll) and are pro-cannabis (cannabis currently legalized/decriminalized) (Gallup, 2015). We acknowledge that polling from

a sample of states is not identical to polling from across the entire nation. However, we were confident in this representation of Americans' opinions because our selection of states provides a balance of significant population and varying stances on cannabis.

In addition to focusing on certain states, we chose to include only four of our five sections in our polling. We omitted the policy section from the survey because it would be difficult to poll policy-related questions to participants that have not done specific research on policy changes over time. Instead, we relied solely on our research for evaluating that section. The other four sections do not require as much previous research knowledge in order for participants to answer related questions. These four sections used poll data in conjunction with our research data to produce each respective raw score. To validate our sample selection and weights, we made the following comparisons: our poll data vs. national poll data, and our weights vs. citizens' weights.

Comparing our poll data with national poll data allowed us to validate our sample as being an accurate representation of the US as a whole. We compared demographic data concurrently with the following question: "Do you believe cannabis should be legal?" This is the same question asked in the national poll data (Pew Research), providing a legitimate comparison to see how our sample stacked up to the sample of the national poll. Although there was national poll data available regarding cannabis, we had unique questions in our survey that added more information about public opinion and helped us in our own evaluation.

Comparing our weights with those of the people we polled provided some validation for our research methods, specifically the weights we have determined. This comparison was significant because we were able to directly compare how we as researchers view this complex issue versus the ordinary citizen. The direct comparison allowed us to see if our evaluation of

cannabis policy reform is in line with the public, providing a means of validation and justification.

We acknowledge that there are potential shortcomings with our methodology, including:

1. Utilizing a weighted sum model in conjunction with qualitative analysis as a method for evaluating if a particular policy should be implemented;
2. Asserting the particular elements we chose are an accurate representation of the elements that actually influence policy change;
3. Choosing the specific weights we applied to each element;
4. Using evaluation questions to determine the weighted score of each section; and
5. Any potential bias that might occur from our survey sampling methods.

Despite these potential shortcomings, we are confident in our methodology for the following reasons: 1) Although a weighted sum model has not been extensively used in this manner, it is still a credible method with theoretical significance. 2) The elements we chose incorporate all major elements of society that impact policy change. Elements such as scientific research and corporate influence are integrated into the elements we have chosen. 3) As explained earlier in this section, the weights we have chosen were determined based on how these elements influenced other major legislative changes. In addition, we will compare our weights with the citizens' weights from the survey as a means of further validation. 4) Utilizing evaluation questions with a point system is the only legitimate way of integrating our data weighted sum model. Without an evaluation question and point system, a score cannot be generated. 5) With snowball sampling, we acknowledge that we might not obtain the actual distribution of demographics at the national level. That is why we are comparing our demographic data with data obtained from the Pew Research Center to determine any potential demographic bias.

As such, we believed these shortcomings to be rather minimal. Based on our extensive research, we assert we covered enough angles to provide credible research results. Overall, we

are confident in our methodology and invite other researchers to try a similar approach in performing a comprehensive review of current and possible future policies regarding cannabis legalization.

## **RESULTS**

As described in the methodology chapter of this report, we answered our research question (Should the US legalize cannabis?) by employing a weighted sum model. This weighted sum model is made up of sections, each assigned a specific weight. The total score is determined by adding up the weighted scores of all the sections. Each section has a score based on evaluation questions. The complete analysis of the evaluation questions and the calculation of the total weighted score can be found in Appendix C. This chapter includes a summary of results from our analysis.

### **MEDICAL RESEARCH**

In our medical analysis, we evaluated three questions to determine whether cannabis should be legalized in the US. Our in-depth analysis for the medical section can be found in Appendix C2. In this section, we considered whether cannabis could be used in the medical field, and if so, if the positive effects of such use would outweigh the negative effects. Our analysis indicated that results vary drastically depending on who is conducting the research. Some research shows the potential for cannabis to replace other pharmaceuticals, such as Vicodin and Xanax among others (see Appendix C for a more detailed list). However, cannabis research has been limited due to legal restrictions, preventing potentially more definitive results. Based on the variation in this issue area and research on our questions, we have determined the raw score of the medical section to be 0.600, meaning because it is greater than a rating of 0.500, cannabis should be legalized such that further research may be performed and utilized in the medical field appropriately. The results from the analysis can be seen in the following table:

Table 5. Medical Section Raw Scores

Question	Raw Score (Fraction)	Raw Score (Decimal)
<b>1.1 + 1.2</b>	*50/100	*0.500
<b>1.3</b>	80/100	0.800
<b>Overall Score</b>	60/100	<b>0.600</b>

\*For full explanation of scoring, see appendix C.

## ECONOMIC IMPACTS

In our economic analysis, we evaluated four questions to determine whether cannabis should be legalized in the US. Our in-depth analysis for this section can be found in Appendix C2. In this section, we considered whether cannabis legalization would positively affect the economics throughout the US. The results from the analysis can be seen in Table 5. Our analysis indicated that thousands of jobs would be created annually by the cannabis industry and would therefore contribute to the growth of the US economy. Over 300 economists have predicted that the American government will net \$13.7 billion annually from legalization between enforcement costs saved and tax revenue generated (Miron, 2005). Based on the significant amount of money and jobs generated from cannabis legalization, we have determined the raw score of the economics section to be 0.938.

Table 6. Economic Section Raw Scores

Question	Raw Score	Raw Score (Decimal)
<b>2.1</b>	100/100	1.000
<b>2.2</b>	75/100	0.750
<b>2.3 + 2.4</b>	*100/100	*1.000
<b>Overall Score</b>	93.8/100	<b>0.938</b>

\*For full explanation of scoring, see appendix C.



## INCARCERATION & ENFORCEMENT

In our incarceration and enforcement analysis, we evaluated three questions to determine whether cannabis should be legalized in the US. Our in-depth analysis for this section can be found in Appendix C3. In the incarceration and enforcement section, we considered whether cannabis legalization would positively affect law enforcement, prisons, cannabis users, and society as a whole. Our analysis indicated that cannabis legalization would prevent millions of non-violent cannabis users from being arrested and get thousands of non-violent cannabis users out of jail. In addition, cannabis legalization would reduce law enforcement expenses (taxpayer money) by over \$5 billion per year. Based on the substantial amount of money that could be saved on law enforcement expenses and people who could be freed from legal penalties (and therefore able to contribute to society), we have determined the raw score of the incarceration and enforcement section to be 1.000.

*Table 7. Incarceration & Enforcement Section Raw Scores*

<b>Question</b>	<b>Raw Score (Fraction)</b>	<b>Raw Score (Decimal)</b>
<b>3.1</b>	100/100	1.000
<b>3.2</b>	100/100	1.000
<b>3.3</b>	100/100	1.000
<b>Overall Score</b>	100/100	<b>1.000</b>

## PUBLIC OPINION

In our public opinion analysis, we evaluated three questions to determine whether cannabis should be legalized in the US. Our analysis for this section can be found in Appendix C4. In the public opinion section, we considered whether cannabis legalization is supported by the public and how the public's level of support has changed over time. Our analysis indicated that the majority of citizen's support cannabis legalization, with the percentage of support

increasing by over 400% since 1969. Based on the amount of support for cannabis legalization and how that support has increased over time, we have determined the raw score of the public opinion section to be 0.712.

*Table 8. Public Opinion Section Raw Scores*

<b>Question</b>	<b>Raw Score (Fraction)</b>	<b>Raw Score (Decimal)</b>
<b>4.1</b>	52.5/100	0.525
<b>4.2</b>	61.0/100	0.610
<b>4.3</b>	100/100	1.000
<b>Overall Score</b>	71.2/100	<b>0.712</b>

## **POLICY**

In our policy analysis, we evaluated two questions to determine whether cannabis should be legalized in the US. Our analysis for this section can be found in Appendix C5. In the policy section, we considered whether cannabis legalization is already being implemented in the US and to what degree. Our analysis indicated that four states and one district have outright legalized recreational and medical cannabis use, the majority of states have decriminalization measures in place, and the majority of states that do not have outright cannabis legalization in place have ballot/legislative initiatives to expand the use of cannabis. Based on the amount of states that have legalized and/or decriminalized cannabis use and the amount of states that have upcoming initiatives to expand cannabis use, we have determined the raw score of the policy section to be 0.644.

Table 9. Policy Section Raw Scores

Question	Raw Score (Fraction)	Raw Score (Decimal)
5.1	28/51	0.549
5.2	34/46	0.739
<b>Overall</b>	64.4/100	<b>0.644</b>

## TOTAL WEIGHTED SCORE

The total weighted score was calculated by adding the sum of the weighted scores of each section. Once we completed the full analysis, each section produced a raw score. Then, we multiplied the raw scores by each respective weight, producing a weighted score for each section. The total weighted score was calculated to be 0.783.

Table 10. Total Raw and Weighted Scores of All Sections

Section	Weight	Raw Score	Weighted Score
<b>Medical</b>	0.20	0.600	0.120
<b>Economic</b>	0.30	0.938	0.281
<b>Incarceration &amp; Enforcement</b>	0.15	1.000	0.150
<b>Public Opinion</b>	0.10	0.712	0.071
<b>Policy</b>	0.25	0.644	0.161
<b>OVERALL</b>	1.00	0.779	<b>0.783</b>

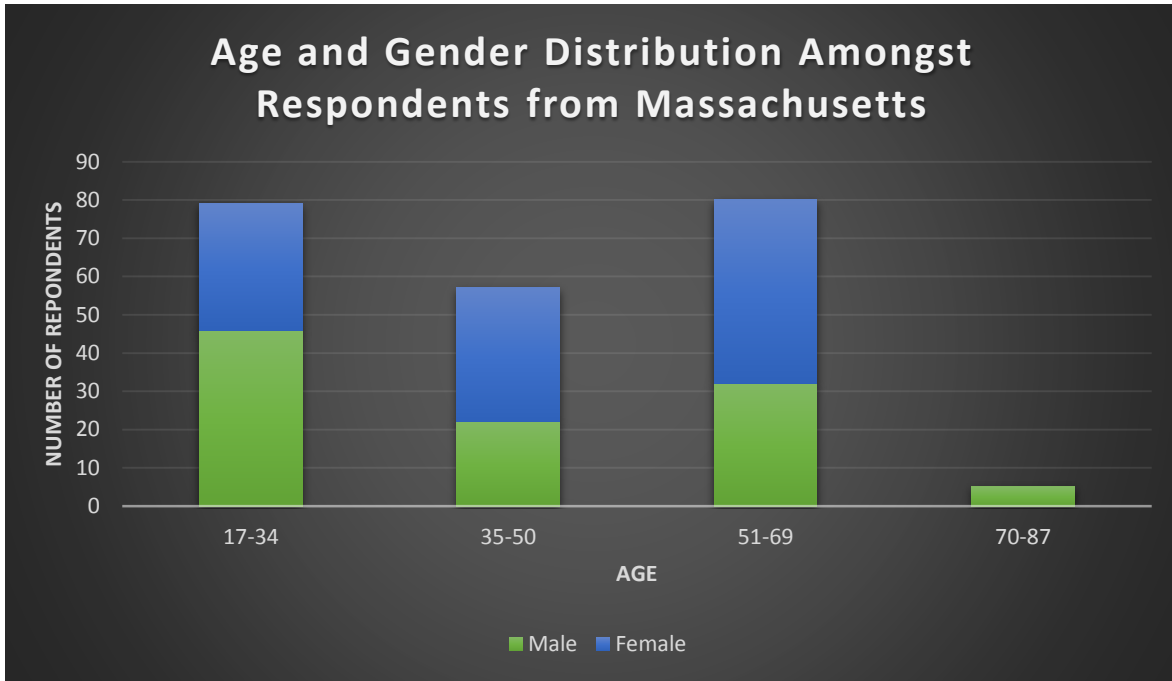
## SURVEY

In our survey analysis, we evaluated a number of questions to determine how the general populace feels regarding the legalization of cannabis in the United States. We attempted to acquire data nationwide utilizing the snowball method (as mentioned in our methodology). After reaching out to over twenty organizations and over 500 individuals in our personal networks

across the country, we received 376 survey responses. Due to the low number of responses from other states, Massachusetts was determined to be the only state to have produced a significant number of entries to allow data analysis with a good representation of the population (for a full breakdown of number of responses from each state, see Appendix D).

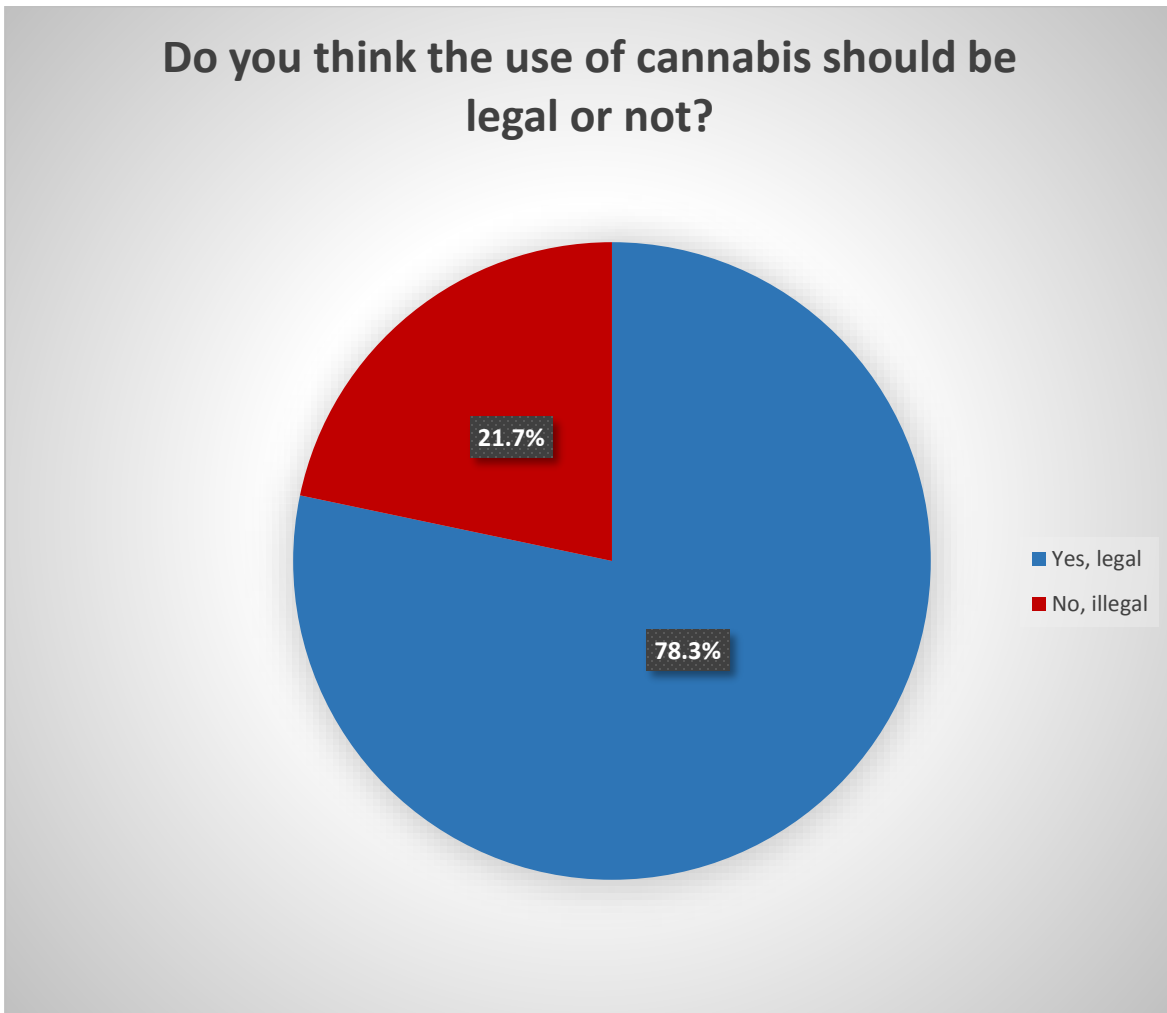
We thus analyzed our data with a focus on the significant number of responses (223 out of 376) from Massachusetts. We looked at demographics to make sure our survey results were not skewed within Massachusetts to ensure the data included a range of perspectives. Below, we compare the number of people who said they want to legalize cannabis, want to legalize for medical use, and recreational use. We also looked into how many people thought more research should be conducted on the medical effects of cannabis regardless of their stance on legalization. Additionally, we analyzed how people thought cannabis would affect the medical, economic, and incarceration and enforcement areas of society on a grand scale.

Figure 1. Age vs. Gender of Respondents (Massachusetts survey data; 223 total respondents)



As seen in Figure 1, with a near perfect split between male and female respondents (48.0% and 52.0%) and a good distribution between age groups (excluding the 70-87 grouping), we found that 78.3% of responses indicated that the use of cannabis should be legal (as can be seen below in Figure 2).

Figure 2. Responses to Question #8 (Massachusetts survey data; 223 total respondents)



85.6% of respondents stated that they either agree or strongly agree that the United States should legalize cannabis for medical use as seen in Figure 4, while 65.8% say the United States should legalize cannabis for adult recreational use as seen in Figure 3.

Figure 3. Responses to Question #10 (Massachusetts survey data; 223 total respondents)

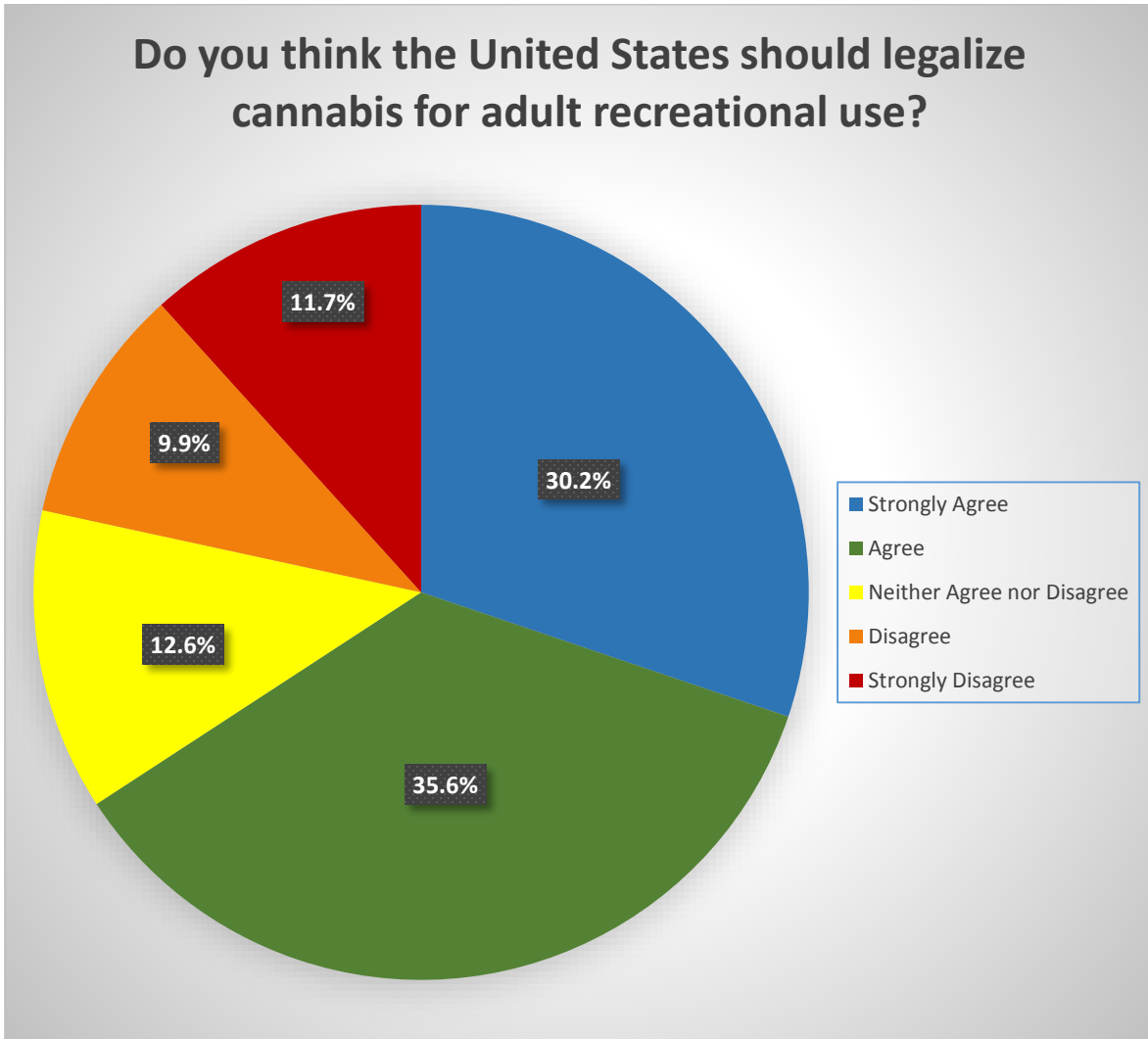
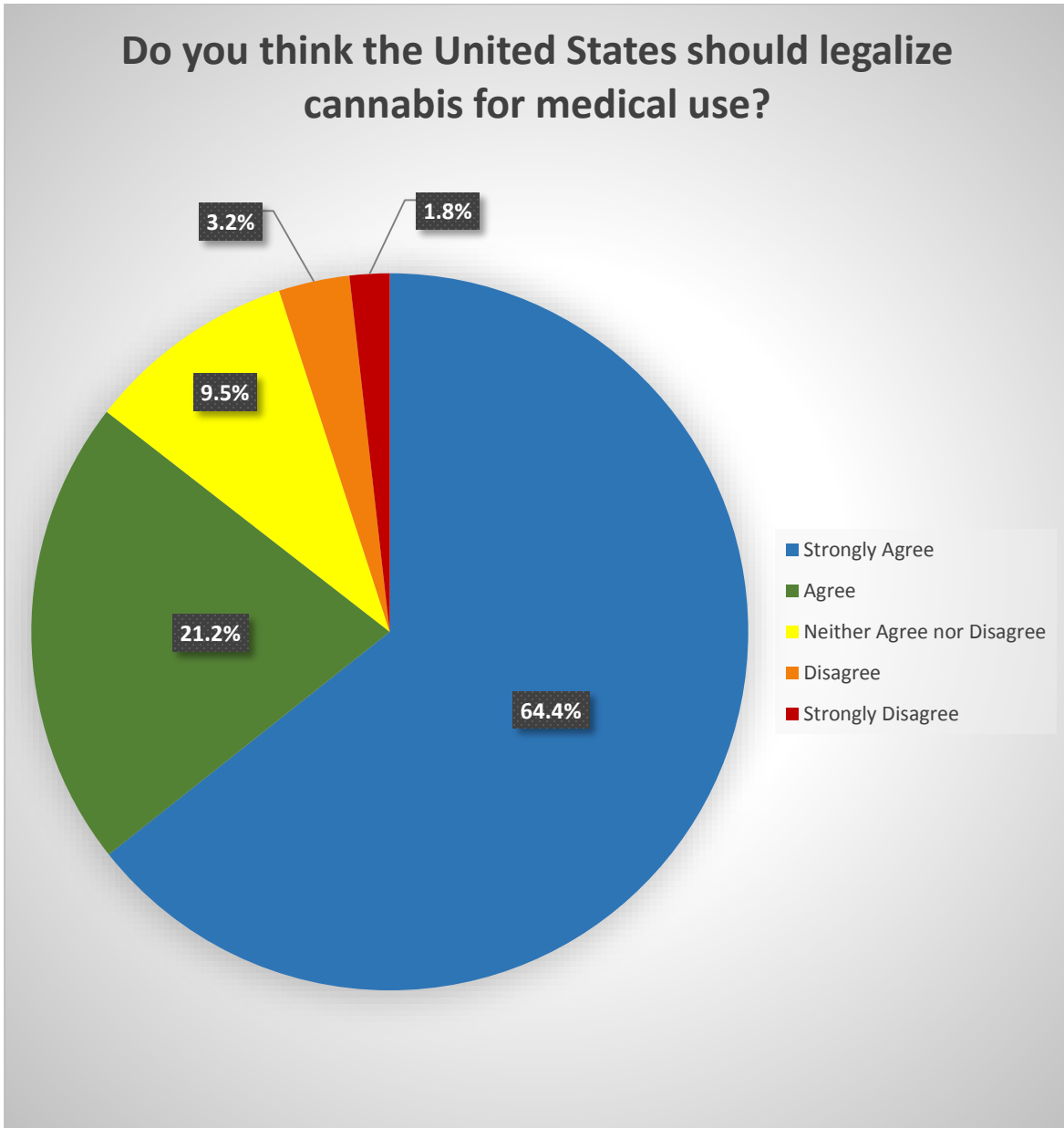


Figure 4. Responses to Question #9 (Massachusetts survey data; 223 total respondents)



79.5% of respondents think recreational cannabis should be regulated like alcohol. Table 10 shows that the majority of respondents believe that the law enforcement and incarceration (68.4%), medical (60.0%), and economic (56.2%) opportunities and benefits of cannabis legalization outweigh their own costs. Meanwhile, the percent of respondents who believe that



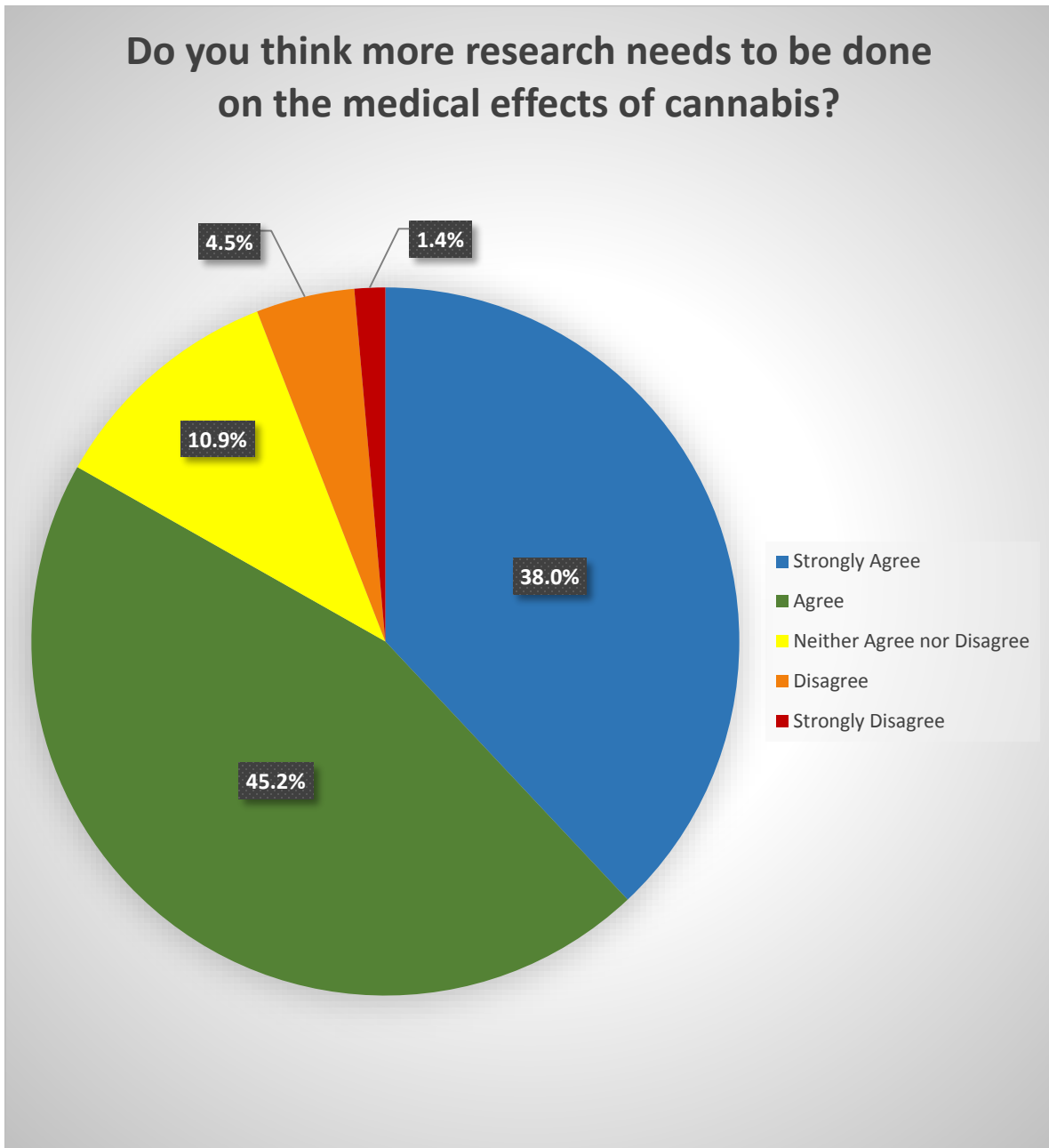
the costs outweigh the opportunities and benefits for each section are 8.9% for incarceration, 7.7% for medical, and 201.1% for economic.

*Table 11. Benefits vs. costs of cannabis legalization for different sections  
(Massachusetts survey data; 223 total respondents)*

<b>Stance/Question</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neither Agree nor Disagree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>Do you think the law enforcement and incarceration benefits of cannabis legalization outweigh the enforcement and incarceration costs?</b>	38.6%	29.8%	22.8%	4.7%	4.2%
<b>Do you think the medical opportunities and benefits of cannabis legalization outweigh the medical costs?</b>	33.6%	26.4%	32.3%	5.0%	2.7%
<b>Do you think the economic opportunities and benefits of cannabis legalization outweigh the economic costs?</b>	26.5%	29.7%	23.7%	12.3%	7.8%

3.2% of people surveyed in Massachusetts said that they believe people should be imprisoned for cannabis use, while 16.2% think that cannabis users should be legally penalized. As seen in Figure 5 below, 83.2% of respondents think that more research on the medical effects of cannabis should be conducted, while only 5.9% do not.

Figure 5. Responses to Question #15 (Massachusetts survey data; 223 total respondents)



90.5% of respondents believe that cannabis should be reclassified from its DEA assigned schedule one substance so that more research may be conducted.

## CONCLUSION

The analysis of our research question (Should the US legalize cannabis?) was executed by utilizing a weighted sum model. As noted in the results chapter of this report, our weighted sum model produced an overall weighted score of 0.783 out of 1. As seen in our methodology, we evaluated our overall weighted score on a pass/fail basis: an overall score greater than 0.50 would imply the US should legalize cannabis, whereas a score below 0.50 would indicate the US should not legalize cannabis. Since our overall weighted score of 0.783 is greater than 0.50, we determined that the US should in fact legalize cannabis. Not only was the overall weighted score greater than 0.50, but the raw scores for every section were all greater than 0.50. This means that every main section of society analyzed in this research (economic, medical, incarceration and enforcement, public opinion, and policy) will experience more benefits than costs if cannabis is legalized in the US.

This conclusion has profound implications. First, if legalizing cannabis is determined to produce more pros than cons in every section of society we analyzed, then it is implied that no section of society we reviewed will have a net negative effect from legalizing cannabis. The second implication is that every section of society we assessed, as well as society as a whole, will have a net negative effect for continuing the prohibition of cannabis. This is very similar to what occurred with alcohol prohibition in the early 1900s. Alcohol started off as being legal. Then, alcohol prohibition was implemented in 1920. As time progressed, alcohol prohibition created more problems than it was solving, leading to the eventual removal of prohibition. In other words, alcohol prohibition, just like cannabis prohibition, produced a net negative effect on society, leading to the repeal of alcohol prohibition. We thus anticipate that, just as alcohol prohibition was repealed, cannabis prohibition will be repealed as well.

As more states continue to implement ballot initiatives and legislative changes expanding the legalization of cannabis, it is apparent that the US is moving towards legalization at the national level. This trend of legislative change from the state to the national level can be seen in many other controversial policies that followed a similar path, such as women's suffrage and same-sex marriage. The first state to allow women the right to vote was Wyoming in 1890. Over the following thirty years, more states granted women the right to vote. This movement culminated in 1920 with the passing of the 19<sup>th</sup> Amendment, which granted women the right to vote at the national level. If we look to same-sex marriage as another example, we see that it was first allowed in Massachusetts in 2004. Over the following eleven years, more states granted same-sex couples the right to marry. This movement culminated in 2015, with the national government granting same-sex couples the freedom to marry throughout the country.

As can be seen with these examples and similar movements (alcohol prohibition, interracial marriage, abortion, etc.), the time it takes for legalization to move from the state to the national level seems to accelerate as time has moved forward. Women's suffrage took thirty years; same-sex marriage took eleven years. With Colorado being the first state to legalize the use of cannabis in 2012, one could infer that it could take less than eleven years before cannabis is legalized at the national level (legalized by 2023). Although a specific time line is impossible to predict, it can be clearly observed that more states are moving towards legalization and citizens' support for legalization is moving towards acceptance.

This observation is seen not only in policy changes, but with public opinion data as well. In each of the national polls we researched (Pew, Gallup, and YouGov), the majority of respondents supported the legalization of cannabis. We found similar results in the survey we distributed. Since we were unable to collect statistically significant data from a range of states,

we focused our survey analysis on the state of Massachusetts, where we were able to collect 223 responses. In Massachusetts, 78.3% of respondents said they think cannabis should be legalized. Interestingly enough, that is the same value as our overall weighted score. Another result from our survey was that the majority of respondents across all demographic categories (age, gender, political affiliation, and political ideology) were in support of cannabis legalization. From this data, we conclude that survey respondents across all major demographics in Massachusetts believe that cannabis legalization would produce a net positive effect.

It has become increasingly clear that America is moving toward cannabis legalization. However, the big question that continues to arise is: how does the US legalize cannabis from a policy and regulatory standpoint? Two of the more popular stances regarding the structure of a future regulatory framework for cannabis are: 1) regulating recreational cannabis like alcohol with tight government regulation and higher tax rates or 2) allowing independent, professional associations to set regulatory standards and best practices with a lower tax rate. Either way, based on the research that we have performed, we conclude that Americans believe the legalization of cannabis will provide a net benefit to society and thus are on the path to nationwide legalization.

## **FURTHER RESEARCH**

Despite the continued attention and research being performed on this important topic, we acknowledge the fact that we could not look at the complete breadth of existing research and all aspects of society that would be affected by cannabis legalization. Seeing how other aspects of society would be affected by legalization could potentially reinforce our conclusions or, alternately, challenge them. Future research may include comparisons across countries that might already have cannabis legalization in place, as well as public opinion data from other

controversial topics. Alcohol prohibition would be a strong case study to be used for comparison to cannabis prohibition. Another useful comparison would be investigating how movements such as women's suffrage and same-sex marriage went from legalization at the state to the national level as a potential template to study the path of cannabis policy changes; this comparison could provide insight into how people and policies change over time, the relationship between the two, and how that information can be used to predict policy changes in the future.

From our research, we acknowledge that there is much more to this issue than we could include in the scope of this report. We primarily focused on picture holistic perspective as to how cannabis legalization would affect society. In doing so, we were unable to examine specific areas in more depth. As a result, we recommend in-depth research, using our work as a foundation, be performed to determine how cannabis legalization would affect one specific area, such as economics. This type of specific, in-depth research could provide valuable insight that a general overview would not be able to accomplish. If each main section (economics, medical, incarceration and enforcement, public opinion, and policy) were analyzed deeply, then the resulting research could be combined to produce an extensively detailed analysis. The next step would be to research how cannabis legalization should be implemented. To determine the policy of cannabis legalization, we recommend researching alcohol prohibition, current alcohol laws, and public opinion data relating to how the public feels cannabis should be regulated. As the country appears to move forward in cannabis legalization at a federal level, it is imperative to research this issue in order to determine how to implement policies that are safe and provide a greater net benefit to all.

# APPENDICES

## Appendix A: Evaluation Questions from Survey


- **Economic Evaluation Questions:** Do you think cannabis legalization will create a new industry and more jobs? Do you think there will be significant tax revenue generated from cannabis legalization? Do you think the economic opportunities and benefits of cannabis legalization outweigh the economic costs?
- **Medical Evaluation Questions:** The DEA (Drug Enforcement Agency) has classified cannabis as a schedule one substance, the class of most dangerous substances. Do you think the use of cannabis is as dangerous as other schedule one substances, which include substances such as heroin and bath salts? Do you think more research needs to be done on the medical effects of cannabis? In order for more medical research to be done, cannabis must be reclassified from its DEA assigned schedule one designation. Do you think cannabis should be reclassified to allow for more medical research? Do you think the medical opportunities and benefits of cannabis legalization outweigh the medical costs?
- **Incarceration & Enforcement Evaluation Questions:** Do you think people should be legally penalized for cannabis use? Do you think people should be imprisoned for cannabis use? Do you think recreational cannabis should be regulated like alcohol? Do you think the United States should be spending tax money and government resources enforcing laws prohibiting cannabis use? Do you think the law enforcement and incarceration benefits of cannabis legalization (more tax money and government resources available, less people thrown in prison for simply using cannabis, etc.) outweigh the enforcement and incarceration costs?

- **Public Opinion Evaluation Questions:** Do you think the use of cannabis should be legal or not? Do you think the United States should legalize cannabis for medical use? Do you think the United States should legalize cannabis for adult recreational use?



## Appendix B: Survey

Qualtrics Survey Software



# WPI

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### Qualifying

The purpose of this survey is to obtain the public's opinion on the legalization of cannabis (commonly referred to as hemp, marijuana, weed, etc.). For the duration of the survey, we will be using the scientifically correct term, cannabis. In our survey, we will be touching upon different facets of society that are affected by cannabis.

**Please note:**

- Participation in this survey is voluntary.
- Participants may end their participation at any time.
- Participants need not answer every question in this survey.
- This survey is completely anonymous. We will not be collecting any names or identifying information.

---

Are you a citizen of the United States?

Yes

No

---

Will you be at least 18 years old by November 8th, 2016?

Yes

No

---

### Demographics

What is your age?

17-34 years old

35-50 years old

51-69 years old

<https://wpi.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview>[12/8/2015 9:45:26 PM]

70-87 years old

88+ years old

---

What is your gender?

Male

Female

Other

---

In what state are you registered to vote?

---

What is your political affiliation?

Republican

Independent

Democrat

---

What is your political ideology?

Conservative

Moderate

Liberal

---

## Opening

Do you think the use of cannabis should be legal or not?

Yes, legal

No, illegal

---

Do you think the United States should legalize cannabis for medical use?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

Do you think the United States should legalize cannabis for adult recreational use?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

### Economics

Do you think cannabis legalization will create a new industry and more jobs?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

Do you think there will be significant tax revenue generated from cannabis legalization?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
-

Do you think the economic opportunities and benefits of cannabis legalization outweigh the economic costs?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

### Medical

The DEA (Drug Enforcement Agency) has classified cannabis as a schedule one substance, the class of most dangerous substances. Do you think the use of cannabis is as dangerous as other schedule one substances, which include substances such as heroin and bath salts?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

Do you think more research needs to be done on the medical effects of cannabis?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

In order for more medical research to be done, cannabis must be reclassified from its DEA assigned schedule one designation. Do you think cannabis should be reclassified to allow for more medical research?

- Strongly Agree

- Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

Do you think the medical opportunities and benefits of cannabis legalization outweigh the medical costs?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

### **Incarceration and Enforcement**

Do you think people should be legally penalized for cannabis use?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

Do you think people should be imprisoned for cannabis use?

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree

Strongly Disagree

---

Do you think recreational cannabis should be regulated like alcohol?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

Do you think the United States should be spending tax money and government resources enforcing laws prohibiting cannabis use?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
- 

Do you think the law enforcement and incarceration benefits of cannabis legalization (more tax money and government resources available, less people thrown in prison for simply using cannabis, etc.) outweigh the enforcement and incarceration costs?

- Strongly Agree
  - Agree
  - Neither Agree nor Disagree
  - Disagree
  - Strongly Disagree
-

### Final Rank Question

Which of the following do you think is the most influential in driving cannabis policy change? Rank each topic's influence in order from 1 to 5 (1 being most influential, 5 being least influential). Click and drag the topic names to change the rank order.

- Economic Impacts 1
- Medical Impacts 2
- Current Policy 3
- Incarceration and Enforcement Impacts 4
- Public Opinion 5

Survey Powered By [Qualtrics](#)

## **Appendix C: Analysis of Evaluation Questions and Total Weighted Score**

As described in the methodology chapter of this report, our research question (Should the US legalize cannabis?) is to be answered through a weighted sum model. This weighted sum model is made up of sections, with each section assigned a specific weight. The total score is determined by adding up the weighted scores of all the sections. Each section has a score based on evaluation questions. The analysis of the evaluation questions and the calculation of the total weighted score are as follows:

### **EVALUATION QUESTIONS:**

**1. MEDICAL RESEARCH** - Determine if cannabis can be used in the medical field, and if so, if the positive effects of such use would outweigh the negative effects. Evaluation questions include: What does current research say about the benefits of medical cannabis? What does current research say about the costs of medical cannabis? Do medical experts feel that more research needs to be done on cannabis?

**1.1 + 1.2 - What does current research say about the benefits of medical cannabis? What does current research say about the costs of medical cannabis?**

To date, the controversy over the effects of cannabis on the human body remains unsettled. Medical professionals from both sides of the argument have come to drastically different conclusions on the effectiveness of cannabis and its level of addictiveness. Results vary from not addictive at all to highly addictive. “According to a study by the Centre for Economic Policy Research, London, cannabis does not lead to the use of hard drugs” (Drug Science, 2002). Many reputable studies show alcohol as the real gateway drug rather than cannabis, and provide data showing a strong correlation that the younger someone is when they first start drinking, the greater the chances are that they will later use illicit drugs (Barry et al., 2016). According to VICE, “many of the researchers who have advocated against legalizing pot have also been on the



payroll of leading pharmaceutical firms with products that could be easily replaced by using marijuana” (Fang, 2014). Meanwhile, many believe that cannabis can at least replace these five prescription medications: Vicodin (painkillers), Xanax (anti-anxiety medication), Adderall (stimulants), Ambien (sleep aids), and Zoloft (antidepressants) (Jaeger, 2015).

### **1.3 - Do medical experts feel that more research needs to be done on cannabis?**

The DEA has not made research on cannabis easy either, as it is still registered as a schedule one substance. According to experts, it is the US government’s duty to remove cannabis from the list of schedule one substances so that testing can be performed by independent researchers (McClure, 2015). Currently, there is not enough evidence to remove cannabis from its classification as a schedule one substance, but that is because research cannot be performed due to the fact that it is a schedule one substance (Ingraham, 2015). Ingraham would like to see the classification changed and more research to be performed so that cannabis can be understood further.

The first two questions address the benefits and costs, and can thus be combined into an overall score of 50/100 as both are considered equal at this time before further research can be performed. At this time, not enough research has been conducted to definitively determine whether or not cannabis should be introduced into the medical field, as there is a significant amount of conflicting data. With that in mind, medical experts looking to see cannabis reclassified so that definitive results may be observed and finally determined. However, some medical professionals would rather avoid further research altogether because they believe further experimentation would yield the same results. Therefore, the question is given a score of 80/100 because the majority of experts (but not all) would prefer to perform further analysis to determine the potential role of cannabis in the medical field. With questions 1.1 and 1.2

averaging out to 0.500, we simply weigh that row as double so it essentially counts twice. This means that the overall score is calculated as follows:  $\frac{0.500 \times 2 + 0.800}{3} = 0.600$

Table 1. Medical Section Raw Scores

Question	Raw Score (Fraction)	Raw Score (Decimal)
<b>1.1 + 1.2</b>	*50.0/100	*0.500
<b>1.3</b>	80.0/100	0.800
<b>Overall Score</b>	60.0/100	<b>0.600</b>

\*Raw score counted twice because two separate questions

**2. ECONOMIC IMPACTS** - Determine how legalization will affect the economy on both micro and macro scales and determine if the economic benefits outweigh the costs. Evaluation questions include: Would cannabis legalization create more jobs? Would cannabis legalization strengthen our economy and increase GDP/GNP? How much tax revenue would be generated if cannabis was legalized? Do economic experts think cannabis should be legalized?

### 2.1 - Would cannabis legalization create more jobs?

There are already sixteen different kinds of jobs in the marijuana industry (Becker, 2016). These jobs range from hands-on farmers to consultants helping improve a company within the specific industry. If they were to legalize cannabis in Ohio for recreational and medical use as they are currently trying to do, experts have predicted a market worth over \$4 billion in approximately three years, \$554 million in tax revenue for local governments, and 35,000 new jobs created (Johnson, 2015). The answer to this question is rather simple in the fact that new business development creates more jobs because people need to work for the company to succeed (Tobak, 2010). This question has been assigned the score of 100/100 because it will create more jobs for a wide variety of people with different skillsets.

## **2.2 - Would cannabis legalization strengthen our economy and increase GDP/GNP?**

According to Carl Schramm, “The single most important contributor to a nation’s economic growth is the number of startups that grow to a billion dollars in revenue within 20 years” (Karlgaard, 2010). The legalization of cannabis would create startups, thus providing them with the opportunity to grow into larger companies in the future. Economic strength can also be seen in the equality in wealth distribution. In the US, the distribution of wealth is very poorly distributed (politizane, 2012). Whether cannabis legalization can help redistribute wealth will be primarily determined by who creates the companies within the industries. If the lower and middle class were to create the new companies within the industry and prosper, the distribution of wealth might begin to become more even. However, if the rich and top 1% (who currently possess over 80% of the country’s wealth) invest and own the companies, the distribution may only get worse. Therefore, cannabis legalization has the potential to strengthen our country, but there is no guarantee. GDP and GNP would naturally increase due to the widespread legalization of what would become a rapidly growing, successful industry. Even now, where cannabis is legalized in only a few states, the cannabis industry in those states is booming and raising GDP greatly. Many cannabis businesses are owned by individuals who before legalization in their area, weren’t involved in cannabis; there are oil men, real estate developers, and even commercial bankers who have all started their own businesses (Ingold and Gorski, 2013). Expanding the industry to a nationwide scale will only further increase its profits and the GNP. This question was scored at 75/100 because GDP and GNP will go up no matter who owns the industry. However, if big companies take over the small startups, then the gap between the poor and the rich will only get further apart, which does not help the US economy overall.

**2.3 + 2.4 - How much tax revenue would be generated if cannabis was legalized? Do economic experts think cannabis should be legalized?**

According to over 300 economists, the government would “save \$7.7 billion annually by not having to enforce the current prohibition on [cannabis]” and that an additional \$6 billion could be generated in taxes (Miron, 2005). It has already been demonstrated that legalization has economically benefited states and cities that have done so; there have not been any economic repercussions for legalization in those areas (Colorado Marijuana Tax Data, 2014). Cannabis legalization could thus potentially bolster the national government’s financial reserves and stimulate the economy. Although there are those who do not even want alcohol to be legal, it is permitted nationwide as long as the individual is of age twenty-one or older despite the negative effects it has on the human body. According to the US Department of Health and Human Services, the cost of alcohol abuse annually in the United States is at least \$185 billion (US Department of Health and Human Services, 2000). This means that for every dollar brought in by the alcohol industry, ten are spent helping people who abuse it. It cannot be determined at this time how that will translate (if at all) to individuals with cannabis; however, according to a study published in *The Jama Network*, legalizing cannabis has already reduced the number of people who overdose on prescription drugs in the legalizing states (Brown and Hayes, 2014). Both questions are scored at 100/100 because the estimated cannabis taxes would generate about 3 times the amount generated from alcohol and experts see the legalization of cannabis as a way of stimulating economic growth and the circular flow of income. With questions 2.3 and 2.4 coming to 1.000, we simply weigh that row as double so it essentially counts twice. This means that the overall score is calculated as follows:

$$\frac{1.000 \times 2 + .750 + 1.000}{4} = 0.9375$$

Table 2. Economic Section Raw Scores

Question	Raw Score (Fraction)	Raw Score (Decimal)
2.1	100/100	1.000
2.2	75/100	0.750
2.3 + 2.4	*100/100	*1.000
<b>Overall Score</b>	93.8/100	<b>0.938</b>

\*Raw score counted twice because two separate questions

**3. INCARCERATION & ENFORCEMENT** - Determine how cannabis and its current legal status effects incarceration rates and the federal prison system, if the costs of incarcerating cannabis users outweigh the benefits, and how legalization would affect the prison system and society at the macro and micro scales. Evaluation questions include: How many people are arrested for cannabis use? How many people are imprisoned for cannabis use? How much money does the government spend enforcing cannabis prohibition?

**3.1 - How many people are arrested for cannabis use?**

According to the FBI, over 248.5 million arrests were made in the U.S from 1995 to 2013, approximately 31 million of which were drug-related (FBI). Of those 31 million drug-related arrests, approximately half of them pertained to cannabis: 5.57% were attributed to the sale and/or manufacture of cannabis, and 40.44% were due to possession of cannabis (FBI). That means from 1995-2013, over 14.2 million arrests were made regarding cannabis, with over 12.5 million arrests involving mere possession charges. That comes out to an average of over 650,000 arrests for cannabis use every year. The score of this section was determined by looking at the number of people arrested for cannabis related crimes. A score of 100/100 was determined due to the significant amount of people that these laws have affected.

**3.2 - How many people are imprisoned for cannabis use?**

According to Miles, who referenced data from the Federal Bureau of Prisons, 50.1% of inmates are serving drug offenses (Miles 2014). Of those that are serving drug offenses, 27.6% are in prison for cannabis related crimes (Miles 2014). That amounts to 13.8% of the total inmates, or over 30,000 people. According to James, the annual per capita cost for all inmates is over \$29,000 (James 2014). That amounts to almost \$900 million annually for cannabis related crimes. The score of this section was determined by looking at the number of people in prison for cannabis related crimes and the amount of money spent housing these inmates. A score of 100/100 was determined due to the significant amount of people and money that these laws have effected.

### **3.3 - How much money does the government spend enforcing cannabis prohibition?**

According to American Civil Liberties Union in 2013, the annual fiscal cost for the enforcement of cannabis prohibition was over \$3.6 billion (ACLU, 2013). In addition, the Miron Report of 2005 states the annual cost savings that would occur from ending cannabis prohibition to be \$7.7 billion (Miron, 2005). The estimates we used are not from this past year since there was a limited amount of data regarding this matter. However, we are confident that the amounts we used are credible and applicable given the quality of the sources we cited. James Miron is a regarded economist currently working at Harvard University. ACLU, the American Civil Liberties Union, is a reputable organization with a long history of advocating for the rights and freedoms of US citizens. Both James Miron and ACLU have cited publications relating to the intersection of drugs, policy, law enforcement, economics and society. Since they have worked on this particular subject for many years, their estimates were determined to be valid. The score of this section was determined by averaging the two estimates produced by Miron and ACLU. The calculated average annual costs for enforcing cannabis prohibition laws is \$5.15 billion. For

this question, a score of 100/100 was determined due to the significant amount of money that is being spent.

*Table 3. Incarceration & Enforcement Section Raw Scores*

<b>Question</b>	<b>Raw Score (Fraction)</b>	<b>Raw Score (Decimal)</b>
<b>3.1</b>	100/100	1.000
<b>3.2</b>	100/100	1.000
<b>3.3</b>	100/100	1.000
<b>Overall Score</b>	100/100	<b>1.000</b>

**4. PUBLIC OPINION** - Determine how the general public feels about legalization, how the changes in public opinion regarding cannabis legalization have changed over time, and what influencing factors have made them feel the way they do regarding cannabis and the argument surrounding legalization. Evaluation questions include: How many people support cannabis legalization? How many people oppose cannabis legalization? How has support for cannabis legalization changed over time?

**4.1 - How many people support cannabis legalization?**

According to the Pew Center’s national survey on cannabis, 53% of respondents (1500 total respondents) said they support cannabis legalization (Pew, 2015). In addition, a national survey conducted by YouGov found that 52% of respondents (1000 total respondents) said they support cannabis legalization (YouGov, 2015). The score of this section was determined by averaging the two percentages of those who support cannabis legalization (52.5%). For this question, a score of 52.5/100 was determined.

**4.2 - How many people oppose cannabis legalization?**

According to the Pew Center’s national survey on cannabis, 44% of respondents said they oppose cannabis legalization (Pew, 2015). In addition, a national survey conducted by YouGov

found that 34% of respondents said they oppose cannabis legalization (YouGov, 2015). The score of this section was determined by averaging the two percentages of those who oppose cannabis legalization (39%) and subtracting it from 100%. As stated in our methodology, a score of 1 indicates the strongest pro-cannabis answer and a score of 0 the strongest anti-cannabis answer. Since this question was about those who opposed legalization, i.e. anti-cannabis, and since 61% were not anti-cannabis, a score of 61/100 was determined for this question.

#### **4.3 - How has support for cannabis legalization changed over time?**

According to the Pew Center’s national survey on cannabis in 1969, 84% of respondents said they oppose cannabis legalization compared to just 12% who said they support it (Pew 2015). In their survey from 2015, 44% of respondents said they opposed cannabis legalization compared to 53% who said they support it (Pew 2015). The score of this section was determined by looking at the percent change over time of those who support cannabis legalization and those who oppose. As can be seen, the percentage of those who support cannabis legalization increased over 400%, whereas the percentage of those who oppose was cut in half. For this question, a score of 100/100 was determined.

*Table 4. Public Opinion Section Raw Scores*

<b>Question</b>	<b>Raw Score (Fraction)</b>	<b>Raw Score (Decimal)</b>
<b>4.1</b>	52.5/100	0.525
<b>4.2</b>	61.0/100	0.610
<b>4.3</b>	100/100	1.000
<b>Overall Score</b>	71.2/100	<b>0.712</b>

**5. POLICY** - Analyze and compare state and federal policies to determine if legislation regarding cannabis is moving toward or away from legalization. Evaluation questions include:



How many states have decriminalized/legalized cannabis? How many states have upcoming ballot initiatives and/or legislations to decriminalize/legalize/expand cannabis use?

### **5.1 - How many states have decriminalized/legalized cannabis?**

According to the National Organization for the Reform of Marijuana Laws (NORML), there are: four states and one district that have legalized cannabis (Colorado, Washington, Oregon, and Alaska; Washington DC). Fifteen states that have decriminalized cannabis (California, Nevada, Nebraska, Minnesota, Mississippi, Ohio, North Carolina, Maryland, Delaware, Connecticut, Rhode Island, New York, Massachusetts, Vermont, Maine). And twenty-three states and one district that have allowed medical cannabis (Alaska, Hawaii, California, Nevada, Oregon, Washington, Montana, Colorado, Arizona, New Mexico, Minnesota, Illinois, Michigan, New Hampshire, Vermont, Maine, New York, Rhode Island, Massachusetts, Connecticut, New Jersey, Delaware, and Maryland; Washington DC). Accounting for repeats, that totals to twenty-eight states and districts that have implemented measures to decriminalize and/or legalize cannabis. Since there are a total of fifty-one states and districts, a score of 28/51 was determined for this question.

### **5.2 - How many states have potential upcoming ballot initiatives and/or legislations to decriminalize/legalize/expand cannabis use?**

According to Ballotpedia and Marijuana Policy Project (MPP), there are thirty-four states with bills, ballot initiatives, and legislative changes regarding the decriminalization, legalization, and/or expansion of cannabis use for the year 2016. The states that have potential upcoming initiatives are: Alabama, Arizona, Arkansas, California, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North

Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Utah, Vermont and Virginia. Since there are four states (Colorado, Washington, Oregon, and Alaska) and one district (Washington DC) that have already legalized, the score will be determined by the percentage of states with potential upcoming initiatives out of the states that have not legalized cannabis (forty-six states). Therefore, a score of 34/46 was determined for this question.

*Table 5. Policy Section Raw Scores*

<b>Question</b>	<b>Raw Score (Fraction)</b>	<b>Raw Score (Decimal)</b>
<b>5.1</b>	28/51	0.549
<b>5.2</b>	34/46	0.739
<b>Overall</b>	64.4/100	<b>0.644</b>

**TOTAL WEIGHTED SCORE:**

*Table 6. Total Raw and Weighted Scores of All Sections*

<b>Section</b>	<b>Weight</b>	<b>Raw Score</b>	<b>Weighted Score</b>
<b>Medical</b>	0.20	0.600	0.120
<b>Economic</b>	0.30	0.938	0.281
<b>Incarceration &amp; Enforcement</b>	0.15	1.000	0.150
<b>Public Opinion</b>	0.10	0.712	0.071
<b>Policy</b>	0.25	0.644	0.161
<b>Overall</b>	1.00	0.779	<b>0.783</b>

As seen in Table 6, the total weighted score was calculated to be 0.783.

## CITIZEN'S WEIGHTS VS. OUR WEIGHTS:

*Table 12. Ranking Of Each Section's Influence on Driving Policy Change: Researchers vs. Citizens*

<b>Section</b>	<b>Our Rank</b>	<b>Citizen Rank</b>
<b>Economic</b>	1	3
<b>Policy</b>	2	5
<b>Medical</b>	3	1
<b>Incarceration &amp; Enforcement</b>	4	4
<b>Public Opinion</b>	5	2

From our survey results, it can be seen that citizens believed medicine and public opinion had a greater influence in driving legislative change than we did. Our research indicated that economics and policy were bigger influencing policy change. Both groups assigned incarceration and enforcement impacts with equivalent rankings.

## NATIONAL POLL DATA VS. OUR POLL DATA:

Since we were unable to gather significant responses from states outside of Massachusetts, we did not attempt to compare demographic data between our survey results and national survey results.

## Appendix D: Survey Results from All States

### 1. Are you a citizen of the United States?

#	Answer	Response	%
1	Yes	360	95.7%
2	No	16	4.3%
	Total	376	100.0%

### 2. Will you be at least 18 years old by November 8th, 2016?

#	Answer	Response	%
1	Yes	360	100%
2	No	0	0%
	Total	360	100%

### 3. What is your age?

#	Answer	Response	%
1	17-34 years old	172	48%
2	35-50 years old	64	18%
3	51-69 years old	112	31%
4	70-87 years old	11	3%
5	88+ years old	0	0%
	Total	359	100%

### 4. What is your gender?

#	Answer	Response	%
1	Male	184	51.3%
2	Female	175	48.7%
3	Other	0	0.0%
	Total	359	100.0%

### 5. In what state are you registered to vote?

#	Answer	Response	%
1	I am not registered to vote	22	6%
2	Alabama	0	0%
3	Alaska	0	0%
4	Arizona	0	0%
5	Arkansas	0	0%
6	California	7	2%
7	Colorado	1	0%
8	Connecticut	14	4%
9	Delaware	0	0%
10	District of Columbia	0	0%

11	Florida		3	1%
12	Georgia		1	0%
13	Hawaii		0	0%
14	Idaho		0	0%
15	Illinois		2	1%
16	Indiana		0	0%
17	Iowa		0	0%
18	Kansas		0	0%
19	Kentucky		0	0%
20	Louisiana		0	0%
21	Maine		4	1%
22	Maryland		3	1%
23	Massachusetts		223	64%
24	Michigan		0	0%
25	Minnesota		0	0%
26	Mississippi		0	0%
27	Missouri		1	0%
28	Montana		0	0%
29	Nebraska		0	0%
30	Nevada		0	0%
31	New Hampshire		7	2%
32	New Jersey		19	5%
33	New Mexico		0	0%
34	New York		15	4%
35	North Carolina		4	1%
36	North Dakota		0	0%
37	Ohio		0	0%
38	Oklahoma		1	0%
39	Oregon		3	1%
40	Pennsylvania		5	1%
41	Rhode Island		6	2%
42	South Carolina		2	1%
43	South Dakota		0	0%
44	Tennessee		0	0%
45	Texas		4	1%
46	Utah		0	0%
47	Vermont		0	0%
48	Virginia		2	1%
49	Washington		0	0%
50	West Virginia		0	0%
51	Wisconsin		1	0%
52	Wyoming		0	0%
	Total		350	100%

### 6. What is your political affiliation?

#	Answer	Response	%
1	Republican	41	12%
2	Independent	177	50%
3	Democrat	136	38%
	Total	354	100%

### 7. What is your political ideology?

#	Answer	Response	%
1	Conservative	39	11%
2	Moderate	165	47%
3	Liberal	149	42%
	Total	353	100%

### 8. Do you think the use of cannabis should be legal or not?






#	Answer	Response	%
1	Yes, legal	284	79.6%
2	No, illegal	73	20.4%
	Total	357	100.0%

### 9. Do you think the United States should legalize cannabis for medical use?

#	Answer	Response	%
1	Strongly Agree	233	64.9%
2	Agree	85	23.7%
3	Neither Agree nor Disagree	26	7.2%
4	Disagree	10	2.8%
5	Strongly Disagree	5	1.4%
	Total	359	100.0%






Statistic	Value
Min Value	1
Max Value	5
Mean	1.52
Variance	0.73
Standard Deviation	0.85
Total Responses	359

**10. Do you think the United States should legalize cannabis for adult recreational use?**

#	Answer		Response	%
1	Strongly Agree		119	33.1%
2	Agree		117	32.6%
3	Neither Agree nor Disagree		50	13.9%
4	Disagree		32	8.9%
5	Strongly Disagree		41	11.4%
	Total		359	100.0%






Statistic	Value
Min Value	1
Max Value	5
Mean	2.33
Variance	1.75
Standard Deviation	1.32
Total Responses	359

**11. Do you think cannabis legalization will create a new industry and more jobs?**

#	Answer		Response	%
1	Strongly Agree		105	30%
2	Agree		148	42%
3	Neither Agree nor Disagree		54	15%
4	Disagree		32	9%
5	Strongly Disagree		13	4%
	Total		352	100%



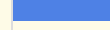


Statistic	Value
Min Value	1
Max Value	5
Mean	2.15
Variance	1.13
Standard Deviation	1.06
Total Responses	352

## 12. Do you think there will be significant tax revenue generated from cannabis legalization?

#	Answer		Response	%
1	Strongly Agree		139	39.6%
2	Agree		141	40.2%
3	Neither Agree nor Disagree		43	12.3%
4	Disagree		22	6.3%
5	Strongly Disagree		6	1.7%
	Total		351	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	1.90
Variance	0.92
Standard Deviation	0.96
Total Responses	351

## 13. Do you think the economic opportunities and benefits of cannabis legalization outweigh the economic costs?

#	Answer		Response	%
1	Strongly Agree		99	28.0%
2	Agree		112	31.6%
3	Neither Agree nor Disagree		82	23.2%
4	Disagree		38	10.7%
5	Strongly Disagree		23	6.5%
	Total		354	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	2.36
Variance	1.40
Standard Deviation	1.18
Total Responses	354



**14. The DEA (Drug Enforcement Agency) has classified cannabis as a schedule one substance, the class of most dangerous substances. Do you think the use of cannabis is as dangerous as other schedule one substances, which include substances such as heroin and bath salts?**

#	Answer	Response	%
1	Strongly Agree	10	3%
2	Agree	22	6%
3	Neither Agree nor Disagree	27	8%
4	Disagree	103	29%
5	Strongly Disagree	190	54%
	Total	352	100%






Statistic	Value
Min Value	1
Max Value	5
Mean	4.25
Variance	1.06
Standard Deviation	1.03
Total Responses	352

**15. Do you think more research needs to be done on the medical effects of cannabis?**

#	Answer	Response	%
1	Strongly Agree	125	35.4%
2	Agree	170	48.2%
3	Neither Agree nor Disagree	34	9.6%
4	Disagree	18	5.1%
5	Strongly Disagree	6	1.7%
	Total	353	100.0%



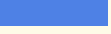


Statistic	Value
Min Value	1
Max Value	5
Mean	1.90
Variance	0.80
Standard Deviation	0.89
Total Responses	353

**16. In order for more medical research to be done, cannabis must be reclassified from its DEA assigned schedule one designation. Do you think cannabis should be reclassified to allow for more medical research?**

#	Answer		Response	%
1	Strongly Agree		205	58.2%
2	Agree		112	31.8%
3	Neither Agree nor Disagree		25	7.1%
4	Disagree		7	2.0%
5	Strongly Disagree		3	0.9%
	Total		352	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	1.55
Variance	0.61
Standard Deviation	0.78
Total Responses	352

**17. Do you think the medical opportunities and benefits of cannabis legalization outweigh the medical costs?**

#	Answer		Response	%
1	Strongly Agree		123	34.9%
2	Agree		104	29.5%
3	Neither Agree nor Disagree		96	27.3%
4	Disagree		21	6.0%
5	Strongly Disagree		8	2.3%
	Total		352	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	2.11
Variance	1.06
Standard Deviation	1.03
Total Responses	352

### 18. Do you think people should be legally penalized for cannabis use?

#	Answer	Response	%
1	Strongly Agree	20	5.8%
2	Agree	39	11.4%
3	Neither Agree nor Disagree	50	14.6%
4	Disagree	111	32.4%
5	Strongly Disagree	123	35.9%
	Total	343	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	3.81
Variance	1.45
Standard Deviation	1.21
Total Responses	343

### 19. Do you think people should be imprisoned for cannabis use?

#	Answer	Response	%
1	Strongly Agree	3	0.9%
2	Agree	7	2.0%
3	Neither Agree nor Disagree	26	7.6%
4	Disagree	105	30.6%
5	Strongly Disagree	202	58.9%
	Total	343	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	4.45
Variance	0.63
Standard Deviation	0.79
Total Responses	343

## 20. Do you think recreational cannabis should be regulated like alcohol?

#	Answer	Response	%
1	Strongly Agree	112	32.8%
2	Agree	160	46.9%
3	Neither Agree nor Disagree	32	9.4%
4	Disagree	21	6.2%
5	Strongly Disagree	16	4.7%
	Total	341	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	2.03
Variance	1.09
Standard Deviation	1.05
Total Responses	341

## 21. Do you think the United States should be spending tax money and government resources enforcing laws prohibiting cannabis use?

#	Answer	Response	%
1	Strongly Agree	16	5%
2	Agree	39	11%
3	Neither Agree nor Disagree	50	14%
4	Disagree	94	27%
5	Strongly Disagree	146	42%
	Total	345	100%

Statistic	Value
Min Value	1
Max Value	5
Mean	3.91
Variance	1.43
Standard Deviation	1.20
Total Responses	345

**22. Do you think the law enforcement and incarceration benefits of cannabis legalization (more tax money and government resources available, less people thrown in prison for simply using cannabis, etc.) outweigh the enforcement and incarceration costs?**

#	Answer	Response	%
1	Strongly Agree	144	42.4%
2	Agree	97	28.5%
3	Neither Agree nor Disagree	67	19.7%
4	Disagree	21	6.2%
5	Strongly Disagree	11	3.2%
	Total	340	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	1.99
Variance	1.16
Standard Deviation	1.08
Total Responses	340

**23. Which of the following do you think is the most influential in driving cannabis policy change? Rank each topic's influence in order from 1 to 5 (1 being most influential, 5 being least influential). Click and drag the topic names to change the rank order.**

#	Answer	1	2	3	4	5	Total Responses
3	Current Policy	28	28	47	86	127	316
4	Incarceration and Enforcement Impacts	30	48	79	82	77	316
1	Economic Impacts	58	90	89	51	28	316
2	Medical Impacts	90	91	63	47	25	316
5	Public Opinion	110	59	38	50	59	316
	Total	316	316	316	316	316	-

Statistic	Economic Impacts	Medical Impacts	Current Policy	Incarceration and Enforcement Impacts	Public Opinion
Min Value	1	1	1	1	1
Max Value	5	5	5	5	5
Mean	2.69	2.45	3.81	3.41	2.65
Variance	1.44	1.59	1.67	1.61	2.37
Standard Deviation	1.20	1.26	1.29	1.27	1.54
Total Responses	316	316	316	316	316

**Appendix E: Survey Results from Massachusetts only**

**1. Are you a citizen of the United States?**

#	Answer	Response	%
1	Yes	223	100.0%
2	No	0	0.0%
	Total	223	100.0%

**2. Will you be at least 18 years old by November 8th, 2016?**

#	Answer	Response	%
1	Yes	223	100%
2	No	0	0%
	Total	223	100%

**3. What is your age?**

#	Answer	Response	%
1	17-34 years old	79	35%
2	35-50 years old	57	26%
3	51-69 years old	82	37%
4	70-87 years old	5	2%
5	88+ years old	0	0%
	Total	223	100%

**4. What is your gender?**

#	Answer	Response	%
1	Male	107	48.0%
2	Female	116	52.0%
3	Other	0	0.0%
	Total	223	100.0%

**5. In what state are you registered to vote?**

#	Answer	Response	%
1	I am not registered to vote	0	0%
2	Alabama	0	0%
3	Alaska	0	0%
4	Arizona	0	0%
5	Arkansas	0	0%
6	California	0	0%
7	Colorado	0	0%
8	Connecticut	0	0%
9	Delaware	0	0%
10	District of	0	0%

	Columbia			
11	Florida		0	0%
12	Georgia		0	0%
13	Hawaii		0	0%
14	Idaho		0	0%
15	Illinois		0	0%
16	Indiana		0	0%
17	Iowa		0	0%
18	Kansas		0	0%
19	Kentucky		0	0%
20	Louisiana		0	0%
21	Maine		0	0%
22	Maryland		0	0%
23	Massachusetts		223	100%
24	Michigan		0	0%
25	Minnesota		0	0%
26	Mississippi		0	0%
27	Missouri		0	0%
28	Montana		0	0%
29	Nebraska		0	0%
30	Nevada		0	0%
31	New Hampshire		0	0%
32	New Jersey		0	0%
33	New Mexico		0	0%
34	New York		0	0%
35	North Carolina		0	0%
36	North Dakota		0	0%
37	Ohio		0	0%
38	Oklahoma		0	0%
39	Oregon		0	0%
40	Pennsylvania		0	0%
41	Rhode Island		0	0%
42	South Carolina		0	0%
43	South Dakota		0	0%
44	Tennessee		0	0%
45	Texas		0	0%
46	Utah		0	0%
47	Vermont		0	0%
48	Virginia		0	0%
49	Washington		0	0%
50	West Virginia		0	0%
51	Wisconsin		0	0%
52	Wyoming		0	0%
	Total		223	100%



### 6. What is your political affiliation?

#	Answer	Response	%
1	Republican	20	9%
2	Independent	124	56%
3	Democrat	78	35%
	Total	222	100%

### 7. What is your political ideology?

#	Answer	Response	%
1	Conservative	28	13%
2	Moderate	106	48%
3	Liberal	86	39%
	Total	220	100%

### 8. Do you think the use of cannabis should be legal or not?

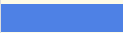




#	Answer	Response	%
1	Yes, legal	173	78.3%
2	No, illegal	48	21.7%
	Total	221	100.0%

### 9. Do you think the United States should legalize cannabis for medical use?

#	Answer	Response	%
1	Strongly Agree	143	64.4%
2	Agree	47	21.2%
3	Neither Agree nor Disagree	21	9.5%
4	Disagree	7	3.2%
5	Strongly Disagree	4	1.8%
	Total	222	100.0%

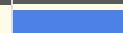




Statistic	Value
Min Value	1
Max Value	5
Mean	1.57
Variance	0.84
Standard Deviation	0.92
Total Responses	222

**10. Do you think the United States should legalize cannabis for adult recreational use?**

#	Answer		Response	%
1	Strongly Agree		67	30.2%
2	Agree		79	35.6%
3	Neither Agree nor Disagree		28	12.6%
4	Disagree		22	9.9%
5	Strongly Disagree		26	11.7%
	Total		222	100.0%

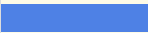




Statistic	Value
Min Value	1
Max Value	5
Mean	2.37
Variance	1.75
Standard Deviation	1.32
Total Responses	222

**11. Do you think cannabis legalization will create a new industry and more jobs?**

#	Answer		Response	%
1	Strongly Agree		59	27%
2	Agree		93	43%
3	Neither Agree nor Disagree		35	16%
4	Disagree		22	10%
5	Strongly Disagree		8	4%
	Total		217	100%

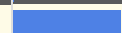




Statistic	Value
Min Value	1
Max Value	5
Mean	2.20
Variance	1.13
Standard Deviation	1.07
Total Responses	217

### 12. Do you think there will be significant tax revenue generated from cannabis legalization?

#	Answer		Response	%
1	Strongly Agree		76	35.2%
2	Agree		87	40.3%
3	Neither Agree nor Disagree		33	15.3%
4	Disagree		16	7.4%
5	Strongly Disagree		4	1.9%
	Total		216	100.0%






Statistic	Value
Min Value	1
Max Value	5
Mean	2.00
Variance	0.97
Standard Deviation	0.99
Total Responses	216

### 13. Do you think the economic opportunities and benefits of cannabis legalization outweigh the economic costs?

#	Answer		Response	%
1	Strongly Agree		58	26.5%
2	Agree		65	29.7%
3	Neither Agree nor Disagree		52	23.7%
4	Disagree		27	12.3%
5	Strongly Disagree		17	7.8%
	Total		219	100.0%

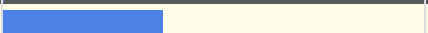



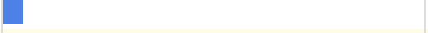
Statistic	Value
Min Value	1
Max Value	5
Mean	2.45
Variance	1.50
Standard Deviation	1.22
Total Responses	219

**14. The DEA (Drug Enforcement Agency) has classified cannabis as a schedule one substance, the class of most dangerous substances. Do you think the use of cannabis is as dangerous as other schedule one substances, which include substances such as heroin and bath salts?**

#	Answer		Response	%
1	Strongly Agree		8	4%
2	Agree		16	7%
3	Neither Agree nor Disagree		20	9%
4	Disagree		66	30%
5	Strongly Disagree		111	50%
	Total		221	100%






Statistic	Value
Min Value	1
Max Value	5
Mean	4.16
Variance	1.19
Standard Deviation	1.09
Total Responses	221

**15. Do you think more research needs to be done on the medical effects of cannabis?**

#	Answer		Response	%
1	Strongly Agree		84	38.0%
2	Agree		100	45.2%
3	Neither Agree nor Disagree		24	10.9%
4	Disagree		10	4.5%
5	Strongly Disagree		3	1.4%
	Total		221	100.0%






Statistic	Value
Min Value	1
Max Value	5
Mean	1.86
Variance	0.78
Standard Deviation	0.88
Total Responses	221

**16. In order for more medical research to be done, cannabis must be reclassified from its DEA assigned schedule one designation. Do you think cannabis should be reclassified to allow for more medical research?**

#	Answer		Response	%
1	Strongly Agree		127	57.5%
2	Agree		73	33.0%
3	Neither Agree nor Disagree		15	6.8%
4	Disagree		3	1.4%
5	Strongly Disagree		3	1.4%
	Total		221	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	1.56
Variance	0.63
Standard Deviation	0.79
Total Responses	221

**17. Do you think the medical opportunities and benefits of cannabis legalization outweigh the medical costs?**

#	Answer		Response	%
1	Strongly Agree		74	33.6%
2	Agree		58	26.4%
3	Neither Agree nor Disagree		71	32.3%
4	Disagree		11	5.0%
5	Strongly Disagree		6	2.7%
	Total		220	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	2.17
Variance	1.08
Standard Deviation	1.04
Total Responses	220

### 18. Do you think people should be legally penalized for cannabis use?

#	Answer	Response	%
1	Strongly Agree	11	5.1%
2	Agree	24	11.1%
3	Neither Agree nor Disagree	30	13.8%
4	Disagree	75	34.6%
5	Strongly Disagree	77	35.5%
	Total	217	100.0%

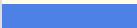




Statistic	Value
Min Value	1
Max Value	5
Mean	3.84
Variance	1.37
Standard Deviation	1.17
Total Responses	217

### 19. Do you think people should be imprisoned for cannabis use?

#	Answer	Response	%
1	Strongly Agree	2	0.9%
2	Agree	5	2.3%
3	Neither Agree nor Disagree	20	9.3%
4	Disagree	70	32.4%
5	Strongly Disagree	119	55.1%
	Total	216	100.0%






Statistic	Value
Min Value	1
Max Value	5
Mean	4.38
Variance	0.67
Standard Deviation	0.82
Total Responses	216

## 20. Do you think recreational cannabis should be regulated like alcohol?

#	Answer		Response	%
1	Strongly Agree		71	33.0%
2	Agree		100	46.5%
3	Neither Agree nor Disagree		21	9.8%
4	Disagree		14	6.5%
5	Strongly Disagree		9	4.2%
	Total		215	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	2.02
Variance	1.07
Standard Deviation	1.03
Total Responses	215

## 21. Do you think the United States should be spending tax money and government resources enforcing laws prohibiting cannabis use?

#	Answer		Response	%
1	Strongly Agree		11	5%
2	Agree		24	11%
3	Neither Agree nor Disagree		34	16%
4	Disagree		63	29%
5	Strongly Disagree		86	39%
	Total		218	100%

Statistic	Value
Min Value	1
Max Value	5
Mean	3.87
Variance	1.43
Standard Deviation	1.20
Total Responses	218

**22. Do you think the law enforcement and incarceration benefits of cannabis legalization (more tax money and government resources available, less people thrown in prison for simply using cannabis, etc.) outweigh the enforcement and incarceration costs?**

#	Answer	Response	%
1	Strongly Agree	83	38.6%
2	Agree	64	29.8%
3	Neither Agree nor Disagree	49	22.8%
4	Disagree	10	4.7%
5	Strongly Disagree	9	4.2%
	Total	215	100.0%

Statistic	Value
Min Value	1
Max Value	5
Mean	2.06
Variance	1.18
Standard Deviation	1.09
Total Responses	215

**23. Which of the following do you think is the most influential in driving cannabis policy change? Rank each topic's influence in order from 1 to 5 (1 being most influential, 5 being least influential). Click and drag the topic names to change the rank order.**

#	Answer	1	2	3	4	5	Total Responses
4	Incarceration and Enforcement Impacts	16	34	45	56	52	203
3	Current Policy	23	21	27	56	76	203
1	Economic Impacts	37	50	66	29	21	203
2	Medical Impacts	54	60	45	30	14	203
5	Public Opinion	73	38	20	32	40	203
	Total	203	203	203	203	203	-



Statistic	Economic Impacts	Medical Impacts	Current Policy	Incarceration and Enforcement Impacts	Public Opinion
Min Value	1	1	1	1	1
Max Value	5	5	5	5	5
Mean	2.74	2.46	3.69	3.46	2.65
Variance	1.47	1.50	1.86	1.58	2.46
Standard Deviation	1.21	1.22	1.36	1.26	1.57
Total Responses	203	203	203	203	203

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