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The Recidivism Cycle

Studying Recidivism Patterns Among Non-Violent,
First-time Offenders in Pennsylvania

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About the Lehigh Valley Justice Institute

The Lehigh Valley Justice Institute (LVJI) is a 501(c)(3) independent nonpartisan research, policy and advocacy nonprofit organization that employs a data-driven approach to developing and promoting a reimagined justice system that is equitable and fair for all communities. LVJI uses a three-step approach:

1. **Research** - Utilizing academic resources, LVJI provides a solid empirical, data-driven approach to assessing the current deficiencies and inequities inherent in criminal justice processes.
2. **Policy Development** - Building upon solid data analysis, modeling and research of innovative and best practices nationwide, LVJI develops policy and procedural recommendations for the management of local governmental systems.
3. **Advocacy** - LVJI promotes the adoption of its recommendations through interaction with community and governmental stakeholders, public awareness, news media and media platforms.

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Contents

Introduction	3
Methodology	4
Analysis	4
IPs Had the Lowest Recidivism Rate Across Sanction Types	5
Most Re-Offenses Occurred Within the First Year of Release	6
DUIs Had the Lowest Rate of Recidivism Across Studied Crimes	7
County Jail Had the Highest Recidivism Rate for Drug Crimes	8
Theft Offenses Had the Highest Rate of Recidivism Across Studied Crimes	10
Longer Incarceration Times Were Not Associated with Reductions in Recidivism	10
Statistical Modeling	12
Discussion and Recommendations	13
#1: Encourage Continued Use of Intermediate Punishments	13
#2: Provide More Support for Supervised Offenders	13
#3: Avoid Lengthy Incarceration Sentences	14
Limitations and Future Research	15
Conclusion	15
Endnotes	16

Introduction

The recidivism rate is undoubtedly one of the most important measures of success for a criminal justice system. However, the United States performs poorly in this metric among developed countries, and this issue is exacerbated by the exorbitant incarceration of offenders whose crimes would be better suited to rehabilitative punishment.¹ For example, measurements of two-year reconviction rate for U.S. prisoners falls at 52.9%, while many Nordic countries fall between 17-33%.² Much of the previous literature surrounding recidivism focuses on data relating to state prisoners and more serious crimes. Our analysis is similar, but focuses on the recidivism of first-time, non-violent offenders, who we found more often received probation or shorter jail sanctions in the first place. The lengthy incarceration of non-violent offenders is a pressing issue as well, even with the public generally supporting the use of rehabilitation and treatment as opposed to harsh punishment.³ A recent analysis of incarcerated populations in the US showed that of the 562,000 held in jails for local authorities, 69.8 % are held for non-violent crimes.⁴ Even worse, 79.1% of non-violent offenders had not even been convicted of the crime they were held for yet, showing a deep-rooted issue with not only the overincarceration of non-violent offenders, but also pretrial detention practices.⁴ Additionally, some research indicates that this is a criminogenic experience for inmates, especially for non-violent, “skill-intensive” offenses like drug dealing and theft.⁵ Additionally, we should consider and address

criminogenic factors such as trauma or financial insecurity, that may have led the offender to justice involvement in the first place. Some studies have shown that 86% of men reported traumatic experiences prior to being incarcerated, stressing the importance of trauma-informed sanctioning practices.⁶ From an economic standpoint, incarcerating large amounts individuals who do not show violent tendencies is not cost effective considering the financial burden mass incarceration has placed on US taxpayers.⁷ Finding sanctions that are more effective would reduce the number of offenders clogging our courtrooms and jails. To create a more equitable and restorative justice system within Pennsylvania, we must evaluate criminal behavior and find the most effective sanction to correct it before it becomes a pattern. This report intends to study the impact that various sanctions, both punitive and restorative, have on future crime patterns of first-time non-violent offenders. At the outset of our analysis, we wanted to explore three main factors in a conviction that could be related to recidivism: the sanction the offender received for their crime, the type of crime they committed, and the length of time they were incarcerated (if applicable). We included both descriptive analyses and a multiple logistic regression model to measure the relationship between these variables and recidivism. Based on our findings, we provided detailed recommendations supported by prior research to guide future policy decisions.

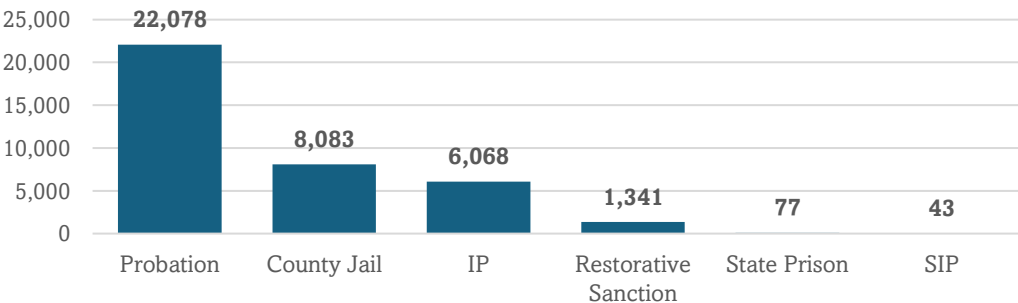
Methodology

The dataset used for this analysis was obtained from the Pennsylvania Commission on Sentencing, which contains all Pennsylvania sentencing data from 2017 to 2021. In this study, we defined recidivism as an offender being reconvicted of a crime within the studied period. We controlled our research to specifically evaluate first-time, non-violent offenders with three-five years of data to study for potential recidivism. This was calculated based on the midpoint of punishments involving incarceration and the sentencing dates of offenders given an alternative sanction. This is based on the statistic that many offenders are released about halfway before they max-out.⁸ We defined first time offenders as those who have a Prior Record Score of 0 at their first appearance in the dataset. Prior Record Score (PRS) measures the seriousness of one's criminal history, with zero being no criminal history and four representing multiple violent crimes.⁹ The data contained 606,358 convictions across 543 different variables. After data cleaning and filtering for first-time, non-violent offenses, those numbers became 37,690 and 61, respectively. The original data contained all charges associated with a judicial proceeding, so the data was also filtered to only include the most serious offense in each case. Inspiration and comparisons for this report comes from the PA Department of Corrections' 2022 Recidivism Report, which performs similar analyses focusing on state-level offenders.¹⁰

Analysis

RIPs (restrictive intermediate punishments) and SIPs (state intermediate punishments) include a variety of punishments that are more flexible and rehabilitative than county jail or prison, but also more restrictive than probation alone. Some of these include electronic monitoring, house arrest, individualized services, work release, and inpatient drug and alcohol treatment. They can also include brief stays in jail or prison as part of the punishment. RIPs can be served at the county level as well and are sometimes referred to as CIPs (county intermediate punishments). For the purposes of this report, we will use IP (intermediate punishment) as a blanket term to refer to CIPs and RIPs. SIPs are separate sanctions that are an alternative to state prison. Other (restorative) sanctions primarily consist of punishments such as fines, community service, drug testing, and outpatient drug and alcohol treatment. They tend to be less invasive than IP sanctions and do not include incarceration. Due to the nature of the crimes being studied, there were few sentencings where state prison (n=13) or SIP (n=3) were given as the most serious sanction. Note that some visualizations will omit SIP and State Prison sanctions because of this low sample size. Figure 1 shows us the number of times each sanction type was used as the most serious punishment within our sample.

Figure 1: Number of Sanctions

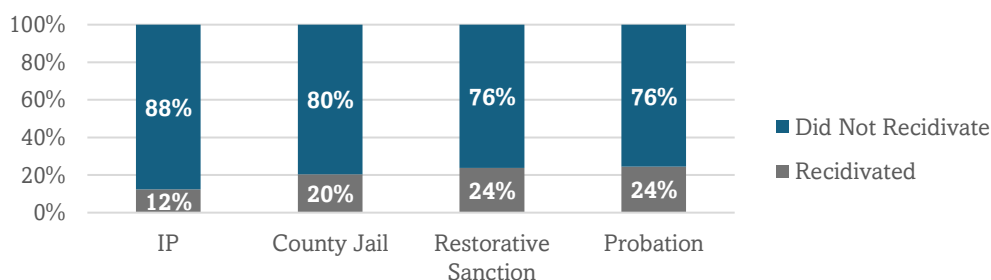


IPs Had the Lowest Recidivism Rate Across Sanction Types

Our analysis determined that intermediate punishment had the lowest recidivism rate across the sanctions we studied. Of those sentenced to this sanction, only 12.44% recidivated. The next lowest sanction was county jail; however, the recidivism rate jumps about 8 percentage points to 20.46%. The sanction with the highest rate was probation, which was 24.46% (see Figure 2). We hypothesized that the rehabilitative nature of some IPs and the flexibility of punishment in others likely contributed to these findings. Issues with probation sanctions in PA is an area of concern in prior literature as well. A 2017 study showed that the cost of housing probation and parole violators in prison cost the state about \$420 million per year.¹¹ Furthermore, Pennsylvania has the second

highest percentage of supervised citizens and the highest incarceration rate in the Northeast US.¹² In Figure 1, we see that probation was by far the most common punishment for these less severe crimes; about 58.6% of the offenders in our study received a basic probation sentence. Probation may not provide the support system needed to help offenders meet their conditions and desist future criminal activity. Instead of correcting and rehabilitating criminal behavior, Pennsylvania probation and parole policies may be merely delaying an inevitable return to the courtroom. By pushing to utilize elements of supervision along with real support and rehabilitation, the state could continue to reduce jail populations and deter further criminal activity.

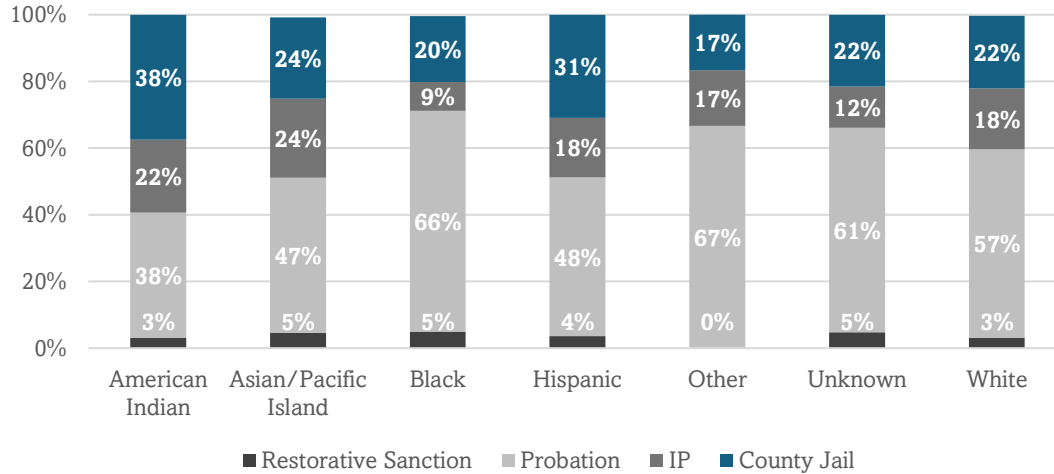
Figure 2: Recidivism Rates by Sanction Type



Racial disparities in sanctioning also appeared in our sample, as seen in Figure 3. Note that the Hispanic, American Indian, and other race categories all had under 100 observations. While the share of White offenders who received a county jail sentence was 2 pp higher than that of Black offenders, the share of White offenders given IP sanctions was 9.6 pp higher than Black offenders. Black offenders were more often sentenced to probation compared to Whites by 9.7 pp. Prior studies have shown that minority offenders

are less likely to receive some kind of intermediate or rehabilitative punishment compared to White offenders.¹³ Additionally, there were disparities in the length of sentences. There was a small difference in days incarcerated between White and Black offenders in our sample, with the average days incarcerated being 4 days greater for Black offenders. However, the average length of probation for Black offenders in our sample was 103 days longer than the average for their White counterparts.

Figure 3: Sanctioning by Race

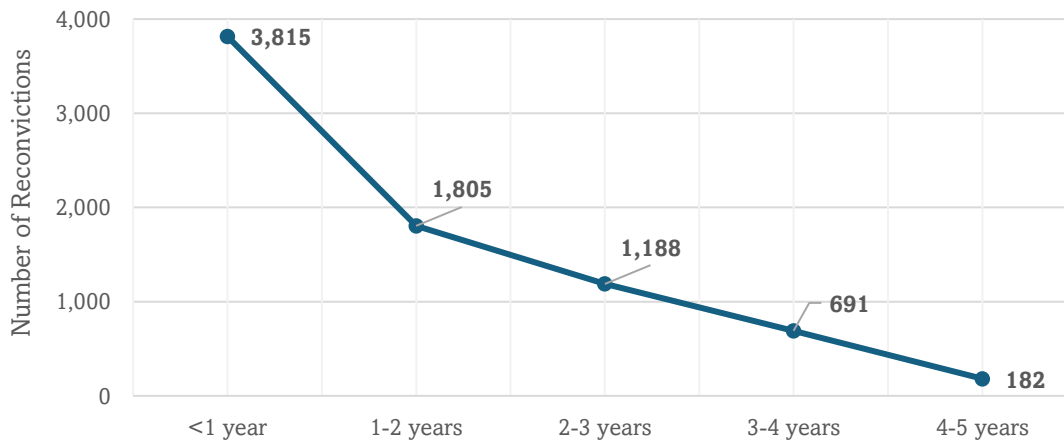


Most Re-offenses Occurred Within the First Year of Release

Of the 7,681 offenders in the sample who recidivated, about 49.7% of them did so within the first year of their court date or release from jail (see Figure 4). As time passes, the number of individuals who recidivate decreases steadily. This finding corroborates other reports on recidivism in PA that also indicate recidivism occurs most frequently within the first year.¹⁰ We also found that those released from incarceration recidivated sooner than those given other sentences, followed by probation and restorative sanctions. For reference, IP

offenders who recidivated did so an average of over 4 months later than those released from county jail. This stresses the importance of providing support resources during probation and reentry post-incarceration. Many offenders cite difficulty following strict probation and parole protocols, which can lead to a swift return to justice involvement.¹⁴ This could be due to a lack of education or resources needed to properly reenter society, or the inability to follow numerous probation and parole conditions that are often vague, intrusive and expensive.¹⁴

Figure 4: Time Until Reconviction Among Recidivists



DUIs Had Lowest Rate of Recidivism Across Studied Crimes

Breaking sanctions down into common non-violent crimes (Figure 5) revealed that first time DUI offenders were given IPs and county jail sanctions much more often than drug or theft offenses (41.2% compared to the next highest, which was drug offenses at 3.7%). This is intuitive based on the clear sentencing guidelines in place for first-time, low-BAC DUI offenders. These can include mandatory

highway safety classes for all convictions, and short jail sentences paired with these classes for more serious violations.¹⁵ We also noticed that DUI offenders desisted future criminal activity more frequently than other crime types. In Figure 6, we see that DUI offenses were more prevalent among non-recidivists than recidivists, while the opposite is true for drug and theft offenders.

Figure 5: Proportion of Sanctions by Crime

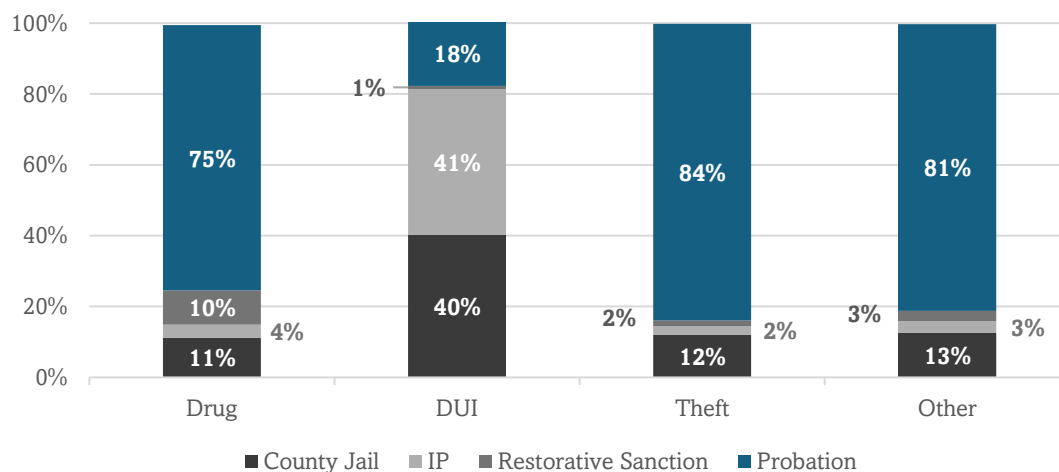
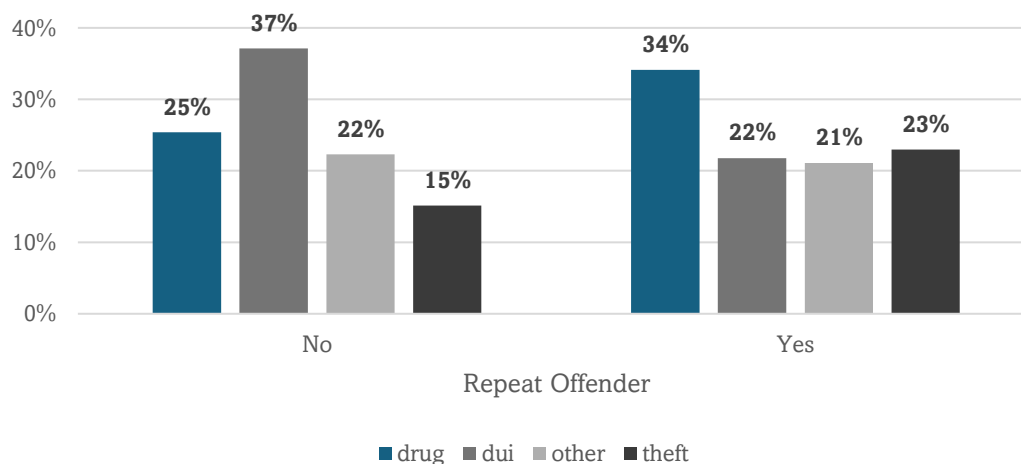


Figure 6: Percentage of Offense Categories by Repeat Offender Status

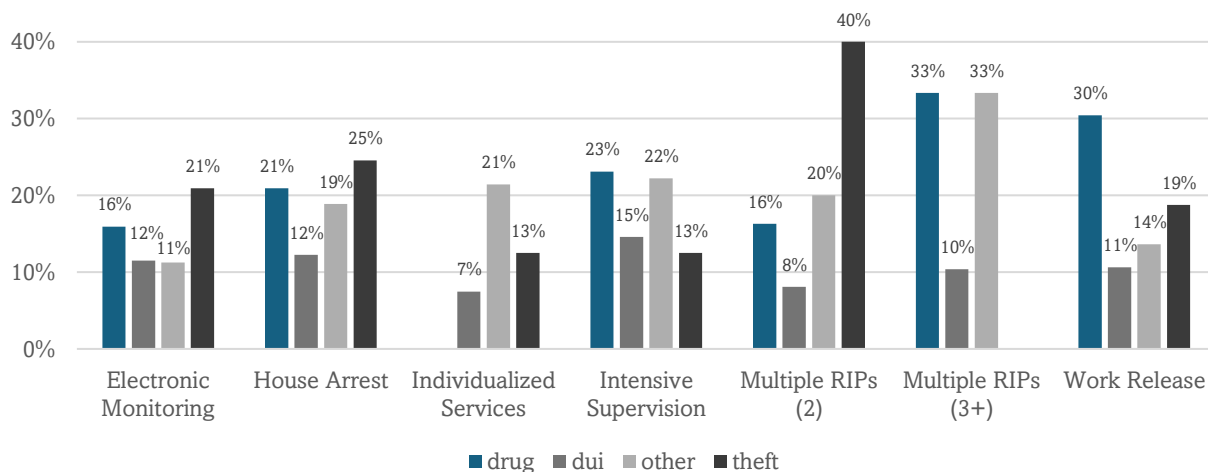


County Jail Had Highest Recidivism Rate for Drug Crimes

Seeing that IPs were associated with lower recidivism rates, we evaluated recidivism rates for each IP type based on the crime committed (see Figure 7). For DUI offenses, Individualized Services and Multiple IPs (2) were observed having the lowest recidivism rates. Individualized services are described as programs that include psychological and medical services, vocational training, drug and alcohol screening, and/or transportation subsidies.¹⁶ This may be due to the effectiveness of and use of ignition interlock devices and highway safety training, which have been shown to have the same deterrent effect as a mandatory sentence of 10 days in

jail or a \$2000 fine.¹⁷ Theft offenses saw the lowest recidivism rate within the Work Release category. Seeing that IPs are not used to the same extent for other crimes compared to DUIs, doing so could potentially improve recidivism outcomes. A separate study done on the impact of DUI-related imprisonment on recidivism showed no evidence that it reduces the risk of recidivism.¹⁸ In both this analysis and others, theft and other property offenses were associated with the highest recidivism rates.^{10, 19} It also had the lowest share of restorative or rehabilitative sanctions, instead relying heavily on probation.

Figure 7: Recidivism Rates by Crime and IP Type



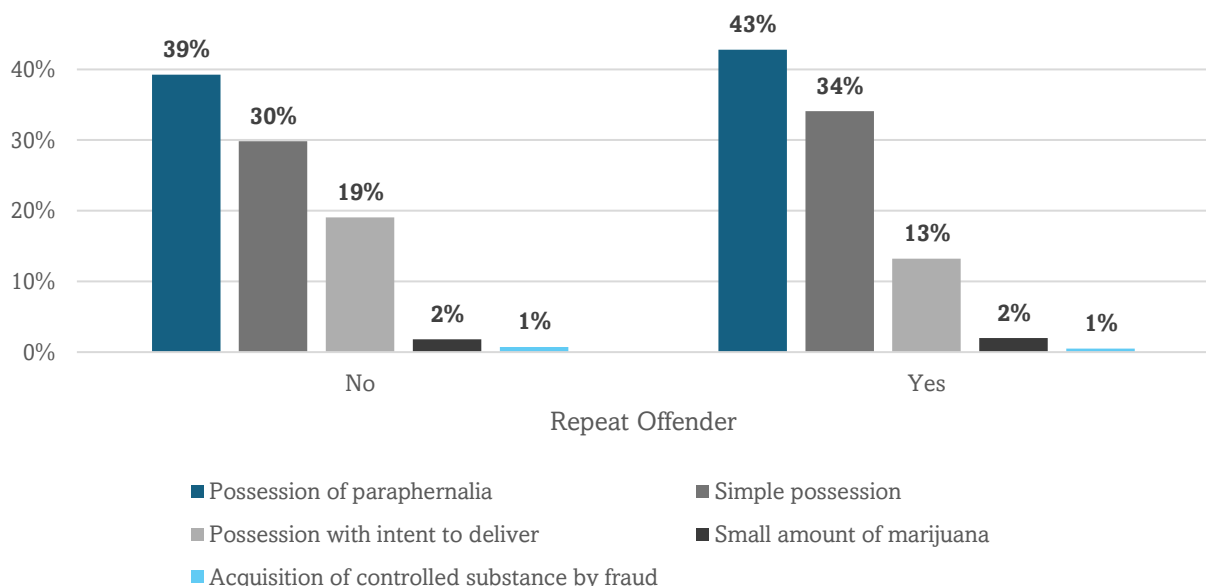
Through our research we found recidivism among first time drug offenders was the lowest when the offender received an intermediate punishment, with 19.2% of offenders recidivating after a drug crime. County jail saw 29.2% recidivate. Probation was by far the most common punishment for drug crimes, followed by county jail. They made up 75% and 11.2% of sanctions respectively. Figure 8 shows us that the share of possession offenders was slightly higher

among recidivists than non-recidivists, while the opposite is true for those charged for possession with intent to deliver. Other studies have shown the lack of effectiveness incarceration has on preventing drug recidivism, but that it also may be related to the conditions and resources provided in the facility. One study compared recidivism among drug offenders in the US and Finland.²⁰ It found that U.S. incarceration is potentially criminogenic for these offenders,

and that there is no significant evidence of this occurring in the Finnish system. This was attributed to factors such as facility conditions in each country, as well as the availability of social support services.²⁰ We also observed disparities in incarceration outcomes for African American drug offenders. We observed that this group received county jail sentences at a rate 4 pp higher than their White counterparts. Even more concerning, the mean probation duration for Black drug offenders was 75 days greater than that of White offenders. This is not a particularly novel finding, as prior literature has repeatedly identified issues of racial discrimination in drug enforcement and the War on Drugs.^{21, 22} On a large scale, remedying this issue calls for diverting spending from carceral punishments towards

harm reduction and robust community programs.²² One important development in attempting to reduce drug recidivism is the use of problem-solving or “treatment” courts. As of 2021, there were over 120 of these courts throughout Pennsylvania.²³ These courts include Veterans Courts, drug courts, DUI courts and mental health courts and are meant to divert offenders to judicially supervised treatment programs and away from jail.²³ They outperform other options by supplementing treatment with support resources including education, housing, and employment.²³ Despite state reporting limitations that underrepresented successful program graduates, many of these courts showed rearrest reductions for drug and DUI offenses and saved the state \$46 million in the three years studied.²³

Figure 8: Percentage of Drug Offenses by Repeat Offender Status



Theft Offenses Had Highest Rate of Recidivism Across Studied Crimes

Theft is the most common form of property crime in the United States, with 2022 numbers reaching over 153,000 offenses in Pennsylvania.²⁴ While theft has decreased about 24% overall in the last 10 years, state data shows a 23% increase between 2020-2022.²⁵ Our analysis of theft recidivism in PA revealed that county jail had the highest recidivism rate for theft crimes, with 34.4% committing a new crime. Probation was about 29.2% and intermediate punishment was 23.4%. Among the non-violent crime groups we have discussed, thefts showed the highest overall rate of recidivism at 29.5%. One deterrent to these non-violent thefts is a more robust social safety net.²⁶ Other studies have shown that removing cash welfare benefits from young adults increased the number of charges in “income generating crimes” by 20% over the next twenty years.²⁶ Ex-felons tend to be an at-risk population due to stigmatization, minimal employment opportunities, and lack of support resources.^{27, 28} One study done on this population shows that excluding them from important benefits like SNAP can increase recidivism, with the new crimes primarily being property and drug crimes that have a monetary benefit.²⁷ The socioeconomic implications of theft are important to consider in determining how to best punish the crime and rehabilitate the offender.

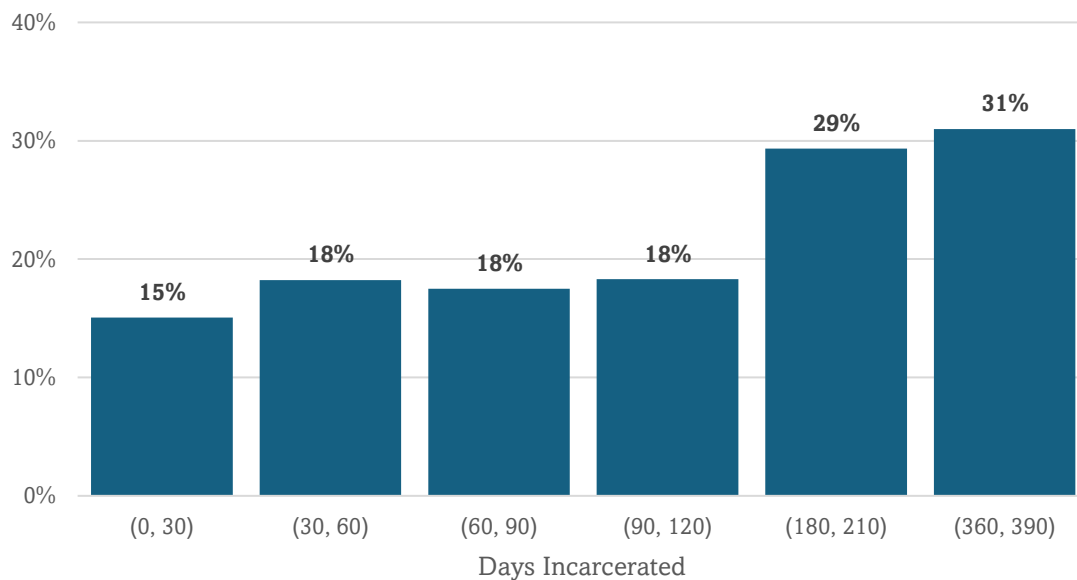
Longer Incarceration Times Not Associated with Reductions in Recidivism

The amount of time someone spends in jail or prison was also studied for the impact it has on recidivism. Previous research is split on the impact of incarceration on recidivism, with some sources claiming its effectiveness in deterring certain types of crimes,²⁹ and others having stressed the dangers of young, first-time offenders networking and learning crime-related skills from other inmates.³⁰ We decided to study if there was an association between the length of time offenders were incarcerated and their rate of recidivism. The distribution of incarceration durations tells us that most offenders were released around the 90-100 day mark. Overall, the average time spent incarcerated for these offenders was 162 days, or just over 5 months. We then grouped the offenders’ releases into 30-day intervals and calculated the recidivism rate for each group. When studying the entire sample, we found that those who spent more time incarcerated recidivated more frequently, with a particularly noticeable jump from the first few months to half a year (see Figure 9). When we look at each type of non-violent crime individually, we can see slightly different patterns within each group. DUIs follow the overall trend, with longer incarceration times not reducing recidivism. Drug crimes had a slightly different relationship, with the recidivism rate dropping sharply after the first few months and then climbing slightly thereafter. Theft did not seem to show a compelling association between recidivism and length of incarceration. Although we found that there may be a positive association between incarceration duration and recidivism in these types of offenders, other studies that focus on broader prison populations have not found the

same effect.^{10, 31} The 2022 PA DOC Recidivism Report stated a decrease in the recidivism rate over longer prison stays, but studied a wider variety of crimes that can warrant up to life in prison.¹⁰ However, it is generally accepted that improving conditions in jails and prisons by focusing on rehabilitation and emulating normal life can improve the effectiveness of incarceration.³² Current conditions of US jails and the impact of incarceration on access to important post-

release resources raises concerns about the difficulty of reentering society. Incarceration can interrupt the continuity of ongoing physical and mental health care and can also severely disrupt access to Medicaid benefits upon release.³³ This keeps the most vulnerable populations, such as those experiencing homelessness, individuals with substance abuse disorder, and those with diagnosed with mental illness from accessing the level of care they need.

Figure 9: Recidivism Rates by Days Spent Incarcerated



Variable	Coefficient
Number of charges in judicial proceeding	0.0236 *
Length of incarceration ²	-1.111e-07
Length of probation ²	-1.496e-07 ***
Sanction was intermediate punishment (Ref = No) Yes	-0.3870 ***
Sanction was other (restorative) sanction (Ref = No) Yes	-0.2206 **
Crime (Ref = Drug) DUI Theft Other	-0.5954 *** 0.2292 *** -0.2491 ***
Disposition (Ref = Neg. Guilty Plea) Trial Non-Neg. Guilty Plea Nolo Contendere Other	-0.1168 -0.1835 *** -0.1555 0.1111
Severity (Ref = Misdemeanor) Felony	-0.0865 *
Age at date of sentencing	-0.0308 ***
Race (Ref = White) Black Other Unknown	-0.2204 *** -0.6242 * -0.5387 ***
Sex (Ref = Male) Female	-0.0693 *
Pseudo R ² (McFadden's)	0.04486
Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$	

Statistical Modeling

We created a multiple logistic regression model to analyze the relationships between key variables and their impact on whether an offender will recidivate. Our binary predictor variable was whether the offender recidivated in the studied timeframe, and the independent variables included are listed in the table below. Some notable takeaways from the model include:

- Compared to other sanctions, offenders whose most serious sanction was intermediate punishment or other (restorative) sanction were associated with lower odds of recidivism.
- Compared to drug offenders, DUI offenders were associated with significantly lower odds of recidivism, and theft offenders were associated with higher odds.
- Non-white offenders were associated with lower odds of recidivism compared to their White counterparts.

For instances of intermediate punishment as the most serious sanction, the associated odds of recidivism were 32.1% lower than other sanctions. With the same logic applied for other (restorative) sanctions, the odds were 19.8% lower. Compared to drug offenses, DUI offenses were associated with 44% lower odds of recidivism, and 25.8% higher odds for thefts. Other findings worth noting were with number of charges and age at date of sentencing. All else held equal, each additional charge in a judicial proceeding

was associated with 2.4% higher odds of recidivism. We found that age had a similar relationship in the opposite direction, with each year increase in age being associated with a decrease in odds of 3%. There were also findings from the model that were less impactful than expected. For example, despite its statistical significance at $\alpha = 0.001$, the log-odds of probation length² was minimal. The log-odds of incarceration length² was also minimal and was not statistically significant.

The model obtained a cross-validated ROC-AUC score of 0.641, which is sufficient for the purposes of interpretation despite its low Pseudo R² score. Part of our process included removing extreme outliers from probation length and number of charges by capping these variables at the next highest value. To account for multicollinearity, we calculated the VIF scores and set a threshold of 5. The variable with the highest VIF was age with a score of 4.2. We also conducted a Box-Tidwell test to determine the linearity of our independent variables and log-odds. We found that we needed to adjust for nonlinearity in incarceration length and probation length and did so by squaring these variables. One of our solutions to the low Pseudo R² of this model was to conduct a multi-level logistic regression stratified by county or judge, but the associated intraclass correlation coefficients for these groups were quite low (2% and 3%, respectively).

Discussion and Recommendations

Our analysis found that non-violent, first-time offenders that received an intermediate punishment recidivated less often compared to those given other sanctions, including probation and incarceration. These findings include a breakdown of which IPs were associated with the lowest recidivism rates based on the crime committed. We also observed that offenders with longer county jail sentences showed higher rates of recidivism than those given shorter ones, though this was inconclusive in our model. The following are some ways in which we recommend using this research to guide local and state-level policy development:

1. Encourage Continued Use of Intermediate Punishments

Considering intermediate punishments are both cheaper to implement and associated with lower recidivism rates than incarceration, expanding their use and breaking the recidivism cycle early should take pressure off PA courts in the long run. It is important to note that making systemic changes to sentencing can be costly. However, the short-term cost of rehabilitative punishments can be offset by the savings of reducing recidivism even slightly. According to the PA DOC, it cost the state \$1.2 billion to incarcerate recidivists in 2019.¹⁰ It also stated that a 5% decrease in the 1-year reincarceration rate could save the state about \$1.9 million and at 10% could save just under \$9.2 million.¹⁰ While this data was applied mainly to state prison incarceration, the same principle can be applied to local jails. Adjusting the IP values from 2017 and the jail values from 2014 to 2025³⁴, the Council of State Governments Justice Center stated that the average cost per jail sentence for property and drug offenses in PA is \$12,477.82, while state funded drug and alcohol related RIP is \$7,113.75 and other IPs

(CIPs) are \$2,550.90.³⁵ The following formula was used to calculate the savings that result from directing 5% of those incarcerated towards an IP:

$$\text{Savings} = [\text{Incarcerated} \times \text{Cost Per Jail Sentence}] - [((\text{Incarcerated} \times 0.95) \times \text{Cost Per Jail Sentence}) + ((\text{Incarcerated} \times 0.05) \times \text{Cost Per CIP and RIP})]$$

Replacing CIP and RIP values give the upper and lower savings bounds, respectively. Using the 22,559 individuals with a county jail sentence, a 5% reduction in the jail population could result in a 5-year savings of between \$6–11.1 million. This figure is for all first-time, non-violent offenders in the dataset and does not include the limit we placed to control for the time offenders had to recidivate.

Expanding this 5% reduction to include non-violent offenders with prior charges, or potentially even offenders of less serious violent crimes like simple assault, could lead to further reductions in cost. While we strongly encourage the use of this sanction, it is important that it is used responsibly and is tailored to the needs of the offender. As shown earlier in Figure 5, some programs may be more relevant than others based on the type of offense committed. For example, work release programs are associated with lower recidivism rates for theft offenders and treatment programs for DUIs and offenders with drug addiction.

2. Provide More Support for Supervised Offenders

As mentioned earlier in our analysis, recidivism occurs most frequently within the first year of release back to society. In the case of incarceration, the state should consider expanding post-release support opportunities for offenders. A hands-on

approach to reentry for incarcerated individuals is key to ensure the offender is prepared for their return to society, no matter how long their stay is. Ideally, this process would start on day one of incarceration and be comprehensive enough to include getting needy offenders re-enrolled in public benefits before leaving. Furthermore, proper funding and resources directed at improving probation quality can reduce the number of violations and re-offenses that can lead back to the more costly outcome of jail.³⁵ Other states with similar probation systems will spend up to 10 times more on supporting county-level, recidivism-reducing probation measures.³⁶ The state's current plan for criminal justice reinvestment from Acts 114 and 115 of 2019, is an excellent first step in reallocating incarceration funding towards a more effective probation program.³⁶

The stigma associated with a criminal record creates even more barriers for these individuals, making it more difficult for them find work. Continuing to expand protections for these individuals in PA Title 18³⁷ should ease this stressor. Local solutions are viable as well, such as when the City of Philadelphia and Lehigh County added their own ordinances.^{38, 39} Despite the good intentions of these measures, they require significant caution regarding how they are implemented. Some studies on other programs have suggested that removing the criminal history question from applications can increase the chances of landing an interview, but that criminal history can be open to discussion later in the process.⁴⁰ Others have noted that jurisdictions with these laws could suffer an increase in discrimination against African American applicants, because employers try to circumvent the chance of hiring someone with a criminal record by using harmful stereotypes.⁴¹ A more consistent, thorough, and careful implementation of these protections at the state level could provide

much needed employment to those with a criminal record and reduce recidivism risk.⁴²

3. Avoid Lengthy Incarceration Sentences

Many of these crimes do not warrant long jail stays, and doing so shows there is neutral impact on recidivism at most. Short periods of incarceration may provide a wake-up call for certain individuals, but those who are particularly struggling with mental illness, substance abuse, and/or economic insecurity can have important financial assistance and healthcare needs stripped from them after incarceration.³³ Decreasing the length of jail sentences and moving towards IPs would be more cost effective and, in the case of IPs, reduce recidivism.

Additionally, Pennsylvania has some of the harshest probation laws in the country.¹² Long probationary periods can increase the chances of technical violations or minor crimes resulting in a return to the carceral system.⁴³ Research in Allegheny and Philadelphia Counties suggests half of each jail population is holding probation violators.⁴⁴ While the state has made some progress in reducing the harshness of supervision with Act 44 of 2023, courts can still stack sentences that could keep offenders supervised for much longer than necessary.⁴⁵ Preventing probation stacking and excessive tails after incarceration would lead to a more fair and sensible system that reduces the number of probationers being incarcerated for noncriminal violations.⁴⁶ A smaller supervised population would also reduce officer caseloads, potentially increasing the quality and effectiveness of probation.³⁶

Limitations and Future Research

One drawback to our study was the inability to obtain reliable information about the socioeconomic status of the offenders. A more complete picture of recidivism patterns could be drawn with more information about the offenders' employment status, income, and living arrangement. We were also limited to five years of data, which restricted the amount of time and number of offenders we could study. A longer period of study could give us a clearer picture of recidivism trends over time and the impact of the COVID-19 pandemic. Another limitation we encountered was the underrepresentation of Hispanic offenders in the data due to state reporting practices. The Administrative Office of PA Courts reports race and ethnicity separately and ethnicity is not automatically imported into the race column of SGS Web. We were also limited by the performance of our model. The coefficients we received were useful in showing statistically significant relationships between each variable and recidivism but could not be used to predict recidivism. Our attempt to improve performance involved conducting a multilevel logistic model, but a preliminary analysis showed that stratifying by county or judge did not give us a strong ICC score to warrant the model. A future study would benefit from more data and a more robust model to garner more predictive power.

Conclusion

Using five years of sentencing data from the Pennsylvania Department of Corrections, our analysis explored elements of first-time, non-violent offenses in the context of recidivism. This included the severity of the sanction as well as the type of crime committed. We found that punishments focused on rehabilitation were associated with lower rates of recidivism and that there were statistically significant differences in the odds of recidivism across non-violent crime types. We also found that there seems to be a small and non-statistically significant relationship between the length of time incarcerated and recidivism. Based on these findings, we encourage continuing and expanding the use of intermediate punishments, providing enhanced support resources to supervised and recently released offenders, and avoiding incarceration sentences that are unnecessarily long. The goal of these recommendations is to improve recidivism outcomes for justice-involved persons and reduce unnecessary spending on lengthy incarceration terms. Recidivism is a critical measure in determining the success of a legal system. By investing resources into sanctions designed to address the causes of criminal behavior, we can reduce the strain reoffending places on our jails and courtrooms while giving offenders the opportunity to live productive lives.

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