

A COMPARATIVE ANALYSIS OF THE CONTROLLED SUBSTANCES ACT
AGAINST VARIED INTERNATIONAL POLICIES

A Thesis

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Ronald Smith

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Division of Criminal Justice

Abstract
of
A COMPARATIVE ANALYSIS OF THE CONTROLLED SUBSTANCES ACT
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Statement of the Problem

In 1970, the United States implemented the *Controlled Substances Act* in an effort to curtail drug use and abuse and limit public harm from drugs. The *Controlled Substances Act* serves as the United States' key drug policy at the Federal level and is the scaffolding for subsequent drug policy. This thesis will serve as a policy analysis for the *Controlled Substances Act* of 1970 and will examine key components of the policy in determining effectiveness at its stated intentions. The first question addressed is whether or not the *Controlled Substances Act* has been successful at achieving its stated goals regarding curtailing drug use, and preventing overdoses from drugs. The next question is in regards to the economic costs of the *Controlled Substances Act* against international alternatives to determine if the policy provides a positive return on investment. Finally, this thesis addresses if the substances of marijuana, MDMA, LSD and psilocybin are appropriately scheduled based on the language of the *Controlled Substances Act*.

Sources of Data

This policy analysis utilized a combination of methods to obtain data and analyze the *Controlled Substances Act*. The first framework utilized was from Gil (1970) which includes a four-step process to a systematic approach to social policy analysis. An additional framework utilized was Bardach's (2012) eightfold path to more effective problem solving. The policy analysis involved utilizing the text of the *Controlled Substances Act*, in conjunction with data gathered from academic journals, books, and periodicals to make determinations. Additionally, following the analysis, this author makes recommendations for policy adjustment, and the direction of future research based on an understanding of Kingdon's Multiple Stream Theory regarding policy development by identifying the three streams required for policy implementation, and Stone's Policy Paradox for understanding varied perspectives regarding policy implementation through identification of varied perspectives regarding equal enforcement.

Conclusions Reached

Based on the research, the *Controlled Substances Act* is not effective at curtailing drug use, abuse, and overdoses. Additionally, the *Controlled Substances Act* has produced negative externalities as a result of implementation. Further, the *Controlled Substances Act* is not economically efficient and does not provide a sufficient return on investment in contrast with international alternatives. Finally, based on the scheduling language in the *Controlled Substances Act*, the substances of marijuana, LSD, MDMA,

and psilocybin are overclassified creating additional ramifications including limitations for further research.

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Date

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Chapter 1

Introduction

Although much criticism has been focused on the United States' approach to drug enforcement (Polomarkakis, 2017; Spillane, 2004), research has not been comprehensive in addressing the efficacy of the *Controlled Substances Act* (CSA). With many countries adopting a policy of decriminalization of all drugs, such as Portugal, Spain, and the Netherlands, which have changed drug enforcement from a criminal issue to a mental health issue with perceived success by reducing the number of drug overdoses, costs, and drug usage (Gonçalves et al., 2015), research can be focused on the specificities of the *Controlled Substances Act* in contrast to other techniques and its efficacy. Additionally, analyzing countries with harsher punishment for drug users such as Thailand and Singapore, could be valuable in understanding both ends of the enforcement philosophy spectrums. In other words, it would be important to examine the policy of the CSA and compare it to other policies in order to see if it is able to achieve the stated goal more effectively, or if there are other methods of drug policy. Research into the Portuguese decriminalization program, which started in 2001, has demonstrated promising results, such as reducing drug overdoses to near zero and seeing a reduction in heroin addiction (Greenwald, 2009). Additionally, findings show more ethical, and cost-effective practices. As a result, it is saving lives (Hughes & Stevens, 2010). Furthermore, in the United States, one would expect that the ramped-up enforcement of drug laws, as well as the high amount of funding dedicated to drug enforcement would produce some of the world's greatest metrics regarding decreased drug use, drug deaths, and number of

individuals involved in illicit activity. The extant literature provides a juxtaposition to the perceived outcome with increased usage, incarceration and costs (Federal Bureau of Prisons, 2017; Polomarkakis, 2017; Spillane, 2004; Wodak, 2014).

The disconnect between policy and empiricism is not relegated to the observation of other countries utilizing more effective techniques with respect to regulating drug usage, manufacturing, distribution and the treatment of drug addiction. Additionally, the disconnect can be attributed to the creation of the CSA under false pretenses and for political gain (Baum, 2016). Former Nixon chief advisor John Ehrlichman admitted that the criminalization of heroin and marijuana were to destabilize the African American and Hispanic communities to maintain political control (Baum, 2016). Questionable ethical foundations of the CSA based on race provide a precursor to the inevitable disproportional implementation of the CSA upon the citizenry (Alexander M., 2010). Enforcement of the United States' drug policy has shown a disproportionate effect on African American, and Latino Americans through policing, adjudication, and sentencing with African Americans making up 38% and Latinos making up 37% of all federal drug offenders while making up a significantly smaller proportion of the populace (Gibson, 2010).

Additionally, the prohibition of scheduled drugs creates the same ramifications as alcohol prohibition from the early 20th century within the United States with a large underground criminal element providing the illicit alcohol as law enforcement had prevented legitimate businesses from legally providing alcohol to consumers. Without the oversight of regulation, safety measures in the production were non-existent (Wodak,

2014). As recently as 2011, under the CSA laws, other illicit drugs are created without regulation, such as bath salts, which have shown to be far more harmful than some of the more innocuous substances scheduled above them (Drug Enforcement Agency, 2017; Johnson et al., 2018).

Finally, the disconnect includes an ignorance to the physiology and psychological effects of varied substances. According to the CSA, a Schedule 1 drug should have no valid medical use or purpose (Drug Enforcement Agency, 2017; Office of National Drug Control Policy, 2017). There are multiple substances listed as Schedule 1, that have empirical evidence to the contrary, including the far-reaching benefits of Marijuana, Cannabidiol (CBD), 3,4-Methylenedioxymethamphetamine (MDMA), and Psilocybin (Sachs et al., 2015). This thesis provides a discussion and analysis of the scheduling process for new drugs within the CSA, and an understanding into the parameters of the scheduling, by using the language from within the CSA itself in conjunction with the stated goals from policy creators and lawmakers. Psychological research abroad has been incorporating the benefits of varied substances listed on the CSA such as the effective use of Psilocybin to treat mental health issues in cancer patients, and using the drug in a harm reduction capacity for reducing more harmful substance abuse (Brown, 2015; Johnson, Griffiths et al., 2018).

Based on available research, there is a lack of something and an apparent need to conduct a substance by substance analysis of the scheduled drugs from the CSA to identify if the drugs are properly scheduled, or if they should even be scheduled to begin with (Spillane, 2004; Dasgupta et al., 2011). Some research has been completed showing

the neglect of using the 8-factor technique of scheduling drugs, although not exhaustive (Sapienza, 2005). Additionally, research has been performed on specific substances and if they belong in their current classification within the CSA. Further research has been conducted on theoretical framing of future policies (Anderson, 2014; Gable, 2004; Paul-Emile, 2010; Spillane, 2004).

This thesis aims to provide a more comprehensive comparative analysis of the CSA by tying together an analysis of substances, similar policies from around the world, and contrast results from other countries' policies against the CSA further adding to the literature of analysis into the CSA. This research sets out to provide an analysis of the toxicity of substances and their addiction potential to determine if the CSA is appropriately classifying the substances. Additionally, it appears that there is research to be done that ties the medical/physiological effects of substances with the legal aspect of the issue, which classifies drugs on their harm potentiality. Research should also examine the substances and compare the medical evidence with the language from the CSA. Further, while policy analyses of the CSA have been conducted, such as a comparison of the CSA with Portugal's drug law, an analysis of the effects on each drug within those countries does not appear to have been completed as a contrast to the U.S., nor has it looked at the possible advancements in using formerly illicit drugs in a beneficial medical fashion.

The first thing addressed are the definitions of terms to provide foundational consistency throughout the thesis. By defining terms such as drugs, decriminalization, depenalization, abuse, etc., the reader can better understand terms that fluctuate within

colloquial use amongst varied actors and the populace. After providing definitions of important terms for the thesis, a determination of what the problems are which the CSA proports to address was conducted. By providing the stated intent of the CSA by retrieving information from the governmental sites, and by statements made regarding their intended goals surrounding drug use, such as lowering use for public health, and morals etc. by reviewing the extant literature on the topic, a question can be determined.

The prior research, and the subsequent gap in literature, leave unanswered questions that this current study aims to answer. The present study aims to conduct a policy analysis of the current CSA with the stated objective of answering the following questions: Do the drugs Psilocybin, Peyote, MDMA and Marijuana belong on Schedule 1 of the CSA as per the language of the CSA, against the current evidence of their beneficence in the psychological and drug abuse literature? Additionally, is the CSA more effective at reducing drug deaths, reducing the proportion of the population addicted to drugs, compared with policies that decriminalize from countries such as Portugal, and is the CSA more cost effective than countries with policies of decriminalization at accomplishing its stated goals?

To ensure consistency throughout the thesis, some terms should be defined. For the purposes of this research, this researcher defines these terms. The word drug will pertain to any substance which creates a physiological effect on humans, regardless of legality. This definition will also apply to the word substances. Decriminalization is not defined as the legalization of a substance, rather removing the criminal component from certain aspects of possession. Dissuasion panels are groups of individuals who serve the

purpose of aiding individuals who are addicted to drugs in rehabilitation through programs. The term abuse varies based on how each agency determines the term. For the purposes of abuse, it will be generalized to mean either excessive drug use, or drug use outside of normative parameters.

Chapter 2

Literature Review

Classification of drugs

Governmental policies are created with the intent of making society better in some capacity. In the case of the *Controlled Substances Act* (CSA) of 1970, the intent was to mitigate drug use through criminalization of certain substances, to reduce public harm, to protect the citizenry from needle borne pathogens, and deter the culture away from illicit drug use (Baum, 2016; Drug Enforcement Agency, 2017). In this *Act*, the United States government attempted to curtail the use of illicit drugs through law changes by creating schedules of drugs to be classified based on their perceived danger and risk of abuse with Schedule 1 being the most dangerous and Schedule 5 being the lowest threshold of danger for possible abuse. Substances are placed into one of these five schedules by determining their relative potential for abuse, accepted medical use, and relative dependence potential (Sapienza, 2005).

By reviewing existing known substances and placing them into these schedules, in addition to forming a policy to make schedule determinations for future unknown drugs, the government created a scheduling table, and could add substances to said list moving forward. During the late 1960s, a counter culture movement had manifested, and the liberal use of drugs within that culture had become more prevalent. With increased drug usage, and a perceived public health and morality risk, the Nixon administration addressed the perceptibly salient issue with the CSA and effectively began the war on drugs, not to mention the political ramifications of such a paradigm shift (Goode, 1969).

In order to provide objectivity to the decisions on which drugs belong in what schedule of severity, policy creators established set factors to assist them in making such a determination as to where to place different drugs on the five schedules: (1) Its actual or relative potential for abuse; (2) Scientific evidence of its pharmacological effect, if known; (3) The state of current scientific knowledge regarding the drug or other substance; (4) Its history and current pattern of abuse; (5) The scope, duration, and significance of abuse; (6) What, if any, risk there is to the public health; (7) Its psychic or physiological dependence liability; and (8) Whether the substance is an immediate precursor of a substance already controlled under this subchapter (Drug Enforcement Agency, 2017). These parameters provide the scaffolding of the CSA and have been used to schedule drugs on the list today, and it continues to be used for new drugs as they are created or discovered.

Reviewing the protocols in the CSA for what is considered the most dangerous, known as Schedule 1 drugs, the DEA specifies a Schedule 1 drug or other substance in this manner if it has a high potential for abuse, the drug has no currently accepted medical use in treatment in the United States, and there is a lack of accepted safety for use of the drug or other substance under medical supervision (Drug Enforcement Agency, 2017). Drugs such as Ecstasy, MDMA, Heroin, Peyote, Marijuana, and Methamphetamine have been deemed Schedule 1 drugs. The drugs in Schedule 1, being considered the most dangerous, have been the ones most heavily enforced (Spillane, 2004). Absent from the list are the licit substances nicotine and alcohol which were exempted from the CSA although meeting the criteria within the policy itself.

Further, even when there is a loosening of punishment regarding certain substances, changes are not necessarily in unison with the policy wording (MacCoun, 2014). Crack cocaine was deemed such a risk that the difference in volume to be considered for punishment was 100:1 compared against the base substance from which it is made in powder cocaine. Powder cocaine has more of the substance per weight than does crack cocaine creating a disconnect between drug volume, harm, and law. Noticing the clear disparity in sentencing between the two substances with the same active drug, law adapted to change the ratio from 100:1 down to 18:1, still leaving a large disparity in total drug weight versus punishment. This disparity has led to criticisms that these variations in drug weight punishment are due to which demographic groups are utilizing each type, using the disparity to target the African American community (MacCoun, 2014).

With alcohol and nicotine both meeting much of the criteria set forth by the CSA suggesting that they should be scheduled, deeper analysis into the rationale for keeping them exempted should be completed. Both substances have been exempted from scheduling for varied reasons including pervasive public use, and the memory of alcohol prohibition and the externalities not foreseen by that action. Researchers have suggested that these drugs should be scheduled according to their real-world risk and harm, taking a pragmatic approach to the scheduling process by comparing drugs and classifying them with other drugs that have similar real-world ramifications (Dasgupta et al., 2011). Benefits of this way of classifying and scheduling drugs have been stated as including a medical and sociologically rational approach that can be defended objectively, and by

limiting public skepticism on the veracity of the CSA claims on drug dangers and possible societal harm.

Measuring Toxicity

An important objective component of classifying substances within the CSA include determining how dangerous a substance is to the human body. A method used within the medical field is the therapeutic index in which toxicity is measured. Measuring toxicity involves determining an effective dose for 50% of the population (ED50) versus the lethal dose for 50% of the population (LD50), creating a ratio-based determination of toxicity (Gable, 2004). Research between human studies and animal studies have shown that drug toxicity appears to be ordinal in nature (Gable, 2004). There are substantial differences in toxicity between substances and researcher Robert Gable (2004) classified them into 4 categories based on their toxicity. The first category is most toxic with an $LD50 > ED50$ ratio of less than 10 to 1 which includes substances such as heroin, GHB, and isobutyl nitrate. The next category is less toxic, with a ratio between 10-20 to 1 which include substances such as alcohol, cocaine, codeine, dextromethorphan, MDMA, and methamphetamine. After that, even less toxic substances in which the ratio is between 20-80 to 1, including DMT (active ingredient in ayahuasca), ketamine, mescaline, and phenobarbital. Finally, there are substances in which the toxicity ratio is more than 100 to 1 including fluoxetine, LSD, Marijuana, nitrous oxide, and psilocybin (Gable, 2004). For perspective, water has a toxicity ratio around 25 to 1.

Ordinal ranking of drugs is common practice for many industries and regulatory bodies such as the U.S. Environmental Protection Agency (EPA) which utilizes a similar

method to determine the toxicity of fertilizers, pesticides and herbicides to determine how to regulate the substances (Gable, 2004). There has been difficulty in implementing such a process to legislation regarding the prohibitions, and regulations for the populace regarding personally consumed drugs such as in the CSA and the U.K. Misuse of Drugs Act. The U.S. DEA has admitted that marijuana had been determined to have a much lower toxicity than other drugs within its scheduling, however, they denied a petition to lower the scheduling by citing other 'risks' to society as their rationale (Buchanan, 2010; Gable, 2004).

Statistics and Economics of Drug Enforcement

Due to the enforcement of the CSA, there has been an exponential increase in spending, disparate treatment of minorities (Dollar, 2019), and the largest prison population in the world (Federal Bureau of Prisons, 2017). Since 1970, when the CSA was implemented, the proportion of drug sentenced offenders versus their non-drug offender counterparts has increased and become the majority of offenders in the United States, showing an exponential increase of cost of enforcement since the policy inception with three times as much funding being allocated towards enforcement over treatment of drug users or other harm reduction strategies such as drug treatment programs. The increase of those incarcerated for drug related crimes has created a disparity compared with other countries with the U.S. having a higher rate of incarceration for drug crimes than their E.U. for all crimes combined (Goode, 2004). In 1970, the proportion of drug offenders within federal prisons was 16.3% and by 1998 had increased to 58.9% showing

a large increase in both proportion and volume of drug offenders. (Federal Bureau of Prisons, 2017)

There was a slight temporal lag from the implementation of the CSA and the increase of offenders convicted due to drug offenses because of the time it takes to process individuals in the criminal justice system and for police departments needing time to adapt to the new laws (Cooper, 2015). With the increase of the federal and state drug related prison populations, came much greater expenditures (Federal Bureau of Prisons, 2017). Not only has the cost of the war on drugs increased since its inception, it has grown exponentially. The total spending attributed to the war on drugs from 1970 to 2000 saw the extent of the exponential increase in spending, more specifically, the increase of spending on drug enforcement went from 1 billion in 1970, up to 17.7 billion by 2000, an increase of 1770% over a 30-year period (Office of National Drug Control Policy, 2017).

The effectiveness of the spending has shown limited success with rates of heroin use within the U.S. being comparable to that of the 19th century in which there were no existing laws surrounding the use of such substances (Goode, 2004). Additionally, teens within the U.S. are four times more likely to try illicit substances than their European Union counterparts even though most of the E.U. has drug policies which are more liberal than the U.S. Even within the Netherlands, where marijuana is legal, the Dutch teens are far less likely than U.S. teens to try illicit substances (Goode, 2004).

President Ronald Reagan's War on Drugs policy was geared to interrupt the supply side of drug production, and that was shown to be ineffective (Goode, 2004).

While making changes to the pricing of drugs by interrupting the supply side of drugs has shown some traction, the implementation saw varied effects. The effect of price adjustment varies by drugs with certain substances showing decreased usage based on the price, and others not showing a significant effect based on price (Goode, 2004).

Significant evidence providing drug pricing by substance was not found. Goode (2004) suggests that drugs such as heroin are less affected by supply side reductions due to the varied levels of chemical dependency each drug inflicts on the user. Additional attempts by the U.S. government have been to interdict drug supply by working with the individuals who grow the crops for the drugs outside of the U.S. A study by the RAND corporation showed that this method of interdiction was ineffective and costly providing more indicators of a lack of efficient spending (Goode, 2004).

The CSA was also intended to reduce the burden on the tax payers from the harm created from drugs through societal health costs, and crime (Brown, 2015). The result has been shown to have had an increase in spending, and a commensurate increase in drug offenders, leading to questions about the efficacy of the policy. The United States has taken the prohibitionist approach to substance use, drawing from the Abrahamic views towards vice as was seen in the prior alcohol Prohibition Era (Wodak, 2014). The policy of drug prohibition has been the standard around the world for some countries, while others faced with epidemics of drug use, and a failure of their systems, decided to break from the normative methods of drug enforcement and shift the focus from a legalistic, punitive, adversarial system to a pragmatic and empathetic focus on mental health issues

of drug use and abuse such as the case with Portugal where new policy ideas manifested via decriminalization which have enjoyed a better return on investment (Wodak, 2014).

Portuguese Decriminalization Approach

In 2001, Portugal was in the midst of a crisis. They were having an epidemic of heroin overdoses, HIV transmission via needle sharing, and logistical problems with interdiction through similar methods to the United States' current CSA (Greenwald, 2009; Hughes & Stevens, 2010). Portugal is a country with unique geography which positions it as an entry point to mainland Europe for drugs to come in and spread across the continent. In addition, they had a massive heroin addiction epidemic with 1 in 100 Portuguese being addicted to the drug, and a rapid increase in blood borne pathogens (Ingram, 2015). Due to these unique factors, Portugal needed to find an alternative solution to drug prohibition with the understanding that attempting to fully stop drugs within their country was futile. The decision was for decriminalization of all drugs, the implementation of treatment programs such as dissuasion panels, and clean needle exchanges with their rationale being to curtail addiction in the most efficient manner possible and to reduce harm (Ingram, 2015).

By implementing the decriminalization of drugs in Portugal, policymakers were able to effectively lower drug deaths, lower costs, and curtail large-scale use of more dangerous manufactured replica drugs like synthetic marijuana, bath salts, fentanyl, and others (Greenwald, 2009; Hughes & Stevens, 2010; Vale de Andrade & Carapinha, 2010). A noted benefit of this policy has been the lowered use of these drugs in Portugal than in any of the other countries for which reliable data exists (Brown, 2015). This

makes a lot of intuitive sense, as Milton Friedman thought, why would someone bother with lab created, or highly dangerous drugs when you can get the real stuff (Ingram, 2015)? If all substances are decriminalized, individuals would not need to resort to using such substances. The lowered rates of drug related deaths in Portugal have been attributed to the decriminalization policy. Portugal has since reduced its drug related deaths from one of the worst in the world to be the second lowest in the European Union with a rate of 3 deaths per million people, by decriminalizing all drugs compared against the EU average of 17.3 (European Monitoring Centre for Drugs and Drug Addiction, 2015; Ingram, 2015).

The policy of decriminalization in Portugal was spearheaded by Dr. Joao Goulao, a physician by practice, who felt it was necessary from his experience, to switch the focus from drug use being treated as a criminal justice problem requiring punishment to a mental health problem requiring treatment (Greenwald, 2009). While not fully legalizing all drugs, and by simply decriminalizing the criminal penalty for personal drug possession, the new law allowed for the government to provide services which would have been barred under the previous law which was similar to that of the U.S. CSA. To that effect, Dr. Goulao began to implement diversion treatment via dissuasion panels for those found with drugs by sending nurses, and social workers into areas of heavy drug use to effectively triage individuals who are using drugs to determine the best approach to treatment (Vale de Andrade & Carapinha, 2010). If an individual is deemed to be a chronic abuser, they are sent to a council to receive regular care, which includes either medical, or psychological treatment. Speaking on the success of the program, Dr. Goulao

explained how the clearest change has been a fall in HIV infections among drug injection users, which peaked in Portugal at around 1600 a year in 1998 and had fallen to around 200 by 2009, demonstrating a quantifiable positive public health effect of his policy implementation and enforcement (Vale de Andrade & Carapinha, 2010).

A paradigm shifting policy change such as decriminalization was met with resistance at first including concerns of increased drug use among the populace, a perceived acceptance of drug use could influence the youth, and an increase of criminal activity (Vale de Andrade & Carapinha, 2010). Measured results have been to the contrary. After 10 years of the program, drug usage among 15-19 year-olds steadily decreased and has partially been attributed to the decrease in stigma for those abusers to come forward without fear of reprisal limiting the number of users at the street level in which drug accessibility is higher (Vale de Andrade & Carapinha, 2010). The portion of the populace addicted to heroin and other 'hard' drugs has decreased, and there has been no noted increase in criminal activity. Additionally, there has been a sharp decline in HIV transmission and drug overdoses due to clean needle exchange programs incorporated into the policy along with a reduction in severe mental health issues stemming from prolonged drug use (Greenwald, 2009).

Analysis of the Portuguese system provides insight into potential issues surrounding an implementation of a similar policy within the United States under the CSA. Portugal has seen a divide in police reactions and procedures relating to the Portuguese policy. Police no longer arrest drug users (Greenwald, 2009). Rather, they provide them with a ticket to attend a dissuasion panel meeting within the next 72 hours.

Dissuasion panels assess the severity of the drug abuse problem, and will adjust the treatment accordingly. In extreme cases, they can ban the user from attending night clubs or their licensed occupation (Greenwald, 2009).

Based on opinions from the Portuguese drug officials via anecdotal evidence, one group of Portuguese police officers sees the ticketing as less stringent and futile in stopping drug users fearing that they will not be deterred from using (Greenwald, 2009). These individuals have reduced their enforcement levels on drug users compared to the prior retributive approach (Greenwald, 2009). Another group of officers see the harm reduction strategy as an opportunity. They feel that the lowered stigma and not treating them as morally flawed provides them more opportunity to assist drug users in rehabilitating and therefore these officers have higher rates of ticketing compared to the prior policy (Greenwald, 2009). The divide was identified to be along generational lines with the older officers preferring the prior retributive policies and the younger generation preferring to intervene under the new protocols (Greenwald, 2009). Evidence for the ticketing numbers was sourced from the annual report from the Institute on Drugs and Drug Addiction of Portugal (Institute on Drugs and Drug Addiction of Portugal, 2007).

In contrast to the CSA and the adversarial United States justice system, the Portuguese program is a partnership between law enforcement and medical professionals which treat the individuals who have become addicted as a public health issue rather than a criminal one (Ingram, 2015). By eliminating the punishment and judgment of drug users, there is a lowering of stigma which has allowed people to speak clearly and to pursue professional help without fear (Vale de Andrade & Carapinha, 2010). With the

individuals free from the fear of government persecution, drug users can be welcomed to come forward for treatment which provide benefits to society as a whole and reduce the total number of users.

United Kingdom Misuse of Drugs Act

With a system of drug legislation similar to the CSA, the United Kingdom utilizes The Misuse of Drugs Act (MDA) as the governing policy of drug enforcement. The foundations of The Misuse of Drugs Act from 1971 began at a U.N. conference in 1962 in which the assembly was making determinations on the legality of access to substances, and which ones should be relegated to scientific research only (Buchanan, 2010; Monaghan, 2014). The Misuse of Drugs Act follows the similar pattern to the CSA in its method of classification of drugs into tiers of perceived toxicity, harm, and societal implications (Monaghan, 2014). The MDA uses three classes labeled A, B, and C to classify drugs with class A substances being the most severe in legal punishment, and class C being the least.

Within the U.K., determining the classification of substances and the updating of the Misuse of Drugs Act are both informed by subject matter experts and psychopharmacologists. In the year 2001, the government decided to take the advice of the subject matter experts and reclassify cannabis, including marijuana, from Class B to Class C (Buchanan, 2010). As 71% of all drug seizures were for cannabis within the U.K., the classification of cannabis is of the largest consequence regarding drug enforcement (Buchanan, 2010). The implementation was delayed until 2004 after which the penalties for Class C drugs were brought in line with the penalties for Class B drugs

effectively negating the reclassification. The intent of the subject matter experts was to reclassify the drug because of the objectively lower harm to both the users and society than previously thought leading to lower penalties, if any at all (Buchanan, 2010).

A method of a 'ratchet up' policy of drug enforcement for new psychoactive substances (NPs) has been in use within certain countries such as the U.K. and the U.S. and are based on 3 factors: 1) Guilt by deviance association; 2) Guilt by lunatic association; and 3) Guilt by molecular association (Stevens & Measham, 2014). Initial psychoactive substances controlled within the U.K. and the U.S. were those used by individuals who were outside of the normative Protestant white culture and followed the 'guilt by deviance' model rather than utilizing objective medical assessment, or empirical research regarding societal harm (Stevens & Measham, 2014). New drugs are placed into the system with a pessimistic view by focusing more attention on the potential ramifications of a drug rather than any possible medical usage. Recognition of the effectiveness, or lack thereof, is important in understanding policy development regarding NPs (Stevens & Measham, 2014).

One of the primary reasons for political focus on drug interdiction was due to cities in the U.K which were industrial and manufacturing centers such as the cities in which British cars were made, slowly saw economic opportunity fade away (Buchanan, 2010). As the market changed, and the manufacturing jobs began to siphon off to other countries, low and medium skilled labor which had been a staple in these communities for multiple generations had dried up. The change in the environment has shown

devastating effects with regards to drug abuse in these areas, specifically heroin (Buchanan, 2010).

This was met with resistance from politicians as they have preferred to keep the policy based on public perception and optics from their political seat (Monaghan, 2014). This approach does not lend itself to effective governing surrounding drug policy within the UK due to the nature of their democratic constitutional monarchy and its limitations. With public psychopharmacological knowledge lacking, politicians do not want to make empirical based policy decisions counter to the public opinion, which is not based on the evidence and rather on public perception. Ultimately, in 2009 marijuana was reclassified back to Class B (Buchanan, 2010; Monaghan, 2014).

Additional criticism of the MDA was made by the Police Foundation 'Runciman' Inquiry in which it was stated that the "MDA should be reviewed to take account of modern developments in Medical, Scientific and Sociological Knowledge;" however, the Labour government backed away from revamping the law due to public opinion as a means of mitigating vote loss seeing that attempting to provide the complicated data to the populace (Buchanan, 2010).

The younger generations within the U.K. have questioned the validity of the classification of drugs based on the MDA. They cite a perceived lower level of danger and risk using MDMA (ecstasy) at raves, versus going to an alcohol serving bar where the perceived danger and risk are higher (Buchanan, 2010). The youth stated going to a bar was riskier than going to a rave and consuming MDMA based on the level of

violence in bars they had witnessed (Buchanan, 2010). A similar pattern has been seen within the U.S. (Anderson, 2014).

Thailand Drug Enforcement

Thailand began its war on drugs in 2003 and as a result is now the country with the 6th most individuals incarcerated and has the highest rate of female inmates (Baltzer, 2018). Drug possession is more evenly distributed between men and women compared with other types of crime in which men are the majority offenders. The Quantity Proxy Approach is the method of determining the difference between user and dealer based on the amount of weight of the drug or drugs in the possession of the offender, which is also utilized in Portugal, and to an extent, within the U.S. Those with more weight based on a determined amount, will be considered dealers. This number varies greatly from country to country. Countries such as Thailand, which have low levels of fiscal resources dedicated to law enforcement for measuring drug weight and purity, have issues in objectively prosecuting offenders accurately due to inaccurate drug weight assessments creating potential over prosecution (Baltzer, 2018).

Studies have shown that users will buy drugs in bulk as a means of paying less for their drugs as the drug market follows typical market dynamics of supply and demand (Goode, 2004). Due to this, the intent of the user might not be to sell, but rather consume, but due to the classification of the drug penalty based on weight, with the presumption that those with more weight are dealers, therefore, and warrant additional punishment, an individual may be misclassified and punished incorrectly (Baltzer, 2018).

Another issue regarding the weight approach is that some users also sell drugs to maintain their habit, and are not selling strictly for the profit of the enterprise. These users are effectively trapped into their addiction and ‘need’ to sell to maintain their habit, which at least within the U.S. would potentially bring mitigating factors due to limited complicity. These factors lead to incorrect sentencing, with punitive punishment, even though evidence suggests that users are not deterred by sentence structure due to their addiction (Baltzer, 2018).

Other individuals who could be over prosecuted due to the weight approach include mules who carry drugs for dealers. These individuals have no say in how much drugs they are to carry. The amount to be transported is dictated by the investing dealers looking to make a profit. In some cases, the mules are not even aware of the quantity that they are carrying. Thailand has seen multiple cases in which the weight-based approach has prosecuted individuals as if they are high level dealers, rather than drug abusers (Baltzer, 2018). Such approaches could be compared against homicide cases within the U.S. in which complicity requires *mens rea* and one could argue that the mules not being aware of the volume of drugs they are carrying would mean that the appropriate punishment might not be weight based (Baltzer, 2018).

Limitations for Harm Reduction Strategies

With the United States’ CSA being adversarial in enforcement, harm reduction strategies, which have shown to be effective abroad, are procedurally barred from usage (Anderson, 2014). Other drug policies stemming from the CSA have shown to have acted as a barrier to harm reduction strategies. For example, the Illicit Drug Anti-Proliferation

Act of 2003 was intended to lower the increased prevalence and use of drugs at raves in the U.S.; however, due to the language in the act and the underlying CSA, organizers are reluctant to allow outside groups to assist in the safety of the rave participants (Anderson, 2014). At one music festival in Washington state, a young man died from Molly (MDMA) complications (Anderson, 2014). A local harm reduction group, Stay Safe Seattle, had approached the festival's organizers hoping that they would permit them to test drugs being used at the rave and educate ravers about the drugs they planned to consume in an effort to mitigate dangerous abuse, but the owners and organizers of the festival turned the group down. By affording access to Stay Safe Seattle, organizers feared they would 'self-incriminate' or admit to violating the RAVE Act and thereby eliminate their ability to obtain permits for more events (Anderson, 2014). The roadblock is potentially preventing well-meaning groups from providing one of the public services that the CSA was intended to address insofar as reducing the harm of drug abuse due to lack of testing, regulation, and public knowledge. If policies were to adopt a harm reduction strategy, organizers of events and harm reduction groups could work together in educating rave goers, if they did not have the limits of the CSA and the RAVE act removing their ability to obtain permits, or possibly even have civil suits against them and harm their ability to make a living because their ideas for harm reduction are seen as an endorsement of drug use due to precedent (Anderson, 2014).

Restrictions set forth by the CSA are not limited to how enforcement, or administration of the policy, but also how researchers can investigate substances for potential medical use. If a drug is Schedule 1, there is essentially no research that can be

conducted on these substances potentially holding medically beneficial qualities, unless a location within the U.S. has been granted access to do so, of which there have been very few, due to the perceived danger of allowing researchers to test these substances. Drugs like psilocybin, marijuana, MDMA, peyote, and others have shown promising medical potentiality (in countries where research can be conducted on such substances freely) (Gibson, 2010). With regards to psilocybin, recent research (Johnson et al., 2018) concluded that the drug does have an abuse potential appropriate for CSA scheduling if approved as medicine, even going as far as stating that psilocybin can provide therapeutic benefits which may support the development of an approvable New Drug Application (NDA); Johnson et al. (2018) suggest that further research should be conducted to make a determination.. Additionally, adverse effects of medical psilocybin are shown to be manageable when administered and addiction potential low. Using the CSA's language, they felt that it should be classified no higher than Schedule 4 instead of the Schedule 1 it falls under now which would allow for such research to be performed (Johnson et al., 2018). Similar results of worldwide tests have been seen with marijuana, and MDMA (Dasgupta et al., 2011).

In terms of the issue with marijuana scheduling, both sides of the marijuana argument utilize their version of science to back up their claim. Both sides can agree with the effects of marijuana in certain cases, with divergent determinations of the effects being positive or negative (Goode, 1969). Proponents might claim that it opens their mind, provides them with abstractions for art, while others might claim that the drug causes malaise and lowered motor skills. Both might be alluding to the same

physiological effects viewed through varied lenses with one side viewing the use as positivistic, and the other viewing it as criminogenic. Suggestions have been made (Goode, 2004) in moving drug enforcement policy toward a do no harm principle would result in a 'fairer' system and would allow for substances to have the 'chance' at being researched more freely for possible therapeutic benefits including the ability to reduce harm to the populace (Anderson, 2014). Even within the due no harm mindset, it can be articulated by detractors from marijuana legality as the potential to create sloth, and therefore potentially harm society rather than focusing on the individual harm (Goode, 1969).

Chemical Hooks Theory

Another component of scheduling drugs within the CSA is the potential of a substance to create a physical dependence. Researchers Alexander et al. (1978) performed a series of rat studies in the late 1970's with the goal of determining if the drugs themselves were the primary cause of drug addiction or if it was the environment in which the user existed. The prevailing narrative from drug enforcers was that the drugs had a 'chemical hook' that would essentially trap the user into drug abuse. The rat studies, while determined to have not accounted for certain spurious variables, was deemed to have effectively countered the claim of the drug as a 'hook' (Alexander et al., 1978).

One set of rats were placed in a sensory deprived individual small cage with no items to interact with, while the other set were allowed to be around other rats, and were provided with multiple items that rats tend to interact with such as wheels, balls, and

other rats which was deemed 'rat park'. Even though the studies set out to aid the tabula rasa like theory of environment playing the primary function in addiction over biological or chemical hooks, the study overgeneralized and did not account for a genetic role in addiction (Gage & Sumnall, 2018).

Alexander et al. (1978) states early hypotheses claim that drug hooks are the primary cause of drug abuse and addiction, meaning that an individual would consume a substance, and become 'hooked' thereby limiting their ability to cognitively stop using. Alexander et al. (1978) claims that the only factor in addiction was the environment. A multitude of studies indicate that the truth is a more complex interaction between the physiological hooks, genetic predisposition, and environmental conditions (Dasgupta et al., 2011; Dollar, 2019; Gable, 2004).

In an attempt to replicate the Alexander Rat Park Studies, Petrie (1996) set out to repeat the studies while adjusting for some of the flaws from the initial study (Alexander et al., 1978). To compensate, researchers used rats with identical ages, and equal numbers, and separated them into colony, and individual groups. Additionally, they adjusted levels of sucrose as a sweetening agent in an attempt to isolate if the opiate laced solution was favored with different levels of sucrose. Goldstein (1976) predicted that once rats were 'hooked' on the substance, that adjusting the sucrose content in the solution would not affect the consumption rate (Alexander et al., 1978; Goldstein, 1972). Results provided a few key findings. 1) The female rats drank more of the opiate solution compared to the male rats 2) The dosage of sucrose within the opiate solution did not affect the consumption of the laced solution in most cases 3) At the highest dosage of

opiates in the solution, the colony rats outdrank the individuals, in all other lower dosage levels, the individuals outdrank the colony 4) Isolated rats drank less by a noticeable margin than the previous studies lending the authors to believe that there was a genetic component to the propensity for opiate use within the rats further showing a complex and multi-faceted nature of drug abuse (Petrie, 1996).

Alexander argued that the environment only played a role in drug use (Petrie, 1996). However, his studies, along with the subsequent studies, did not confirm this hypothesis. Nonetheless, the studies provided insight that no single factor is the sole driver of propensity for drug abuse. By showing a strong disconfirmation of Goldstein's hypothesis, Alexander, Petrie and others were able to provide compelling evidence against the chemical hook theory (Goldstein, 1976; Petrie, 1996). By providing evidence that shows a multifaceted nature to drug abuse, one can begin to see how a holistic treatment and response approach would be prudent in addressing drug abuse from a policy standpoint.

Current models of addressing drug abuse are predicated on a level of agency within the user. The model attempts to penalize users in a retributive fashion resting its goals on the effectiveness of deterrence theory. This has been shown to be ineffective due to the loss of free will within opiate users (Minhee & Calandrillo, 2019). The addiction consumes their rational thought, meaning that deterrence-based policies, which assume rational thought, will not work. (Minhee & Calandrillo, 2019). Users' higher brain functions are superseded by psychological and physiological factors. Other current methodologies following a rational thought-based deterrence model, assume that by

attacking the supply side of drugs, that the costs will go up, thereby making it more difficult for users to obtain the drugs, and lower usage (Goode, 2004). This methodology does not take into account the market condition that includes ‘cutting’ of drugs with lower cost materials, or creating synthetic alternatives such as fentanyl filling the down-market pricing. By attacking the supply side, drug enforcement creates a new synthetic market with significantly more dangerous alternatives (Goode, 2004; Wodak, 2014).

Adding to the multifaceted nature of drug abuse, macroeconomic factors have shown to play a role in drug abuse, specifically surrounding opioids. Measuring at the county level, researchers found that for every 1% increase in unemployment, there is an increase in opioid deaths by 3.6% furthering the environment as a possible contributing factor of drug abuse (Hollingsworth, 2017). As noted by prior research, there is a marked decline in mental health during economic weakness (Hollingsworth, 2017). As opioids account for 53% of all fatal drug overdoses and play a role in 64% of all overdoses, understanding the effects of macroeconomics on drug use would be of considerable importance (Hollingsworth, 2017).

As the Rat Park studies concluded, free will can be aided (at least in rats) by adjusting the environmental conditions to what would be a rat facsimile to a pro-social environment. With the rats decreasing drug use within the better conditions, intuitively, one can conclude that the chemical hook is not the exclusive factor in drug abuse and that by adjusting environments for human subject, we might see the same positive results (Minhee & Calandrillo, 2019).

Foundational and Structural Issues of the CSA

Drawing back to the creation of the CSA, and the subsequent enforcement, one wonders more deeply about the mindset of the policy backers and the rationale for the legislation. Policing policies utilized as a result of the War on Drugs, have increased brutality by the police by targeting Black communities, even as they make little progress in reducing street-level drug activity (Cooper, 2015). John Ehrlichman, who was President Richard Nixon's chief advisor, speaking on the reasoning behind the implementation of the CSA, stated that they could arrest the leaders of black communities and other dissenting groups, raid their homes, break up their meetings, and vilify them night after night on the evening news. Additionally, Ehrlichman stated that they knew they couldn't make it illegal to be either against the war or black, but by changing public opinion to associate the hippies with marijuana and blacks with heroin, and then criminalizing both heavily, they could disrupt those communities (Baum, 2016). In the wake of this policy, the CSA has continually been used such as during the crack epidemic of the 1980s and 1990s with disproportionate enforcement, punishment, and conviction within the African-American communities compared to their white counterparts (Cooper, 2015).

Ehrlichman stated that the administration knew they were lying about the drugs in order to accomplish their political goals (Baum, 2016). As explained by Ehrlichman, there appears to have been a purposeful demonization of specific drugs providing a glimpse of intent from the proponents contrary to the pragmatic and altruistic in nature of

the CSA as suggested, nor were they objective and not meant for the betterment of society, but rather a political motivation (Baum, 2016).

The CSA continued to evolve following the pattern of John Kingdon's Multiple Stream Framework (MSF) (Kingdon, 1984) and continually required a level of public support. The public perception of a drug problem creates a portion of the factors leading to Kingdon's MSF in which public sentiment needs to be gained for effective policymaking to occur. How a situation is labeled can create a perceptible difference within the populace. An example of differential presentation would be the contrast between media depictions of crack cocaine and heroin/opioid addictions. Within the crack cocaine epidemic, people are shown in such a way to create a negative stigma relating to morality based on the perceived demographics of the users being black, using derogatory phrases such as "crack babies", and "welfare queens" of the 1980s generally in the lower socio-economic classes due to perceived differences based on governmental statistics showing that blacks were more likely to report lifetime use of crack compared to white and Hispanic counterparts (4.6%, 3.7%, and 2.3% respectively) (Palamar et al., 2015). Within the heroin/opioid epidemic and to a certain extent the methamphetamine issues, before and after images of white women are placed at the forefront as innocent victims to scare the white masses into deterrence as the victims of said epidemic are middle class hegemonic whites (Dollar, 2019). Conceivably, this tactic is used as a means of keeping the white middle class 'working' and preventing them from deviating from normative behaviors.

CSA proponents have continued the increase of enforcement based on metrics showing increased numbers of arrests in drug crimes. In 1980, the total number of drug arrests in the U.S. was 580,900 while that number increased to 1,089,500 in 1990 and to an average well over 1,500,000 since 1995 through 2018 (Federal Bureau of Investigations, Uniform Crime Report, 2018). While there has been an increase of arrests to support this claim, it is a single metric in an issue far more complex and requiring multiple measurable variables including population increases, drug law changes, drug availability, and enforcement level variations (Spillane, 2004). The increased enforcement approach is based on incapacitation of the drug trade through attacking the supply side of the market with the thought of making the costs increase by interrupting the supply will place most drug prices ‘out of reach’ for the users. While this may be the case initially, drug users still have the demand, and suppliers simply adapt similar to prohibition alcohol suppliers. In drug suppliers, varied techniques exist such as cutting pure substances with lower price and potentially harmful substances, and in creating man made substances such as fentanyl (Polomarkakis, 2017).

Race and the CSA

Results of such policies have been found to have a disproportional effect on minority groups within the U.S. and within the U.K. providing evidence of structural issues within the CSA and MDA. Michelle Alexander posits in her book *The New Jim Crow* (2010) that these policies, along with others, serve as a method of purposefully targeting the minority communities within the U.S. as a means of overenforcement creating an imbalance in number of minority individuals targeted and prosecuted for drug

crimes although drug use is commensurate within all demographic groups (Alexander, 2010; Polomarkakis, 2017).

The scale of the opioid crisis within the U.S. can be best described by comparing it to other forms of human death. More Americans die from opioids than car accidents or firearms. Additionally, in 2017 more Americans died from opioid overdose than the wars in Vietnam, Iraq, and Afghanistan combined (Minhee & Calandrillo, 2019).

The demographics of the opioid crises have further exposed how drug use is not relegated to any specific demographic group. Rather it crosses demographic lines. Minhee & Calandrillo (2019) suggest that with the opioid crisis, we have seen a previously unnoticed group of white middle class abusers suffer so many deaths that the life-expectancy rate for that group is going down and is the only ethnicity in which that is the case. Mid-life whites are the only group within the United States currently seeing an increase in mortality rates. Using a critical race theory approach, a hypothesis has been formed that the increased drug abuse within the middle class, mid-life whites, is due to the loss of perceived power within the structure of the U.S. over minority groups (Minhee & Calandrillo, 2019). As the Prohibition Era of the early 20th century has shown, enforcement of such a policy necessarily requires an increase in governmental power, not only legislatively, but practically as well (Greenwald, 2009; Spillane, 2004; Wodak, 2014). This has led to the externalities of differential enforcement against marginalized groups historically.

In addition to the ethical issues with the initial enactment of the CSA, the ongoing use of the CSA in a discriminatory fashion continues to this day. Rastafari culture, Native

American culture, and many others groups use certain drugs such as marijuana or peyote (mescaline) for either religious, spiritual, or other individual purposes (Gibson, 2010). Limiting one substance over another based on an objective risk can be logical; however, in practice seems to fall along ethnic and socio-economic lines with drugs like marijuana, peyote, and crack cocaine being specifically targeted by law enforcement due to their placement on the CSA being in the higher schedules contrasted against substances traditionally used by whites. By limiting personal use on some of these substances such as marijuana and peyote, an argument could be made that this prohibition is a 1st amendment violation against ones' right to practice freedom of religion as the substances serve a religious purpose (Gibson, 2010).

Current State of Research

Research into the topics of drug use and abuse, drug interdiction, and drug policy have been well covered. It seems as though additional research in varied methods and tying them together in an interdisciplinary approach utilizing law, political science, criminal justice, psychology, and biology are the components left to instill potential policy changes. By factoring in the false pretenses upon which the CSA was formed (Baum, 2016), in conjunction with the apparent lack of adherence to its own specified protocols, research into the policy must be conducted at a deeper level. Further research into the nuances of the CSA should be considered as well such as the operationalization of the policy and the ramifications through the externalities of the CSA. Additionally, by using empiricism through the reviewing of medical and psychological literature in which inroads are being made into use of certain drugs (currently scheduled 1 by the CSA) have

been shown to have medicinal value lending to further analysis at a substance by substance level factoring in the physiological effects of the varied substances by incorporating biological and medical knowledge potentially reassessing the entire CSA.

Chapter 3

Methodology

Frameworks

This thesis is researched with an inductive, qualitative policy analysis and evaluation of the *Controlled Substances Act*. A policy analysis determines the efficacy of a given policy by analysis into the stated goals and objectives to see if the policy is successfully obtaining those goals and objectives (Bardach, 2012; Gil, 1970). The focus of the analysis surrounds the efficacy of the CSA and contrasts it against other drug enforcement policies, both more restrictive and less, from three countries around the world: Portugal, the UK, and Thailand. The goals of the analysis are to determine if the CSA has achieved its stated objective, whether or not substances are placed correctly in the federal drug schedule, and what potential policy alternatives would look like from around the globe. The methodology for this research has been guided by principles from David Gil (1970) and Eugene Bardach (2012). Additionally, the thesis utilized the understanding of Multiple Stream Theory from John Kingdon (1984) in recognizing how policies are created and evolve. Selection of these sources was carefully thought out by using resources gained within the political science division to provide a framework for the analysis and for an understanding of how policy creation and change can happen.

Gil (1970) classifies a systematic approach to social policy analysis that includes 4 steps:

1. Developing a definition, or general model, of social policy derived from existing theory about the structure and dynamics of human societies.

2. Developing a general framework for social policy analysis, consisting of a standard set of analytic foci, based in part on the components of the definition of social policy.
3. Developing specifications for the types and ranges of data needed and the techniques appropriate for the analysis of the various foci of the general framework.
4. Testing the analytic framework by applying it to selected past, present, and proposed future social policies of various societies.

Utilizing Gil's (1970) framework, this thesis incorporates each of the components by identifying the existing theoretical foundation of the CSA including deterrence theory, rational thought, and social control theory. Additionally, by defining the framework of the analysis, and measuring results from comparable policies, this thesis developed a general framework. Further, identifying statistically significant results from varied policy types, and identifying what constitutes positive and negative results, the research identifies the data ranges needed. Finally, to provide the past, present, and future policy suggestions, this thesis compares the CSA against more stringent and less stringent policies while identifying the foundation of the CSA.

This thesis additionally incorporates Bardach's Eightfold Path (Bardach, 2012) to effective policy analysis in conjunction with the Gil (1970) framework. Bardach's (2012) framework contains 8 steps to effective policy analysis:

- 1) Define the problem.
- 2) Assemble some evidence.

- 3) Construct the alternatives.
- 4) Select the criteria.
- 5) Project the outcome.
- 6) Confront the tradeoffs.
- 7) Decide.
- 8) Tell your story.

Each of the components were utilized within the thesis. To define the problem, various statements from policy creators, and language from the CSA are utilized. Assembly of evidence is completed by drawing from statistics related to drug use, abuse, intravenous pathogen spread, drug overdose, economics of drug policy, and number of individuals incarcerated, and are sourced from academic sources. This thesis provides alternatives in the form of similar policies from countries with similar, more liberal, and more punitive drug policies. The statistics measured (drug use and overdoses, incarcerated individuals, costs, and intravenous pathogen spread) are the criteria for the thesis. A projected outcome is determined as finding a possible correlation with policy success against the type of enforcement, and that drugs might not be scheduled appropriately. To confront the trade-offs, concerns from decriminalization detractors are considered, and possible outcomes are hypothesized. A 'decision' is made within the analysis and conclusion sections of the thesis based on the research. Finally, this thesis provides a narrative of the research and how the writers views have been adjusted via the research.

Scale of Research

By using governmental sites and academic journals, this thesis attempts to maintain the integrity, reliability and validity of the research. Using foundational policy analysis methods from Gil (1970) and Bardach (1970), and by incorporating knowledge from Policy Paradox (Stone, 2012), this thesis ensures consistency for attempts to replicate the study. An additional method of maintaining reliability includes the standardized library search method of key terms and using primary and secondary sourcing. To ensure the validity of the thesis, the thesis utilizes European Union, Department of Justice, and other Federal agency documents for statistics and analyses in conjunction with a focus on primary sources through library searches where possible.

Due to the interdisciplinary nature of drug policy, a combination of the frameworks mentioned above is utilized in an attempt to provide as much information and analysis as logistically possible. Topics from medical science in the form of toxicology, sociology, criminology, public policy administration, political science, psychology and philosophy are all necessary components to addressing the CSA, therefore, journal articles from each discipline are utilized.

Additionally, due to the nature of drug policy being determined at the federal level, research is conducted by comparing and contrasting national level drug policies from varied countries to ensure proper comparisons. This thesis lays out the structure of how drug policy functions within the government of the U.S., and within the other countries through analysis of said policies through stated goals and from prior analyses. Additionally, this thesis uses a top down approach to address drug policy rather than a

ground up method, due to the generalizability and centralization afforded to a macro-level approach.

Sourcing

The literature review includes articles from worldwide academic journals, books from subject matter experts, governmental policy language, and from specific news articles which include interviews with CSA drug policy actors such as chief advisor to President Nixon, John Ehrlichman. Journal articles, books, and periodicals are sourced from across the drug policy philosophical and political spectrum to ensure as much objectivity as possible. Journal article searches use keywords including *Controlled Substances Act*, toxicity, international drug policy, decriminalization, drug abuse, and drug scheduling. Book references utilize prior knowledge from my undergraduate minor in political science in which some of the selected books were presented as seminal works regarding policy development (Stone, 2012), and similar book selections are made from text books from within the criminal justice program (Alexander, 2010).

To determine policy alternatives, research into the history of drug policy and previous attempts at curtailing drug use, interdiction, public health issues, and harm reduction strategies were a logical direction to pursue. Examples of varied techniques uses drug policy from countries with stricter (Thailand), similar to the U.S. (U.K.), and less strict (Portugal, Netherlands) methods were examined with details about the foundations of the policies, and the realized outcomes of said policies. Determining which policies to use, a library search was conducted with a snowball method (Rennison & Hart, 2019). The snowball method involves utilizing references found within initial

searches of journal articles. By using keyword searches such as ‘drug policy analysis’, research is narrowed towards specific country policies which appear more than others due to deviations from what is the ‘normative’ approach to drug policy.

Additional analysis and research were conducted by analyzing the economics of the CSA and other programs from around the world such as Portugal, to determine the economic efficiency of the laws. The economic analysis was factored due to the importance in controlling for the effectiveness of a program due to potential funding issues of enforcement and to provide a measure of efficiency. Using data from governmental sources such as the Federal Bureau of Prisons, the Department of Justice, and the European Union, a more comprehensive understanding into the effectiveness of drug enforcement programs was determined, in addition to the potential externalities and costs associated with such a policy.

Measurements

In determining the effectiveness, this thesis uses the intended goals as the benchmark, and utilizes measurements of prison population, drug overdose rates, proportion of addicts, teen drug usage, HIV infection rate, and other such metrics to determine correlations with drug policy. Statistics from countries across the drug enforcement spectrum were used and contrasted against the same numbers from within the U.S. for comparative analysis.

Using pharmacological data in conjunction with determinations of toxicity from medical journals, and comparing these data against the CSA, this thesis determines if the scheduling of the drugs is being appropriately assessed utilizing empirical data for the

toxicity. Qualitative analysis regarding the path of a drug being scheduled was used to provide context to the reader into the method of scheduling through the bureaucratic process.

Potential ramifications of such a policy analysis is researched with an objective lens regarding the effects from varied political philosophies, and economic effects. Additionally, by reviewing the historical demographic variation in enforcement and outcome using academic journals, and governmental data, this thesis attempts to identify areas within the CSA that have had a disproportional and negative outcome for varied demographic groups such as African Americans, Native Americans, and individuals from a lower socio-economic background, etc.

This thesis addresses the CSA and the alternatives by using evidence from the journals, subject matter experts and other sources to compare effectiveness of each policy. By contrasting, and determining potentially more beneficial options, and then providing alternatives, conclusions can be made and suggestions provided regarding preferable policy models for the U.S. Data for determining policy effectiveness for the alternatives was obtained by a continually narrowing scope of research beginning with worldwide policies receiving attention from the media, and locating, synthesizing, and continually finding more research in a snowball fashion (Rennison & Hart, 2019). To ensure a thorough analysis, library and other search engines were used by inserting keywords pertaining to drug policy such as drugs, toxicology, decriminalization, drug policy, *Controlled Substances Act*, etc.

Limitations

Limitations of the study included obtaining comprehensive economic evaluations from other countries drug policy, limited research into law enforcement officer's views on drug policy, and limited medical knowledge into the physiological, psychological, and toxicological effects of substances due to the CSA limitations on drug research and subsequent lack of evidence. An additional limitation is the ability to generalize policies from the comparison countries Portugal and Thailand due to demographic homogeneity and scale compared to the U.S. Other limitations include an absence of congressional transcripts from the implementation of the CSA due to limited time stemming from the COVID pandemic. Additional research regarding detailed economic ramifications, drug policy, toxicology of newer drugs or for those with minimal research, and comprehensive analysis into the societal ramifications of drug use could be beneficial and further researched. Further, research into other policies being utilized at the meso, or micro level could be beneficial due to the probability that macro level change might lag behind localized policy development.

Determinations

Finally, this thesis makes determinations based on the research, for suggested drug policy direction and to determine if the CSA is meeting its intended goals. Each policy direction is contingent upon the culture from which it is being implemented, and this thesis posits both how policy has come to be, and how it can be modified using empiricism. Possible pitfalls regarding the successful use of empiricism are addressed and include commentary on the deviation from what is empirically true, what is viewed

as abuse by individuals with culturally pre-existing morality views, and a lack of scientific understanding of drug dangers. Determinations into the possibility of implementations of varied policies within the framework of the current populace knowledgebase on drugs, and the legal possibility within the framework of the U.S. Constitution and precedent are provided using data from the literature review.

Chapter 4

Policy Analysis

Defining the problem

Reviewing the literature provides insight into the questions this thesis aims to answer. The primary question regarding the CSA being effective at obtaining its stated objectives of lowering drug use, drug overdoses, and limiting externalities, based on this thesis research, has been deemed to be ineffective, or at minimum underperforming. By comparing the alternatives against the CSA, and by using their own measures of effectiveness, it is clear that the stated intentions are not being satisfied, and there appears to be minimal effort to correct the course. Aside from increased levels of convictions, objective measures are generally not satisfactory. By reviewing the CSA, researching the narrative from policy makers and addressing the policy language regarding drug scheduling, this thesis provides the foundation from which to measure the problem, and determine if the policy is effective at meeting its goals.

Assemble some evidence

To effectively research the problem, the solutions, and the results, a comprehensive search was conducted to obtain information regarding the number of drug overdoses, drug abuse, and numbers of incarcerated individuals in the U.S. and measure against alternatives such as Portugal. Utilizing governmental statistics, this thesis was able to objectively share these statistics and make suggestions from them. Further, by compiling narratives surrounding the creation, implementation, and externalities of the CSA, this thesis is able to contrast varied views on drug enforcement from a philosophical and pragmatic lens.

Additionally, analyzing the economics of the CSA and other programs from around the world such as Portugal, is integral in determining the economic efficiency of the laws. The economic analysis was considered due to the importance of measuring for the effectiveness of a program due to potential funding issues of enforcement.

Additionally, by measuring efficiency, the return on investment of the CSA can be determined. Using data from governmental sources such as the Federal Bureau of Prisons, the Department of Justice, and the European Union (Drug Enforcement Agency, 2017; Federal Bureau of Prisons, 2017; Office of National Drug Control Policy, 2017), a more comprehensive understanding into the effectiveness of drug enforcement programs can be determined, in addition to the potential externalities and costs associated with such a policy. The CSA has shown an exponential increase in spending with little effect on obtaining its stated goals (Spillane, 2004).

Construct the alternatives

As mentioned above, utilizing other global policies regarding drug enforcement is a logical path to measure against the national policy of the U.S. in the CSA. Initial research provided a narrowing scope of alternatives from around the world both more severe, and more liberal with countries like Portugal and the Netherlands providing the more liberal policies, while Thailand serves as the more punitive alternative and the U.K. serving as a similar policy both in implementation and structure to the CSA (Baltzer, 2018; Vale de Andrade & Carapinha, 2010).

In 2001, Portugal needed to make a paradigm shifting drug policy adjustment. By leaning on their medical and policy experts, a determination was made to decriminalize

all drugs. This policy of decriminalization was met with expected push back from the police, the populace, and for that matter the world. Almost two decades into their policy shift, Portugal has enjoyed the benefits of their policy noting lowered overdose rates, drug use, less intravenous pathogen spread, and overall better public health. Naturally, this policy was a selection not just because of its contrast to the CSA, but its 2-decade long implementation which provides longitudinal statistics (Vale de Andrade & Carapinha, 2010).

In 1971, just one year after the implementation of the CSA, the U.K. implemented the MDA. This policy is almost identical in age, format, and implementation to the CSA, and serves as a second example of the U.S. policy to see similarities and differences from another nation. Similar to the CSA, the MDA stratifies drugs based on perceived risk to public health, and society at large. Additionally, showing similar pitfalls to the CSA, the MDA was an example of a policy that could be good to contrast against the CSA (Monaghan, 2014).

Finally, Thailand lies within the Golden Triangle in which large amounts of drug trafficking and production occurs. As with most of Southeast Asia, Thailand nears a zero-tolerance policy regarding drugs with some of the most punitive punishments around the world. Thailand shares some of the high rates of incarceration due to drug policy that the U.S. does (Baltzer, 2018). By selecting Thailand to contrast against the U.S., this thesis can provide the whole spectrum of drug policy and serves to allow this thesis to determine if a relationship between drug policy strictness and effectiveness exists.

Select the criteria

This thesis ensures that similar metrics are measured between the contrasting global drug policies. Selection of criteria includes addressing the key components within the determined goals of the CSA and by compiling the data. Similar data are measured from global policies to determine effectiveness and contrasting results. The CSA aims to reduce public harm, increase public health, and limit drug use. Reduction of public harm comes in the form of less criminality due to less drugs and drug addicts through incapacitation and deterrence. This is measured by comparing incarceration numbers and finding trends. Increasing public health comes in the form of decreased intravenous pathogen spread such as HIV, and by reducing the number of overdoses. Limiting drug use is a goal intended at limiting illicit drug use among the populace, and specifically focusing on youth drug use. Additionally, economics of the CSA are measured by viewing longitudinal data regarding expenditures throughout the implementation and enforcement of the CSA.

Project the outcome

Some of the policies researched in this thesis could be utilized within the U.S. While these are not cut and paste templates, the policies implemented by Portugal and the Netherlands could be beneficial to learn from their evidence of practice. By utilizing the lessons learned from these alternatives, the U.S. could begin to revamp the CSA to adopt some of these methods in a piecemeal fashion, and due to the dual sovereignty of the U.S. between the federal government and the states, and the CSA being federal law, these changes would need to come at the federal level.

Paradigm shifting policy change requires multiple factors to converge creating a policy window in which said changes can be realized. Political Scientist John Kingdon hypothesizes that a confluence of three conditions must exist for policy change to have a likelihood of success. First, a problem must exist with clear indicators, events, and feedback. Second, the political environment must be such that it is conducive to change, meaning that the correct political parties, and national climate is prime for change. Finally, an alternative policy to the existing one must be well formulated, and ready to implement in a logical and practical manner (1984).

The populace needs to feel that the laws are just and fairly administered. If policy enforcement is differential such as in the case of crack cocaine versus powder cocaine (MacCoun, 2014), the likelihood that the public will support the law is lowered. Also, in the case of marijuana having minimal health ramifications in comparison to many lower scheduled drugs, show a disconnect between drug harm, and possible punishment (Tyler et al., 2015).

Confront the trade-offs

The prospect of policy alternatives provides possible hurdles to overcome such as resistance from the populace, police, and politicians. Additional issues could be with increased drug use based on cultural differences due to the heterogeneous nature of the U.S., and the scale of the population compared with the alternative countries. In order for policy change to mitigate possible apprehension, the laws must take into account the normative values of any given group to factor in their narrative to the policy.

With street officers questioning their superiors regarding procedural changes implemented without proper explanation or understanding, a shift of focus regarding how a new procedure is going to help the public, a focus should be towards providing the officers a rationale for policy changes in such a way that explains the benefits to the officers themselves. This would have a better chance of officers buying in to the changes and create potentially better outcomes. Additional suggestions have been made that laws should be designed in such a way that the popular opinion is that people “ought to obey” them, providing legitimacy to the law. If the law is something that the public is not fully behind, the legitimacy of the law degrades, and the trust in the system declines such as the lack of confidence within the CSA (Tyler et al., 2015).

Issues lie regarding making adjustments to said policies due to generally unidirectional nature of policy enforcement law. Both major parties within the U.S. have not been receptive to new evidence regarding harm reduction techniques such as clean needle exchanges, nor have they been receptive to evidence supporting potential therapeutic use of marijuana (MacCoun & Reuter, 2008). Even in countries in which the supposed more progressive parties are in control, as in the U.K. and the Labour party, there is a stagnation of drug policy development due to the intertwined nature of drug policy and politics (Buchanan, 2010).

Systems like the one in Portugal could serve to supplant the existing CSA, although similar to Portugal, we might see apprehension and potential hurdles to overcome regarding statistical analysis of policy effectiveness. Detractors of the Portuguese program have pointed to Portugal’s middle of the pack placement of drug

abusers amongst its EU counterparts. This does not provide the insight regarding Portugal's climb from being the 2nd worst within the EU to the middle of the pack. These gains are ignored by the E.U. and by the U.S. and have both continued to increase punishment to negative results (Greenwald, 2009).

There are also unforeseen possible issues with increased drug use, inundation of the system if a policy similar to Portugal were introduced, and possible expense increases depending on the level of regulation associated with the policy change. Measures would need to be taken to mitigate these externalities possibly by implementing test states within the U.S. due to the benefit of having dual sovereignty.

Decide

Determining the effectiveness of the CSA must incorporate a multi-faceted approach, which is why the thesis needed to have a multi-faceted approach to the research. By viewing the policy, the research and making determinations in a utilitarian and pragmatic fashion, one can see how the CSA is not effective at meeting its stated goals and in some cases is counterproductive. The literature review shows how the CSA is not effective in comparison with its counterparts globally, at decreasing drug use, nor at being an efficient means in which to accomplish this goal.

To the question regarding the CSA effectiveness at curtailing drug use, the literature provides evidence supporting other methodologies as being more effective than the CSA such as in the case of teens in the Netherlands having lower rates of teen usage, and in the case of Portugal, the mental health based approach of decriminalization reduced abuse, and externalities of abuse. Additionally, in countries like the Netherlands

and Portugal, man-made synthetic drug use such as bath salts and methamphetamines, drug use is lowered compared against the U.S. and the U.K. Additionally, the U.S. has not seen a decrease, rather a significant increase in abuse of scheduled drugs such as opiates, both prescription, and illicit substances such as heroin (Gonçalves, Lourenço, & Nogueira da Silva, 2015; Hughes & Stevens, 2010). It should be noted that in countries with draconian policies such as Thailand, they have seen a reduction in drug use, but there are limitations and possible issues with measuring due to fear of self-reporting drug use due to punitive repercussions (Baltzer, 2018). Further research into this phenomenon should be conducted.

Regarding whether the CSA is effective at reducing overdoses, there are multiple factors that were determined in this thesis. First, the instance of harm reduction groups hoping to provide education to rave attendees and being turned down due to CSA legislation and the ramifications stemming from that legislation show ineptitude in providing valuable services to drug users to mitigate harm. Further, in Portugal, in which they had an epidemic of opiate overdoses, they have realized a paradigm shifting reduction in overdoses, making them move from the worst in the EU to the second lowest in drug related deaths (Vale de Andrade & Carapinha, 2010). Finally, within the U.S., there has been a massive increase in overdose deaths, even with ratcheting of punishment surrounding drug possession and use, showing the ineffectiveness of deterrence methodologies in drug policy.

Ancillary policies of the CSA include varied methods of drug interdiction. Attempts at interdiction include attacking the supply side with massive expenditures into

drug enforcement, and subsequent prosecution and incarceration. Although expenses have exponentially increased, drug supply appears to not be affected. Research by the CATO institute found that the DEA attempts at addressing drug suppliers overseas have been wasteful and ineffective (Goode, 2004). Countries like Singapore and Thailand have seen disruptions to the supply side of drugs within their jurisdictions, but similar issues of reporting still exist regarding self-reporting, and less data existing to verify the veracity of these claims.

Based on the research, and from the language within the CSA, this thesis posits that at minimum, certain substances are misclassified, and should be readdressed for proper scheduling. The first substance should be of no surprise, with marijuana. This substance has begun to enjoy sweeping legislation not just within the U.S., but around the world, and is the anomaly as a less punitive direction of policy compared to other substances mentioned later. Marijuana has a bevy of research providing two components, first, it is far less toxic than almost every substance scheduled, and even less 'toxic' than water based on the therapeutic index (Gable, 2004). Additionally, evidence has been prolific in the medicinal value of the substance and little evidence of societal harm outside of the prohibition and the externalities surrounding it. This thesis suggests that marijuana should be lowered to either Schedule 5 or not scheduled at all based on this evidence.

MDMA, peyote, and psilocybin are also misclassified based on the language of the CSA and subsequent psychopharmacological data, and toxicological evidence. Many countries in which research can be performed on these substances have found medicinal

value. The toxicology on peyote and psilocybin show that they are less ‘toxic’ than caffeine. Medicinal use of MDMA and psilocybin for individuals who are suffering from PTSD has shown promising results, and should warrant further research which would require rescheduling the substances down (Gable, 2004). Peyote is utilized in Native American religious and cultural practices, and has limited exemptions for individuals on reservations, but this could be expanded if rescheduled. These substances should be lowered to either Schedule 4 or 5 and allow for further research into the recreational use of these substances insofar as possible public harm to determine if they should be scheduled at all.

Regarding the CSA, one could argue that the conditions from Kingdon’s framework currently exist. Regarding the problem, overwhelming evidence showing the failure of the CSA’s intended goals, and increased levels of drug related death provide the problem. The current political climate seems to show a desire for major change within policies with the public sentiment demanding effective change at a level not seen in this researchers’ lifetime. With a large number of states already legalizing marijuana, and others moving to decriminalize certain substances, the vector of policy seems clear, with public support to bolster the direction. Finally, with the United States being of a larger population with the complexities of dual sovereignty, large scale changes are necessarily slow to come to fruition. Other countries and municipalities around the world have implemented various alternative policies with multiple decades of evidence to show effectiveness. A policy entrepreneur could utilize the current salience of criminal justice

reform, the current political climate, and the use of existing alternatives to customize a policy that could be implemented within the United States to replace the CSA.

Tell your story

With Thailand showing similar negative externalities to the U.S. and the U.K., and countries like Portugal and the Netherlands showing mitigated public harm, lowered drug use and overdoses with positive externalities, a clear relationship begins to emerge with more punitive and aggressive policies having a commensurate negative result, with the more liberal, and less regulated approach showing more benefits. With that being said, based on the analysis conducted herein, this researcher recommends full decriminalization of all drugs within the U.S. with the end goal of eventually legalizing all drugs and regulating the most toxic substances similar to how alcohol and tobacco are currently regulated.

By legalizing all drugs, the stigma would not necessarily disappear, but it would become less prevalent. Additionally, it would remove the government influences into the personal choices of the individual and increase their autonomy and liberty. As mentioned in the literature review, there is a lowered level use of man-made synthetic drugs, along with the ability of drug users to take a harm reduction approach that this writer has reaped the benefits of. At one point in this researcher's life, alcoholism had taken hold, to the effect where this researcher's physician was concerned about liver function and by taking a harm reduction approach, this researcher was able to utilize recently legalized marijuana to no longer drink, with marijuana not providing the physiological harm to the

body that alcohol was creating. Due to this shift, a subsequent blood panel is now in the healthy range on all measured items.

Finally, there is a clear issue within the U.S. regarding police and public interactions with minority groups. This researcher holds a hypothesis in which an understanding that changing police culture is a slow moving process and with the non-federal and highly siloed structure of policing within the U.S., laws that limit interactions between law enforcement and the public will be the most efficient manner in which to reduce harm to minority communities which have been affected by the CSA more than normative white America. By legalizing drugs, or at minimum, decriminalizing them, we can effectively remove tools from their toolbox, and limit interactions, possibly increasing trust between the community and the police.

Chapter 5

Conclusions

Currently, a large gap in the research exists due to the limited use of the dosages, and self-reported statistics on substance use. Rather, research has been centered mostly around clinical therapeutic use of substances. This methodology neglects to account for individuals recreationally using substances for perceived subjective benefits for themselves. By incorporating research into recreational use of substances, which would require significant adjustments to the current law, a better understanding of the ramifications of drugs how they are actually used, rather than their clinical use could be seen.

This research addresses some of the gaps in drug policy research providing insight into how other forms of measurements have not been addressed, and by addressing the language of the CSA and how said language inhibits some forms of research. Additionally, this thesis addresses whether or not certain drugs should or should not be moved within the scheduling of the CSA. Finally, this thesis addresses the alternatives currently in practice internationally, and contrasts their results with the CSA.

This research concludes a few key findings regarding the research questions. First, the CSA does not effectively curtail use of drugs within the United States. Contrasting the CSA effectiveness against that of Portugal and the Netherlands provides evidence that alternative drug policies, while not necessarily intuitive, provide better outcomes regarding drug use. Additionally, the CSA is not effective at preventing drug overdoses with mortal consequences. As found in the literature review, Portugal had a

severe issue with drug overdoses, and intravenous pathogen spread with their heroin epidemic, and through their decriminalization policy has benefited by seeing their overdoses move from one of the highest in Europe, to one of the lowest in the world, while the United States has seen increases to the effect that certain groups of the population have seen life expectancy decreases with the opioid epidemic as the central cause.

Not only is the CSA ineffective at reducing harm in the form of addiction and overdoses, it is also inefficient from an economic perspective. With exponential increases in spending due to the War on Drugs, increased prison costs, and massive increases in incarcerated individuals due to drug crimes, the CSA does not appear to provide a sufficient return on investment compared with alternative policies. Since the inception of the CSA, expenditures have gone up, results have either been stagnant or negative. The economic externalities of the CSA do not indicate an effective policy with regards to its return on investment.

Finally, to the question regarding if the scheduling for certain substances has been accurate, the answer is a resounding no. Marijuana clearly has a bevy of research and implementation at the state levels to provide sufficient evidence that public harm does not warrant the Schedule 1 classification. Additionally, the toxicological risk is lower than that of water, so the concerns of physiological harm is also limited at best. Finally, the level of chemical addiction is lower than both alcohol and nicotine, therefore so long as those substances are not scheduled, neither should marijuana. Similar toxicological and physiological harm results exist for LSD and psilocybin. Currently, there are limited data

regarding public recreational consumption due to the scheduling of these drugs limiting such research from being performed within the United States. MDMA has recently shown clinical benefits of usage in controlled dosages regarding mitigating the symptoms of PTSD for those suffering from the disorder. This researcher finds discrepancies in the language of the CSA in contrast with the empirical evidence regarding the scheduling of these substances.

This research was limited insofar as it contrasted policies of four countries of varied sizes and levels of homogeneity and additional research including a multitude of drug policies internationally could provide variations to the results. Additionally, detailed economic breakdown of costs could be further researched and elaborated upon. Further, this research did not account for possible cultural differentiation as it relates to drug use and abuse. Finally, this research was limited in scope and did not take a fully comprehensive approach in the analysis of the CSA due to time constraints.

Future research would be beneficial in further addressing all three of the questions this thesis set out to address. First, regarding the effectiveness of the CSA at curtailing drug use and overdoses, determining physiological differences in drug toxicity by varied demographic groups could be beneficial in identifying how policy could best cater to mitigating harm in the most vulnerable groups. Additionally, addressing possible policy shortcomings and the legal hurdles unique to the United States would be beneficial in understanding potential pitfalls of implementation. Next, addressing the economics of the CSA, further analysis into the costs of international alternatives could be beneficial in understanding the cost of those policies within the United States. Additionally,

forecasting into the projections of cost adjustment through a policy of decriminalization would be beneficial in determining the possible economic impact of a policy change.

Finally, further compiling of international research testing marijuana, MDMA, LSD, and psilocybin could be beneficial in further understanding the medicinal, physiological, and psychological effects of those substances to make a more informed classification of those substances regarding their potential for either harm or benefit.

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