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Author

Shinger, Rajandeep

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Punishment vs. Prevention: Do Harsher Drug Laws Reduce Substance Abuse?

Rajandeep Shinger

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Dr. Pellaton

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The U.S. War on Drugs has shaped criminal justice and public health outcomes for decades, but its effectiveness in curbing substance abuse remains contested. There is an ongoing debate between policymakers in their beliefs as to what will lead to better public health outcomes, like the Republican Party emphasizing the need for strong sentencing laws against drug dealers and users, while Democrats promote more leniency, and in some cases, the decriminalization of certain drugs (Heard 2). California's Proposition 47, passed as the Safe Neighborhoods and Schools Act, is one example of decriminalization. While its purpose was to reduce prison overcrowding, it reclassified a variety of drug possession offenses, including for cocaine, heroin, methamphetamine, and cannabis, as misdemeanors (Nguyen 115). Though intended to reduce prison overcrowding, this policy had many unintended consequences. In Riverside County, for instance, the overdose death rate rose from 10 to 15.2 per 100,000 between 2011 and 2015, a 52% increase that overlaps with the implementation of Prop 47 (Meyer).

California is not alone. States like Arkansas and Kentucky have implemented their own reclassification efforts. Arkansas Act 570, passed in 2011, significantly reduced penalties for marijuana possession; a first-time conviction for marijuana possession becomes a felony only if the offender possesses four ounces or more; a significant reduction from prior law, allowing prosecutors to seek prison terms of up to ten years for possession exceeding one ounce. Likewise, Kentucky's HB 463, also passed in 2011, emphasized treatment over incarceration by reducing penalties for simple drug possession from a five-year maximum to a three-year maximum sentence (Nguyen 113). Yet, despite this trend toward leniency in some states, Republican-led states continue to enforce more severe sentencing and classification frameworks, as displayed through longer sentences in both Arkansas and Kentucky's reform measures. My

research examines different state-level drug laws and their effectiveness in reducing substance abuse rates. Broadly, are harsher state-level drug crime classifications effective in reducing substance abuse? Specifically, among the randomly selected 18 states in my sample, were the states with harsher drug crime legislation more effective in reducing substance abuse rates compared to states with lenient drug crime classifications in the year of 2022?

To answer this question, I analyze the relationship between 18 state-level drug laws for possession of a controlled substance and possession of a controlled substance with intent to distribute, with the corresponding states: overdose mortality rate, nonfatal overdose emergency department visits, and nonfatal overdose inpatient stays for the year 2022. I find that there is a weak relationship between drug law severity and substance abuse rates. Interestingly, when controlling for population density, population-dense states displayed a strong negative correlation between possession law severity and overdose mortality rates. When controlling for political partisanship, Democratic-led states displayed a strong negative correlation between harsher distribution laws and non-fatal overdose emergency department visits, while in Republican-led states, there was a weak positive correlation between possession severity and nonfatal overdose emergency department visits. But a strong positive correlation between distribution severity and non-fatal overdose emergency department visits. With my findings, I conclude how this may influence the severity of future drug crime laws when addressing the issue of substance abuse.

Context and Significance

In 2013, an estimated 24.6 million Americans aged 12 or older had used an illicit drug or abused a psychotherapeutic medication (Nguyen 108). From 2000 to 2014, the drug overdose

death rate increased by 137%, with a total of 47,055 drug overdose deaths in 2014 alone (Steciuk 5). There's no doubt America has been battling a War on Drugs, as evidenced by the rise in the age-adjusted rate of drug overdose deaths, increasing from 8.2 deaths per 100,000 standard population in 2002 to 32.6 in 2022 (Spencer). The traditional approach in addressing substance abuse has been “punishment, including fines and or community service orders, however, few substance-abusing offenders are deterred by these penalties” (O’Callaghan 189). The rationale behind the use of imprisonment reflects the viewpoint that incarceration prevents substance-abusing offenders from committing further crimes and abusing substances. A second rationale argues that incarceration deters offenders from engaging in criminal behavior upon release and that it scares others from committing drug-related crimes in the first place (O’Callaghan 189).

But I question whether jails, prisons, and criminalization can replace hospital care providers when it comes to addressing the issue of substance abuse. Better yet, should they? Mounting evidence indicates the answer is no. Substance abuse continues in prisons because drugs are widely used by inmates and accepted as a normal part of the correctional system, thus, incarceration may serve to exacerbate individuals' drug problems by placing them into socially isolated subcultures where drug use is the norm (O’Callaghan 189). A Republican policymaker may advocate for the tough-on-crime approach and for punitive punishments with expectations of better health outcomes despite contradictory evidence displaying more than 15% of jail deaths in 2019 were attributed to drug or alcohol intoxication (overdose), and 7% of all deaths in state prisons were due to drug or alcohol intoxication. While only 4% of all adult deaths in the U.S. were attributed to drugs or alcohol (Widra). These statistics contradict the traditional approach in

addressing drug crime and substance abuse, as more people are dying in jails and prisons due to substance abuse than in the free population.

The traditional approach of “Employing incarceration as the primary means of dealing with drug crime ignores individual differences in motivation and reasons for engaging in drug-related offenses” (O’Callaghan 189). Someone jailed for trafficking or distributing drugs may not be a drug addict and may be involved with drugs for monetary gain, as opposed to an individual charged with possession of a small amount, indicating personal use. Thus, the “one size fits all” approach is flawed in estimating not only drug crime but also substance abuse. But what we do know is that substance abuse treatment has shown promising results and produces positive behavioral and psychological changes in alcoholic and drug addicted populations. Some key findings indicate “ without treatment, 9 out of 10 drug abusing offenders will reoffend and return to drug use after leaving prison, with the majority rearrested within 3 years” (O’Callaghan 190). We also know treatments are cost-effective, producing economic benefits, “A survey conducted in California in 1992 revealed an 18-month saving from treatment of \$1.5 billion, with the largest savings resulting in a reduction in crime and healthcare costs” (O’Callaghan 190).

My study examines whether or not harsher punitive drug crime classifications are effective in producing better public health outcomes, specifically addressing the issue of drug use. My findings challenge the traditional approach and indicate that drug law severity alone does not lead to lower rates of substance abuse, suggesting that effective policy must go beyond punishment and consider broader approaches, implementing more prevention-focused policies.

Literature Review

This literature review is formatted in chronological order. It begins by exploring traditional approaches to addressing crime with a particular emphasis on the economic model of crime and deterrence theory outlined in Gary Becker's seminal 1968 paper, with an additional brief discussion on the perceptions of deterrence theory. It will then examine the emergence of alternative strategies: the introduction of drug courts, diversion programs, and California's Proposition 36. A comparative analysis will be conducted to assess the objectives and effectiveness of each program. I will discuss where my research may fill a weakness in the existing literature and suggest potential contributions for future research.

Deterrence Theory

To truly understand whether or not the severity of criminal sanctions has any impact on substance abuse, we must understand the theory behind deterrence, as deterrence has been the most uniform approach to crime. Gary Becker introduced the standard economic model of criminal behavior in 1968 in his seminal paper "Crime and Punishment: An Economic Approach," proposing the theoretical framework behind deterrence. According to Becker, the rational offender faces a gamble presented with two choices. The first choice would be to commit a crime and thus receive a criminal benefit (with an associated risk of apprehension and subsequent punishment), and the second choice would be not to commit a crime (which yields no criminal benefits but is risk-free) (Chafin, McCrary 7).

Given these two choices, the offender is given three potential outcomes, each yielding a different utility: the utility to abstain from a crime, the utility associated with choosing to commit a crime that does not result in apprehension, and lastly, the utility associated with choosing to

commit a crime that results in apprehension and punishment. The rational thinker would say the best outcome is to just not commit the crime and remain risk-free, but what if the punishment for committing the crime is lenient? Say for example, a small fine of \$100 or just a warning. The crime may become more appealing as the expected utility from committing the crime exceeds the utility from punishment.

Becker's behavioral predictions suggest that “(1) the supply of offenses will fall as the probability of apprehension rises, (2) the supply of offenses will fall as the severity of the criminal sanction increases, and (3) the supply of offenses will fall as the opportunity cost of crime rises” (Chaflin, McCrary 10). My research challenges whether the same behavioral predictions Becker found will yield the same results for substance abuse.

Aaron Chaflin and Justin McCrary in “Criminal Deterrence: A Review of the Literature” attempted to answer whether crime could be deterred through the use of positive incentives rather than punishments. They identify three core concepts central to deterrence theory: that individuals respond to the certainty of punishment, the severity of punishment, and the immediacy of punishment (Chaflin, McCrary 5). Interestingly, the authors distinguish between two major interpretations of deterrence: the criminological and economic perspectives. The criminological view separates deterrence into general deterrence (the threat of punishment) and specific deterrence (the experience of punishment), while the economic approach emphasizes the certainty and severity of punishment (Chaflin, McCrary 6). Both frameworks, however, tend to overlook the role of immediacy. Ironically, Chaflin and McCrary conclude that the effectiveness of deterrence hinges on incentives that are most immediate and salient. (Chaflin, McCrary 38). In other words, for deterrence to work, punishment must follow swiftly after the offense.

In the best-case scenario for deterrence to be effective, individuals are able to clearly perceive and rationally assess the risk of punishment before making the choice to commit a crime. This is the logic behind deterrence theory: that when the certainty, severity, and immediacy of punishment are known and predictable, individuals will weigh the potential consequences against the perceived benefits of the crime. Robert Apel's "Sanctions, Perceptions, Crime: Implications for Criminal Deterrence" provides important insight into this dynamic through his review of empirical research analyzing how individuals perceive the risk of sanctions. He suggests that "If criminal justice authorities can planfully manipulate risk perceptions through a combination of legislation and enforcement (more visible, police presence, stricter charging and sentencing practices), then there is a real possibility that criminal sanctions can deter the criminal behavior of would-be offenders" (Apel 68).

Apel's analysis suggests deterrence is most likely to work when the mechanisms of enforcement are understandable to the public. When individuals are fully aware of the likelihood and consequences of punishment, rational actors are more likely to refrain from criminal conduct. Emphasizing that deterrence is not just about harsh penalties, but how those penalties are perceived.

Drug Courts vs. Diversion

Transitioning from deterrence theory, we fast forward three decades to the birth of drug courts in 1989. J.S. Sanford and B.A. Arrigo, in "Lifting the Cover on Drug Courts: Evaluation Findings and Policy Concerns," introduces the establishment and effectiveness of drug courts. The 1980 war-on-drugs campaign led to federal, state, and local criminal justice systems experiencing an overwhelming number of drug cases, leading to fewer resources for serious

violent felony adjudications (Sanford, Arrigo 239). The solution was the creation of drug courts. What started as an experiment amounted to promising results as “San Mateo County Drug court in the first 3 years of operation from 1995-1998 found the rearrest rate for graduates was 19% compared to 53% for nongraduates” (Sanford, Arrigo 243). However, their research also highlights significant shortcomings in the program, noting that drug courts were not originally designed for rehabilitation and often incorporate punitive elements.

For instance, drug court programs use “legal coercion applied via threat of incarceration to motivate clients to enter, remain, and succeed in the program” (O’Callaghan 195). Oftentimes, these programs require mandatory drug tests, sentencing hearings, and punishments are left to the discretion of the judge. Thus, drug courts seem to legally coerce sobriety for the offender to retain freedom and avoid incarceration. Failing to truly address the issue of substance abuse. According to Sanford's findings, drug courts are effective in reducing recidivism as seen in San Mateo County, but recidivism itself is an indicator that drug courts are failing to adequately rehabilitate the offender, providing coerced temporary solutions.

Conversely, diversion programs appear to be more on track to address substance abuse and provide better public health outcomes. Firstly, because “they focus on rehabilitation and personal change as opposed to punishment and social isolation” (O’Callaghan 191). Secondly, diversion programs are designed to achieve three outcomes that are tailored to “(a) treat substance abusers, (b) to provide an alternative means of administering punishment for breaking the law, and (c) prevent re-offense” (O’Callaghan 191). The first outcome gets at the heart of drug crime, “treating substance abuse”. Focusing on treating and rehabilitating substance abusers

rather than punishing them not only benefits the offender but also the community. It is a logical progression that if diversion can rehabilitate drug offenders, the community will also benefit from a reduction in the rate of drug-related crime. Diversion strategies offer a fine balance between maintaining the law for the common good and developing resources that benefit the good of the individual (O'Callaghan 191).

There is no definitive answer as to which program is more effective in reducing drug-related crime and substance abuse rates. Both methodologies differ and yield similar goals but produce different outcomes. That may be due to the inadequate measures used for research, as recidivism rates seem to be the most prevalent measure for drug crime, as opposed to using measures such as overdose rates, relapse rates, and other proxies indicating drug use.

Prop 36 (2000)

The development of drug courts and diversion programs set the stage for more progressive legislative changes. This shift is exemplified by a key policy that was enacted in California in 2000, which aimed to formalize these approaches at the state level. Elizabeth Evans provides empirical evidence on the effectiveness of drug policy legislation in her paper, "Comparative Effectiveness of California's Proposition 36 and Drug Court Programs Before and After Propensity Score Matching". Prop 36 passed with 61% of California voters' support and became the new wave of criminal justice diversion options for offenders in the state of

California. More than 20 states considered implementing similar policies (Evans 3). Under Prop 36, adults convicted of nonviolent drug possession offenses can voluntarily choose to receive drug treatment in the community rather than face incarceration or be subjected to the oversight of drug court.

A distinguishing feature of Prop 36 was that, by law, this program was mandated to be made available to all offenders who met the conviction-based criteria, contrasting with the drug court model, which involves thorough eligibility requirements. Critics argued that Proposition 36 lacked accountability for offenders, adequate funding, as the program failed to provide urine tests, insufficient judicial interactions with offenders, and insufficient monitoring and supervision of offenders (Evans 2). Despite these flaws, Proposition 36 led the way in the realm of alternatives to drug court, as it handled about 40,000 of the 50,000 eligible offenders while fewer than 3000 were admitted to drug court. Some presume inadvertently hamper the effectiveness of the already established drug courts (Evans 4).

However, results indicated Prop 36 offenders exhibit less severe drug use and criminal behaviors; more Prop 36 offenders are treated in an outpatient setting, for a fewer number of days, and more complete treatment; Prop 36 does just as well as drug courts at reducing short term drug use and arrest, but doesn't do as well as drug courts in reducing long term recidivism (Evans 12). This Proposition introduced public health to criminal justice in the state of California

in the early 2000s. Proposition 36 has been reformed after experiencing the effects of Proposition 47, and in 2025 is now taking a more punitive approach. Early data indicates “the early months of Prop 36 Implementation show that prosecutors have filed thousands of new felony drug charges” (Lofstrom, Martin). Suggesting prosecutors are looking to punish rather than rehabilitate.

Research Contributions

My research challenges the traditional uniform approaches to punishment by questioning the effectiveness of deterrence theory. Becker's findings suggest that if the sentence for possession or distribution is lenient, then using or distributing the substance becomes more appealing. Thus, my research puts the economic theory of deterrence to the test as it questions whether these behavioral predictions hold any truth in the realm of substance abuse and public health policy. Theoretically, there should be lower substance abuse rates in harsher states compared to lenient states. A common theme emerged in the deterrence theory, planted in expectations and perceptions. Examining only drug crime through the lens of “crime” and not “drug use”. My research begins to shift the examination of deterrence theory to challenge fundamental theoretical frameworks behind deterrence and the practicality of criminal sanctions and how “drug users”, not “drug criminals”, respond to these sanctions.

Secondly, the exclusion of measuring drug use is a serious flaw in existing research, as drug crime measured in recidivism seems to be the most prevalent proxy in constructing legislation and implementing solutions. My research aims to take a different approach in finding

better solutions to public health outcomes and drug legislation by implementing proxies that measure drug use, like overdose mortality, nonfatal overdose emergency department visits, and non-fatal overdose hospital inpatient stays, as opposed to just recidivism (drug crime). My research provides dialogue and evidence for a less punitive approach, as my findings display that punitive punishments are not the most effective solution to substance abuse. Suggesting that reforming existing policies to impose harsher penalties is not the appropriate course of action for future policy implementation in California.

Theory and Hypothesis

I hypothesize that states with harsher drug crime classifications will have lower rates of substance abuse compared to states with more lenient classifications. Specifically, among the 18 selected states in my sample with the corresponding data for the year of 2022, those with harsher drug offense penalties, longer prison sentences, and higher fines will report statistically lower rates of substance abuse compared to states with more lenient classifications. However, when considering whether the adjudication and severity scores for possession and distribution offenses have an equal effect across various substances in my study, it is reasonable to speculate that the deterrent impact of sanction severity may vary depending on the drug in question. Of the five drugs I examine: marijuana, cocaine, meth, heroin, and fentanyl I speculate marijuana will be the least responsive to the threat of severe sanctions.

This is due in part to shifting perceptions and policy. Marijuana has been decriminalized or legalized for medical and or recreational use in many U.S. states, undermining its perceived criminality. Despite the DEA classifying marijuana as a Schedule 1 substance under the Controlled Substances Act, meaning that it has a high potential for abuse, and no accepted medical use under federal law (Drug Enforcement Administration), marijuana's normalization and medical legitimacy suggest that harsher penalties may have minimal deterrent value. In contrast, substances like fentanyl, which are associated with extremely high overdose rates, may provoke a stronger deterrent response to sanction severity.

My theory is that harsh drug crime classifications act as a deterrent to substance abuse, as the consequences entail more severe punishments compared to the consequences of lenient drug crime classifications. In support of my theory, Becker's research found this theory to be true. Becker proposed three main behavioral predictions, two of which support my theory, and the causal mechanism.¹ The supply of offenses will fall as the severity of criminal sanction increases, and the supply of offenses will fall as the opportunity cost of crime rises” (Chafin, McCrary 6). I theorize that the same should apply to substance abuse, as the risk of punishment outweighs the perceived benefits of drug use.

Theoretically the drug trafficker should stop and think twice as the severity of the sanctions increase and the utility of punishment far exceeds the utility associated with

¹ Causal mechanism: opportunity cost.

committing the crime, and secondly the substance abuser should question whether possessing a small amount of drugs is worth a felony conviction record and prison time, as the utility associated with using the substance will no longer exceed the utility of apprehension.

Research Design and Methodology

To examine the relationship between drug law classification severity and substance abuse rates, my research analyzes whether the harshness of state-level drug laws had any impact on substance abuse outcomes across 18 U.S. states in the year 2022. The decision to focus on only 18 states was driven by both data availability and time constraints. Collecting data for my independent variable² required an intensive review of each state's penal code for two distinct drug-related offenses, making the process time-consuming and labor-intensive. Conversely, data for my dependent variable³ were only available for a limited number of states in 2022. I specifically chose to examine the year of 2022 because it represents a period when states were emerging from the disruptions of the COVID-19 pandemic, and consistent post-pandemic data was more readily accessible for all three proxies I chose to examine for substance abuse.

To obtain legal data for my Independent variable, I relied on the Westlaw Legal database, focusing solely on statutes for possession of a controlled substance and possession with the intent to distribute, analyzing only level 1 felony offenses. To measure substance abuse rates, I relied

² My independent variable is drug law severity.

³ My dependent variable is substance abuse.

on three proxies: overdose mortality, nonfatal overdose emergency department visits, and nonfatal overdose inpatient hospitalizations. I obtained data for overdose mortality rates from the CDC's National Center for Health Statistics, while non-fatal overdose data for both nonfatal overdose emergency department visits and nonfatal overdose hospital inpatient stays were obtained from the CDC's Drug Overdose Surveillance and Epidemiology (DOSE) system. The metrics for my substance abuse rate proxies are population-adjusted per 100,000 persons and account for differences in age distribution using the U.S. Census Bureau denominators to account for population differences across states.

The Independent Variable (X) in my study is drug crime severity, measured as a continuous variable. Because there are no universally accepted definitions as to what constitutes "severe" or "lenient" drug laws, I developed a standardized method to classify states along a severity scale. To accomplish this, I collected penal codes for each of the 18 states in my sample, specifically for possession of a controlled substance and possession with intent to distribute. For five drugs: marijuana, cocaine, methamphetamine, heroin, and fentanyl.⁴ I recorded the minimum and maximum jail sentence, maximum fine, and minimum and maximum quantity thresholds for a level 1 felony offense. I then calculated the average jail sentence (in days),

⁴ I chose to examine these five drugs as they are the most commonly used and widely criminalized substances in the United States.

average maximum fine, and average threshold quantity (in grams) across all 18 states in my sample for all five drugs.

A state was classified as “harsh” (assigned a score of 1) if its jail sentence or fine was above the average, or if its quantity threshold was below the average (as lower thresholds indicate stricter punitive punishment). Conversely, states with values below the average for jail time and fines or above average thresholds were labeled “lenient” (assigned a score of 0). These binary values allowed me to construct an additive severity index for each substance per state. For each state, I calculated separate severity scores for distribution and possession by summing the binary values across all five drugs for all five proxies and dividing by the maximum possible score⁵, resulting in a normalized score on a scale of 0 to 1. This process is demonstrated in Tables 1 and 1.1, indicating the final results for each of the 18 states in my sample:

⁵ The maximum possible score was 25 as demonstrated for the state of Missouri: *Distribution severity: Marijuana Severity score (%) + Cocaine severity Score (%) + Meth Severity Score (%) + Heroin Severity Score (%) + Fentanyl severity score (%) = 10/ 25 (0.40).*
Possession severity: Marijuana Severity score + Cocaine severity Score + Meth Severity Score + Heroin Severity Score + Fentanyl severity score = 15/25 (0.60).

State	Marijuana	Cocaine	Meth	Heroin	Fentanyl	Distribution Severity	Score
MO	2	2	2	1	3	10	0.40
MS	2	2	4	3	3	14	0.56
SC	2	3	3	2	3	13	0.52
IA	1	2	3	2	2	10	0.40
NY	2	2	2	5	3	14	0.56
NC	1	1	1	2	2	7	0.28
OK	1	3	3	3	2	13	0.52
LA	4	1	5	5	4	19	0.76
KY	2	2	2	3	3	12	0.48
TX	2	1	2	2	2	9	0.36
MI	2	3	3	2	1	11	0.44
FL	3	3	3	2	1	12	0.48
MD	3	4	3	2	2	14	0.56
NJ	3	4	4	2	3	16	0.64
ILL	3	3	2	3	3	14	0.56
OR	3	2	1	1	2	9	0.36
CA	2	2	3	3	2	12	0.48
RI	4	3	2	3	3	15	0.60

Table 1: Severity Index for Distribution Severity in all 18 U.S States

State	Marijuana	Cocaine	Meth	Heroin	Fentanyl	Possession Severity	Score
MO	4	3	2	3	3	15	0.6
MS	2	3	3	3	2	13	0.52
SC	2	3	3	2	2	12	0.48
IA	0	3	3	2	3	11	0.44
NY	1	2	3	2	2	10	0.4
NC	2	2	2	2	1	9	0.36
OK	2	3	3	4	4	16	0.64
LA	3	2	3	3	3	14	0.56
KY	3	3	2	2	2	12	0.48
TX	3	2	2	2	2	13	0.52
MI	2	2	2	2	3	11	0.44
FL	4	2	2	2	4	14	0.56
MD	1	3	3	2	2	11	0.44
NJ	2	3	3	3	3	14	0.56
ILL	3	2	5	3	1	14	0.56
OR	0	0	0	0	0		
CA	0	0	0	0	0		
RI	2	1	2	3	1	9	0.36

Table 1.1: Severity Index for Possession Severity in all 18 U.S States⁶

⁶ For the states of California and Oregon by default they were categorized as lenient states due to possession of a controlled substance being a misdemeanor charge in both states regardless of the amount possessed. My study examines Level 1 felony offenses.

Upon analysis, Louisiana recorded the highest distribution severity score, while North Carolina had the lowest. In terms of possession severity, Oklahoma ranked the highest. Notably, distribution severity exhibited the greatest variation across states in my severity index. This variation may be due to greater policy discretion in how states approach criminalization of drug distribution, suggesting that distribution offenses are more responsive to shifts in sanction severity than possession offenses.

The dependent variable (Y) is the corresponding substance abuse rates for each of the 18 states. To measure rates of substance abuse, I examined three proxies: overdose mortality, nonfatal overdose inpatient stays, and nonfatal overdose emergency department visits. To obtain data for my dependent variable, I utilized the CDC National Center for Health Statistics to obtain overdose mortality and the CDC DOSE⁷ Dashboard to obtain data for nonfatal overdose emergency department visits and nonfatal overdose inpatient stays. Currently, 33 states share discharge data with DOSE, but for my research, I examined 18 out of the 33 states for the calendar year of 2022. It's important to note that inpatient hospitalizations are representative of increased severity of non-fatal overdoses compared to emergency department visits. Due to my research design examining data for only 2022, I was able to use the statistics provided as is, and all data for my dependent variable is controlled per 100,000 population of each state.

⁷ CDC's Drug Overdose Surveillance and Epidemiology (DOSE) system

In determining whether or not there is a relationship between state-level drug law severity and substance abuse rates, I controlled for population, Governors' political party influence, and population density. Whether the Governor of a state is a Democrat or Republican can potentially influence public health and crime policy in that state.⁸ Additionally, I control for population density, examining the relationship between drug law severity and substance abuse in densely populated states versus sparsely populated states.

Lastly, population differences can influence my results as state populations vary. Therefore, I control for the variations in population among the 18 states in my study, as health outcomes can be misinterpreted if population differences are not accounted for. Thus, all my data for substance abuse rates will control for the population, as the data presented is per 100,000 persons per state population. To test for the relationship between my independent and dependent variables, I run a Pearson correlation coefficient (r) test. I also test the relationship between my independent and dependent variables with my control variables using a Pearson (r) test. A Pearson (r) test is fitting for my research as I am determining the relationship between two continuous variables.

⁸ Due to this potential influence, I will conduct a comparative analysis between Democratic led states and Republican led states in my sample size to determine if the relationship between state-level drug crime classifications and substance abuse rates differs due to political party affiliation. The results are displayed in Figures 2 and 2.1 in the results section.

Results

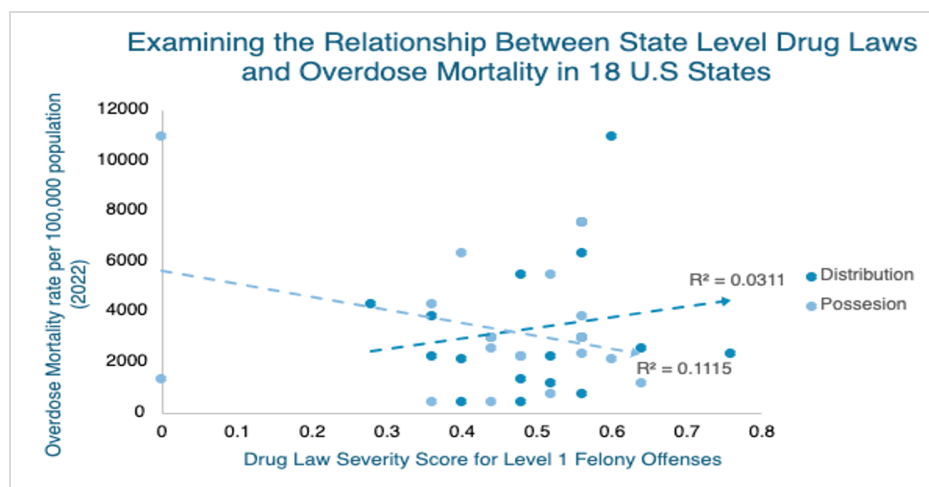


Figure 1. Data Sources: Westlaw Legal, CDC

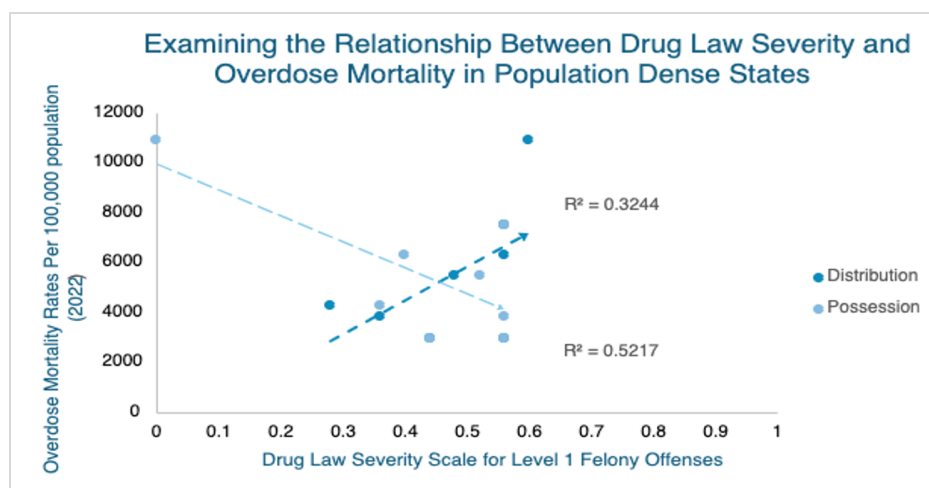


Figure 1.1 Data Sources: Westlaw Legal, CDC, U.S. Census Bureau

Figures 1 and 1.1 display a comparative analysis examining the relationship between drug law severity and overdose mortality. Figure 1.1 analyzes the relationship between drug law severity and overdose mortality in all 18 U.S states in my sample size. The relationship between

distribution law severity and overdose mortality displays a weak positive relationship ($R^2 = 0.0311$), indicating that as distribution laws become more severe, overdose rates increase. Considering the correlation is weak, this result indicates distribution law severity is not a good indicator for determining overdose mortality rates. When examining the relationship between possession law severity and overdose mortality, we see a weak negative relationship between the two ($R^2 = 0.1115$), indicating that as possession laws become more severe, overdose rates decrease. The relationship between drug law severity and overdose mortality for my sample overall displays a weak correlation.

Figure 1.2 examines the relationship between drug law severity and overdose mortality in population-dense states⁹, and displays one of the strongest findings in my study. As we see, the relationship between distribution severity and overdose mortality in population-dense states displays a positive moderate correlation ($R^2 = 0.3244$). Suggesting that as distribution laws become more severe, overdose mortality rates increase, effectively disapproving of the deterrence theory. Conversely, possession law severity displays a strong negative correlation with overdose mortality ($R^2 = 0.5271$). Suggesting that as possession law severity increases, drug overdoses decrease. Thus, in direct support of the deterrence approach to addressing better public health outcomes.

⁹ The population dense states in my study are as follows: NY, NC, TX, MI, FL, NJ, IL, and CA.

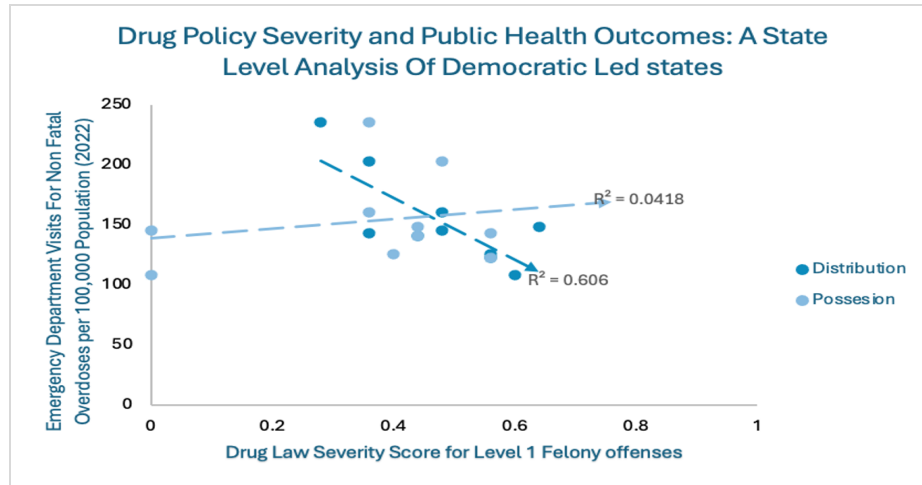


Figure 2: Data Sources: Westlaw Legal, CDC

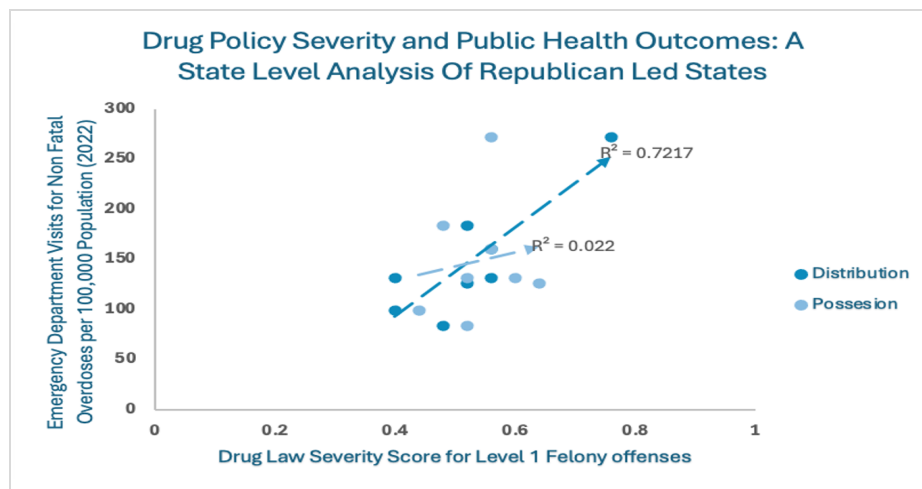


Figure 2.1: Westlaw Legal, CDC

Figures 2 and 2.1 display a comparative analysis between drug law severity and nonfatal overdose emergency department visits among Democratic-led states and Republican-led states. In Figure 2, the relationship between possession law severity and nonfatal overdose emergency department visits reveals a weak positive relationship in Democrat-led states ($R^2 = 0.0418$),

suggesting that as possession laws become more severe, nonfatal overdose emergency department visits slightly increase. When examining the relationship between distribution law severity and nonfatal overdose emergency department visits, much stronger findings emerged. We see a strong negative relationship between the two variables ($R^2 = 0.606$), indicating that as distribution laws become more severe, emergency department visits for nonfatal overdoses decrease. My findings display contradictory results: while increased distribution severity in Democratic-led states appears to support my hypothesis, implying that harsher penalties may reduce substance abuse, possession law severity does not align with this pattern. Instead, it suggests that increased harshness does not effectively deter drug use.

Figure 2.2 explores the relationship between drug law severity and nonfatal overdose emergency department visits in Republican-led states. Displaying one of the most notable findings in my study, the relationship between distribution severity and nonfatal overdose emergency department visits indicates a strong positive relationship ($R^2 = 0.7217$). This suggests that as the severity of distribution-related drug laws increases, the rate of emergency department visits for nonfatal overdoses also rises. These findings challenge the core premise of deterrence theory, indicating that harsher distribution laws may not effectively reduce substance abuse outcomes. In contrast, possession law severity showed a weak positive relationship with nonfatal

overdose emergency department visits, suggesting minimal association between stricter possession laws and overdose rates.

Discussion and Implications

In this study, my research question asked whether harsher drug crime classifications had any impact on substance abuse rates in 18 U.S states for the calendar year 2022. Interestingly, my findings show many mixed results and paint a complex analysis as my hypothesis was rejected overall, but supported under certain conditions. All my results taken together suggest that possession law severity is more likely to support deterrence theory, particularly in population-dense states in relation to overdose mortality. Distribution law severity, by contrast, shows inconsistent patterns aligning with deterrence theory as shown in Democratic-led states, but more often contradicting it, especially in Republican-led states and population-dense states where harsher laws correlate with higher overdose rates.

One possible explanation as to why distribution severity appears more responsive to deterrence, particularly in Republican-led states, is rooted in the distinct motives behind the two offenses. Distribution offenses typically involve more profit-motivated behavior and carry higher legal risk and penalties. Individuals engaged in drug distribution may not be dealing with drug addiction and may be more rational in their decision-making making weighing the cost and

benefits of their actions. As such, they may be more responsive to the changes in the certainty or severity of punishment.

In contrast, possession offenses are often an indication of addiction and compulsive use, where behavior is driven more by dependency as opposed to profit. Therefore, dependency overrides rational decision-making. Individuals suffering from addiction may be less capable of responding to punitive sanctions, making deterrence less effective in changing their behavior. Therefore, possession may be less responsive to deterrence as possession offenses pertain more to public health issues rather than criminal acts.

My findings suggest that sanction severity may have varying effects depending on offense type (possession vs. distribution), political context, and population density. More importantly, my findings challenge the assumption that harsher penalties deter substance abuse, pointing instead to the need for more evidence-based policy making, taking a more preventative approach in addressing drug use as opposed to the uniform punitive approach.

Research Limitations

One area of improvement that can be applied to my study is refining my sample size to focus on states that implemented drug crime reclassification reforms. Narrowing the scope in this way could have allowed me to conduct a more targeted analysis of how legislative changes, such as the reclassification of drug offenses from felonies to misdemeanors, affect substance abuse

outcomes. Delving more into Kentucky's HB 463 and Arkansas Act 570. I found significant data on states like Utah, Alaska, and Oklahoma indicating the impacts of reclassification.

For instance, Utah's prison population declined 9% after Gary Herbert signed H.B 348, due in part to a 74% decline in new court commitments for drug possession. The bill also directs the state to invest more than \$10 million in behavioral health programs and training for treatment staff (Elderbroom, Durnan 7). In Alaska, S.B. 91, as of December 2017, led to a decrease in the prison population. The population in prison for drug possession has declined by 74% (Elderbroom, Durnan 7). By focusing solely on states that have reclassified drug crime, I could have better assessed whether drug crime reclassification serves as an effective rehabilitative strategy for future drug policy.

Another area of improvement I could consider is adding more control variables, like controlling for race and income. Controlling for socioeconomic and demographic factors could improve the validity of my findings and better display the differences in drug use amongst different ethnicities pre- and post-reclassification. Such as the gap in arrest rates between African Americans and whites for drug and property offenses, dropping by 24% after Prop 47. As a result, African American arrest and booking rates for drug felonies are now lower than the rates for whites before Prop 47 passed (PPIC).¹⁰ By isolating the effects of drug law severity from underlying social determinants, my study could better distinguish whether observed trends are

¹⁰ PPIC: Public Policy Institute of California.

truly the result of legal policy or due to broader inequalities. Incorporating these controls could have allowed me to provide more accurate results when measuring the assessment of deterrence and drug law effectiveness.

Conclusion

In all, addressing substance requires a shift in perspective, one that views substance abuse as a public health issue rather than solely a criminal offense. My research examined whether or not drug crime severity had any impact on substance abuse, particularly whether severe drug laws would lead to a reduction in substance abuse rates. While my study examined only 18 states and produced some results in support of harsher drug laws, harsher drug laws overall seem to have little to no impact in reducing substance abuse, and are not the most effective method for addressing the issue. Policymakers must understand that deterrence theory fails to take into consideration underlying motives, as the drug distributor and the drug user are not the same. Moving forward, policymakers need to steer away from relying on punishment and need to prioritize treatment, rehabilitation, and reform of existing support systems. The War on Drugs has persisted for decades with limited success. This study aimed to contribute evidence toward more effective strategies by highlighting the limited effectiveness of harsher laws. Reframing drug policy in this way brings us one step closer to lasting solutions and a future defined by recovery, not punishment.

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