A Critical Analysis of Factors Influencing Recidivism in Southern California

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While much work has analyzed the factors behind the growing incarcerated population in the US, less research has been conducted on the alarmingly high rates of recidivism that bring formerly incarcerated individuals back into the criminal justice system. This disparity in research necessitates a deeper analysis. To this extent, the present study utilizes publicly available data through the Los Angeles County Sheriff's Inmate Database to analyze the effect Age, Former Crimes, and Time Served have on the probability an individual will recidivate. Participants were 200 individuals who were booked into Los Angeles County jails between 2019-2022. Demographic and criminal history data was collected on these participants and used to conduct multivariate analyses to understand the effect the three analyzed factors play in the probability a formerly incarcerated individual will recidivate. The results of these analyses in part reflect the established literature and suggest that as individuals age, their probability of recidivism decreases. Other results differ from what has been traditionally observed. For instance, those who have served less time as opposed to what they were originally sentenced to generally recidivate at similar rates to those who serve their full sentences. Finally, with some exceptions, those with less violent criminal histories tend to recidivate at similar rates as those with violent histories. This may be because the present study analyzes a population that has been to this point excluded from the research on recidivism— those formerly incarcerated at the state and county levels. By drawing this research sample from LA County, the current study paints a fuller picture of recidivism and the factors that contribute to it.

Introduction

The United States boasts the highest rates of recidivism in the world, with more than 68% of formerly state-incarcerated individuals returning to prison within the first three years of their release(Alper et al., 2018). Given the disproportionately high rate of incarceration within the US criminal justice system, this serious issue contributes further to the already vast incarcerated population, thus resulting in further strain on the prison administration, the justice system, and ultimately, the taxpayers. With strained resources, the result is fewer resources for the rehabilitation of convicted individuals, setting them up for failure, and resulting in a cyclical loop that returns the formerly incarcerated to the justice system in droves. Therefore, the problem of recidivism, particularly within the US context, is one deserving of serious academic study.

To date, the current literature on recidivism has been restricted mainly to the study of this phenomenon within juvenile or populations that cannot be easily generalized to more local populations. Moreover, the studies that do examine the effect that risk factors have on the probability of recidivism have focused mainly on external factors such as their interactions with society after being released. As such, my research attempts to fill the gap left by existing research by studying the effects of internal factors in the County level adult formerly incarcerated population.

Research Question

To this extent, I propose the following question to study the various internal factors that can impact the probability of recidivism: How do age, nature of convicted crime(s), and time served versus time sentenced affect a formerly incarcerated individual's likelihood to recidivate within their first year of release from incarceration?

In examining this question, I attempt to explain the effect that age, nature of convicted crimes (e.g. violent/nonviolent), and actual versus sentenced time served have on the probability an individual will recidivate within their first three years of being released from incarceration. In doing so, this thesis attempts to paint a more comprehensive picture of the phenomenon of recidivism observed in the American criminal justice system.

Argument

In understanding recidivism as a concept, many researchers often look to external factors as a means for gauging the probability of recidivism. The environment in which formerly incarcerated individuals return upon release is monumental as a factor in determining whether they will reoffend or not. Those who lack a proper support system, especially upon returning to an environment that becomes difficult to survive in, may often return to crime as a means of living. This can occur in forms such as employment being often difficult to obtain for those with criminal records.

While it would be foolish to deny that such external factors inevitably play a role in determining whether a formerly incarcerated individual will reoffend or not, this paper aims to explore the link between more internal factors and recidivism. To this extent, this research question explores some of the three biggest internal factors that could help determine the likelihood that a formerly incarcerated individual will recidivate.

The role of age and crime is a relationship that has been well studied by the established literature. The general consensus in this research is that crime is directly associated with issues unique to age groups 18-25. This backs up the widely accepted theory that as an individual ages, their perception of risk and reward develops. As such, individuals are much more likely to commit a crime younger than they are due to changing perceptions of risk and reward, and also due to emotional and behavioral issues unique to younger individuals. As such, I can say with certainty that age is related to the probability an individual will recidivate, or commit another crime later in the future. Moreover, it is likely that age has a negative relationship with recidivism, as those who are older would be less likely to commit crimes, following the relationship uncovered by past research.

Like with age, the nature of an

individual's criminal record is also a well-researched relationship. While there is certainly agreement that this nature affects the likelihood an individual will recidivate, there seem to be differing ideas on the exact effect. For example, while it has been observed that those who commit violent crimes are more likely than their counterparts who have committed non-violent crimes to recidivate because of unique behavioral and emotional issues, those who commit non-violent crimes such as embezzlement or simple larceny may have different motives for offending. In any case, there is certainly evidence to prove that the nature of an individual's criminal record affects the probability an individual will recidivate.

Finally, as with the last two variables, the proportion of actual time served has been studied extensively. There are many arguments on this topic, and the literature is very much divided. While some have found positive relationships indicating that as an individual serves more of their time sentenced, their probability of recidivating goes up, others have found negative relationships indicating the exact opposite. However, one must consider that the punitive aspect of incarceration is effectively diminished the less an individual serves of their sentence. Regardless of their debate, I can establish based on this scholarly debate that the proportion of actual time served certainly affects the probability that they will recidivate.

Overall, in attempting to answer my research question as put forth above, I argue that these three factors are critical in understanding recidivism as a phenomenon. Furthermore, these variables undeniably affect the probability an individual will recidiviate due to the social, biological, and psychological impacts such factors play on an individual perception of crime as a whole.

Given the massive rates of recidivism that continue to persist among nearly every level of government in the US, from the county level to the federal level, more research is needed to fully understand the complexity of this issue. The gravity of this issue is further impacted by the social ramifications of not only such a high percentage of formerly incarcerated individuals

returning to the prison system but also by the large volume of individuals behind bars. The associated costs of housing the large incarcerated population, especially those that continue to return to the criminal justice system, necessitate further research.

Past studies and understandings of the issue of recidivism have failed to adequately address this issue, given the high rates that continue to persist. As such, the focus of this study is to explore different approaches to gain a more comprehensive understanding of this issue.

Literature Review

Age

As individuals age, their perception of risk and reward continues to develop until the age of 25, at which point the probability of committing a crime tends to taper off (Goldstein, 2015). This observation provides some basis for using age as a means of gauging a formerly incarcerated individual's probability of recidivating. The literature conducted on this topic is already extensive and established scholars like Farrington (1986) have found evidence to corroborate the claim that the volume of crime committed tends to roughly follow major developmental changes. This volume of criminal behavior tends to peak around age sixteen to seventeen and begins to slowly decrease after, adding further credence to the aforementioned observation.

However, with consideration for other factors, Lansford, 2018, found a statistically significant relationship between age and anger. In this study, it was found that as an individual aged, the amount of times they were angry and overall how angry they were went down as they continued to age. Given the above findings of the development of the risk-reward perception, this study lends further credence to the relationship between age and the likelihood of committing a crime.

Literature conducted later also tends to support this perceivable connection between age and crime. For example, a study conducted by Rakes et al. found that older offenders aged 45 and up were less likely to recidivate when compared to their younger counterparts (2018). This observation provides further evidence for

the risk-reward hypothesis as of those over 45 who recidivated, non-violent crimes were less common than in the younger population.

Further research conducted has found that within the 18-25 population, "problems in attitude and orientation were uniquely associated to recidivism"(Spruit et al., 2017), indicating the effect that an age-related developing perception of risk and reward may play a significant role in the differences in recidivism rates observed between younger and older populations. This observed relationship between age and recidivism has been further confirmed in a study analyzing the relationship between age and sexual recidivism. The findings supported the overwhelming consensus that an inverse relationship exists between age and recidivism, with a high rate of recidivism observed in populations aged 18-25, and a sharp decline past age 25(Thornton, 2006).

The relationship between age and recidivism has also been explored within sexual offenders. Hanson (2002) conducted a study examining a population of sexual offenders who committed sexual crimes like rape and incest. The results of his research supported the general consensus of other scholars on this topic, finding that the probability of recidivism peaked increased from adolescence to around age 18 and declined thereafter.

However, while much of the literature seems to support the general claim that older populations recidivate at lower rates, the literature up to this point is divided on the effect that age has on recidivism with respect to certain crimes. For example, a study conducted by Hunt (2019) found that recidivism rates for robberies increased steadily among populations under 30, 30-39, and 40-49.

Moreover, some literature has even questioned the risk-reward bell curve typically seen between ages 18 to 25. Farrington (1986) notes that age-crime curves vary based on the crime. For example, while much crime committed by those aged 18 to 25 is motivated to some extent by the motive of excitement and group offending, those committed by older populations include more serious and often less violent offenses, such as fraud.

Despite this, other studies have examined the link between recidivism and motives, as understanding the reasons an individual offends would be helpful in analyzing the likelihood an individual will recidivate. A study conducted by Garcia-Gomis et al. (2017) examined the link between motive and offending within the juvenile population by comparing this relationship in crimes where there is a clear motive to offend, and crimes of a more general nature. It was found that motive plays no discernible difference in predicting the probability a formerly incarcerated individual will recidivate. The implications of this study imply that the role of motive as a factor that affects the age-crime curve is implied by other scholars like Farrington, may not be as strong, given that the effect of motive is an insignificant factor when determining the likelihood of recidivating among formerly incarcerated individuals.

Overall, the data for the present literature regarding the effect between age and recidivism has not been thoroughly tested among various state-incarcerated populations. Like this, the sample population for many of these studies are often incarcerated populations in countries other than the US. For example, the aforementioned study conducted by Hunt et al. (2019) tested its hypothesis among federal offenders, and the study conducted by Spruit et al. utilized the Dutch prison population.

Furthermore, studies that have examined age and recidivism among formerly state-incarcerated individuals have failed to give us a comprehensive view of such populations. For example, the study conducted by Rakes et al. analyzes the effect of age and recidivism within a state-incarcerated population, but their study is limited to the southeast area of the United States. As such, reliable generalizations cannot be drawn to apply to other geographical areas.

The limitations and conflicts of the existing literature on the effect age has on the probability an individual will recidivate therefore call for more study to be done on this topic. Accordingly, this study aims to test the effects of age on recidivism for various types of crime and aims to examine this relationship within populations

other than the US Southeast.

While there exists some disagreement between the current literature on the exact effect of age and recidivism, the majority of studies tend to support the negative relationship between age and recidivism. However, the studies that do object to the established literature supporting the negative relationship bring up additional considerations that must be studied, such as the particular population in question. Therefore, I propose the following:

H1: *Age is negatively correlated to the probability of recidivism.*

Violent vs Non-Violent Prior Convictions

In analyzing the risk of recidivism in formerly incarcerated individuals, an important factor to consider is how prior records will affect this risk. Prior studies conducted have shed light on the effect prior convictions have on the likelihood that a former convict will return to prison.

The literature up to this point has provided a consensus that there exists a link between individuals' prior records and their probability of recidivating. A study conducted among federal inmates has shown a statistically significant difference in the rates of recidivism between those with violent and non-violent priors(Semisch, 2010). This relationship held true even when accounting for age. The findings in this study are further corroborated by a study conducted by Hunt et al. (2019), which has shown that among federal prisoners, those who have committed violent crimes recidivate at higher rates than those who have non-violent priors. Moreover, of those who ended up recidivating, former incarcerated individuals with violent priors returned in less time than those with non-violent priors.

However, other literature has found that the link between prior convictions and the likelihood of recidivism is more mixed. A study conducted by Hester (2017) analyzed the rates of recidivism using the Pennslyvania Prior Record Score, which calculates the likelihood of recidivism based on the nature and amount of prior convictions. While some support existed for the predictive validity of this score, the statistical significance

that existed between the score and the likelihood of returning to prison was weak. Despite this, more research done into state populations has found links between violent histories and higher rates of recidivism when compared with those with non-violent histories. A study conducted by Stalans et al. (2010) found that when adjusted for other possible factors, those incarcerated for sexual crimes with violent histories like domestic battery recidivated at higher rates than those with non-violent histories.

However, when addressing sexual crime and recidivism, more attention must be paid to the relationship of the offender to the victim. Another study conducted by Stalans et al. (2004) found significant differences in rates of sexual recidivism among those with violent priors when the victim was a family member as opposed to a non-family member. These points of disagreement provide a compelling reason to further analyze this relationship.

Studies examining the effect of prior crimes on the likelihood of recidivism among formerly incarcerated individuals have failed to compare the effects of violent versus non-violent crime on this phenomenon within state populations. Additionally, the literature that has confirmed this link is limited in its scope as it focuses primarily on federal offenders, while the results of inmates at the state level remain mixed. While studies like the aforementioned paper conducted by Hester have examined what effect prior records have on the risk of recidivism, such studies have failed to examine what effect the nature of prior convictions has on the risk of returning to the criminal justice system.

Moreover, with inmates over the age of 50 making up approximately 20% of the federal prison population (BOP Statistics, 2023), understanding the relationship between age and the probability of recidivating can aid in the effort to decrease prison overpopulation.

Therefore, the current study attempts to further examine the relationship between the nature of prior crimes and the likelihood of recidivating within incarcerated populations at the state level. While there exists conflict between the established literature studied above on the

effect of violence in terms of convictions and the probability of recidivism, the studies that examine populations most similar to the one presently studied tend to support the idea that those convicted of violent offenses would be more likely to recidivate than those who have not. Therefore I propose the following:

H2a: *Violent criminal history is positively correlated to the probability of recidivism.*

H2b: *Non-violent criminal history is negatively correlated to the probability of recidivism.*

Time Served versus Time Sentenced

In response to inmate overcrowding, many prisons now rely on early-release programs to move convicted individuals out in order to comply with regulations governing their operation. However, this move has been controversial, and some scholars such as Sekhonyane (2002) argue that these programs will do more harm than good because under these new programs, inmates move through the prison system at a quick pace, and the less chance a prison has to rehabilitate an inmate, the higher their chance of recidivating will be. Furthermore, the punitive deterrent aspect of a prison sentence is effectively nullified when inmates serve far less time than they were originally sentenced to, resulting in a belief that they can continue to offend with little to no backlash. However, other scholars such as Meier et al. (2020) consider a different approach to early release and recidivism. In stark contrast to what was proposed by Sekhonyane, this study proposes that "prisoners can gain crime-specific human capital behind bars or may benefit from rehabilitation programs after release", meaning that early release could decrease recidivism.

Some scholars have found that in practice, the beliefs held by Sekhonyane are not as true. A study conducted by Adekeye et al.(2018) analyzed the effect of early release on corresponding rates of recidivism within the juvenile population and found that there was no statistically significant relationship between the two. More research on this topic has found similar results to Adekeye. The above-mentioned study conducted by Meier et al. (2020) found that early release did not have

a significant relationship with recidivism and other factors should be taken into consideration when considering the risk of recidivism.

Moreover, some studies have found much more evidence suggesting that the less amount of time a formerly incarcerated individual serves could negatively impact the probability that they will recidivate. A study examining prisoners within a Rhode Island prison population found that "future recidivists received about 15% fewer days of good-time release, on average, compared to non-future recidivists"(Bodenhorn, 2015).

However, other scholars like Mears et al. (2016) have found some evidence to support the contention made by Sekhonyane. In a study that examined a population of Florida state inmates, it was found that the relationship between time served and recidivism was a U curve where the probability of recidivism increased dramatically as the time served was too short or too long. Moreover, another study conducted by Trulson et al. (2011) found that in populations of early-released juvenile offenders, the majority of those released inevitably recidivated.

Moreover, further studies done on this topic have found that on balance, those who are at low risk for security threats or harm to the public are typically granted early release more than those who pose such a risk. A study conducted by Lowder et al. (2022) analyzed a sample of first-time offenders and found that those who received early release often recidivated at lower rates than those who did not. However, they also found that those who were already at the lowest risk of reoffending were often those who received early release. Therefore, the findings of the above studies conducted by Adekeye et al. and Meier et al. may be affected by this relationship between security risk and early release.

Overall, the literature to date represents a divided stance on the issue of how early release relates to recidivism. Moreover, the studies that provide a comprehensive view of this issue tend to study the juvenile population, another limitation that makes this research difficult to apply to larger populations. In addition to this, the findings of other researchers are difficult to generalize within our current incarcerated

population, thus nullifying its practicality in predicting the probability of recidivism. For example, the study conducted by Bodenhorn in 2015 utilized data on inmates from the 19th century.

This division of views among the established literature that examines the relationship between time served vs time sentenced and recidivism thus necessitates further research into this topic. Furthermore, the populations examined by the established literature cannot be generalized to apply to the current formerly incarcerated population, calling for more work to be done in examining this relationship, particularly with more recent data.

The established literature on this topic also examines this relationship primarily within the juvenile population, such as the study conducted by Adekeye et al. in 2018. These studies analyzing the relationship between early release and recidivism cannot be generalized to examine the likelihood of recidivism within the adult population, and further research, and therefore further research must be done on this topic within the adult population. Furthermore, these studies were conducted on incarcerated populations in other countries than the US, and cannot be as easily generalized to this population.

This study attempts to explore recidivism within the adult incarcerated population in the US, so I therefore rely on the use of data most similar to ours. The studies that have found negative relationships between the proportion of time served and the probability of recidivism have tested their data on populations that are most similar to the one being presently studied. Therefore, I propose the following:

H3: *As the proportion of actual served versus sentenced time an individual serves decreases, their probability of recidivism increases.*

These hypotheses have been proposed to directly analyze the relationship between the three variables and the one dependent variable proposed in the research question. These hypotheses have been formulated by relying on the past literature that conducted studies relevant to my research question and the variables presently studied. Accordingly, this study attempts to analyze the link between early release and recidivism within the US adult formerly incarcerated population of the 21st century.

Methods
Research Design, Sampling, and Data Collection

The current research utilizes a simple random sampling approach to locate eligible formerly incarcerated individuals in Southern California. This study relies on data made publicly available by the Los Angeles County Sheriff's Department. Using the inmate locator service provided by the Sheriff's Department, I located a sample population of 323 individuals who were convicted for the first time in the years 2018-2021 and were selected at random by randomizing the case number inputted into the locator service. After each case was selected, I ensured that their first conviction was between the years of 2019-2021, and recorded whether or not they recidivated in the next three years. From here, their age, convicted charge, and time served as opposed to time sentence were recorded.

However, because the age and sentencing data were given in date format, and the nature of charges were given in the form of the specific offense the individual was convicted of, this had to be converted into a usable form that the software used could compute. In short, the data was converted to measures using either a nominal, ordinal, or interval-ratio format in order to conduct statistical tests. However, this is discussed in greater depth later when the measures are described.

The present study utilizes SPSS, statistical software, and the Matplotlib Python module to analyze collected data and visualize results. Due to the nature of the collected data and the formulated hypotheses, the data will be analyzed using a correlation test to test the strength of the relationship between the independent variables, Age, Nature of Convicted Crimes, and Proportion of Actual Time Served, and the dependent variable, Recidivism. Specifically, correlation tests were chosen for the purpose of analyzing this data due to their ability to quantify

the strength of two different variables, allowing for more precise, and therefore more valid, results.

Furthermore, correlation tests also represent the direction of the relationship between two variables, allowing us to better evaluate the directional nature of this study's hypotheses. For the purposes of visualizing results, all relevant data points were plotted on a graph, with the x-axis containing the independent variables, and the y-axis containing the dependent variables. For each independent variable, the proper measure was used. The age in years of an individual was used for the Age variable from years 20-73, the range of the ages of the sample population. The nominal scale was used for the Nature of the Crime(s) variable, with 0 indicating a non-violent history and 1 indicating a violent history. The Time Served variable was recorded according to a percentage of the actual time served. This last measure goes over the conventional 0-100 percent due to a few individuals serving more than their original sentence. Finally, the one dependent variable, Recidivism, was measured according to a nominal scale with 0 indicating no recidivism, and 1 indicating that an individual reoffended within 3 years of release from their first conviction.

From here, a regression line was added to the graph, allowing us to visualize the line of best fit, thus showing the direction and general strength of the relationship. However, as the regression line was only used for visual purposes, the statistical correlation tests conducted using the SPSS statistical software were used to more precisely determine the strength of the relationship, as well as the statistical significance of the relationships tested.

Python was also utilized to gain more knowledge about the sample population, such as gender and whether the convicted charge(s) were drug-related. Additionally, some simple statistics were run to paint a fuller picture of the population studied, such as the average proportion of time served among other variables.

Using SPSS to conduct correlation tests, I can determine the significance level of a relationship. The significance level is used to determine whether there exists a statistically significant relationship between the two variables analyzed. This is measured using a decimal value, and if the significance level is greater than .05, the relationship is not statistically significant. Likewise, if the measure is less than .05, this confirms the presence of a statistically significant relationship.

The correlation test conducted using SPSS also gives us another value: the Pearson Coefficient. Like the significance level, this is also measured using a decimal value, and this denotes the strength of the relationship between the two variables. If the value is greater than 0, but less than .3, the relationship is considered weak. If the value is greater than .3, but less than .6, the relationship is considered moderate. If the value is between .6 and 1, the relationship is considered strong. This also holds true for the inverse: -.3 to 0 is considered weak, -.3 to -.6 is considered moderate, and -.6 to -1 is considered strong. The negative vs positive value for the Pearson Coefficient indicates whether the relationship is negative or positive. After conducting the correlation tests on all three hypotheses, I were able to determine whether to accept the hypotheses or to accept the null hypotheses, as well as the direction and strength of the relationships.

Because all data collected from the study sample has been made publicly available by the LASD, approval by the institutional review board is not necessary. As such, this study adheres to the ethical guidelines for consent of participants as outlined by the regulatory bodies that govern ethical research. Nevertheless, further measures were taken in order to ensure the safety of the sample population, namely by refraining from publishing the complied data in any public forum, thus ensuring that confidentiality and privacy were observed throughout the research process.

Validity and Reliability
To ensure the validity and reliability of the results of this study, the manner in which samples were selected was randomized as much as possible. The case number, type of case, jurisdiction, and courthouse are all variables

that affect the unique number that each case is assigned. By randomizing every part of these when selecting which case numbers to use for the purposes of data analysis, this study avoids any accidental biases in terms of selection in order to ensure the generalizability of the results.

Sample Characteristics

The sample consisted of individuals aged 20-73 who were incarcerated for the first time between 2018 and 2021. 82% of participants were male, while 18% were female. With regard to the measures presently being studied, the average individual served only 23% of the actual sentence. Additionally, 17% of the population were convicted for the first time on drug-related charges.

Measures

This study utilizes three independent variables, Age, Nature of Convicted Crimes, Proportion of Actual Time Served, and one dependent variable, Recidivism.

Age is measured on an interval scale, and measures the age of each individual. While data on age was initially collected in a month-day-year date of birth format, this was converted to a numerical age format after collection was concluded.

Nature of Convicted Crimes is measured on a nominal scale and measures whether the convicted charge(s) of each individual was violent or non-violent. This data was initially collected as charges sample individuals were convicted of but later recorded on a nominal scale (0 = non-violent, 1= violent) based on the four categories of murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault defined within the FBI Uniform Crime Reporting Program(FBI, 2019).

The proportion of Actual Time Served is defined as the percentage of time actually served as opposed to sentenced, and is measured on a ratio scale. While this data was initially collected in the same month-day-year format as Age, with two details provided: the date they began their sentence, and the day they were released upon completing their sentence. This data was then converted to a percentage of the amount of time actually served as opposed to their sentence. While the vast majority of the sample served less of their sentence, some outliers were recorded as serving more of their sentence.

Recidivism measures whether or not an individual has been convicted of another crime between their initial conviction and the time this study is being conducted. This variable was measured on a nominal scale (0 = did not recidivate, 1 = recidivated) based on whether they were convicted of another crime within a three-year period after they were released from serving their first conviction.

Results

After collecting data and analyzing it using correlation analyses with SPSS statistical software, I were able to determine the relationship and statistical significance of each relationship between each independent variable, Age, Actual Time Served, and Nature of Convicted Crime, and the one dependent variable, recidivism.

Age

The results of the correlation test conducted between the Age and Recidivism variables revealed that the sample population conforms to what was proposed in the first hypothesis. The relationship was statistically significant and negative, meaning that older individuals recidivated at lower rates, allowing us to confirm the first hypothesis.

The results of the data analysis of the first relationship between Age and Recidivism showed a Pearson Coefficient of -.131 and a significance value of .019. Because the significance value was less than .05, I was able to determine that the relationship between the two variables was statistically significant. Using the Pearson Coefficient allowed me to further determine the strength of the relationship. Given that this value was greater than -.3 and less than 0, the relationship is a weak negative relationship. This means that while there was a statistical significance observed in that older individuals were less likely to recidivate than their younger counterparts, this statistical relationship was not

extreme. However, although the relationship may have been weak, the significance value allowed us to nevertheless confirm our hypothesis proposing a negative relationship between the probability of Recidivism and Age.

Interestingly, this relationship was less strong than most studies that had found a similar relationship between Age and Recidivism. However, this could be due to factors such as the difference in gravity between those who would be housed at Federal or State level detention centers as opposed to only County facilities. For example, those who have committed serious crimes are typically incarcerated at Federal or State prisons due to the longer times in sentencing than those at County jails for misdemeanor or minor felony sentences.

More specifically, the observed differences between the different populations studied could be in part due to the psychology of what motivates individuals to offend. While individuals may be much less likely to commit serious crimes that would warrant Federal or State prison as they age, this may not hold as true, or at all when considering lower-level crimes that would necessitate only County jail. As such, although the relationship observed in this study between Age and Recidivism was negative as with most of the established literature on this topic, the magnitude of the relationship found in this study was far greater in those that studied the Federal and State level populations because of the difference in gravity of different crimes.
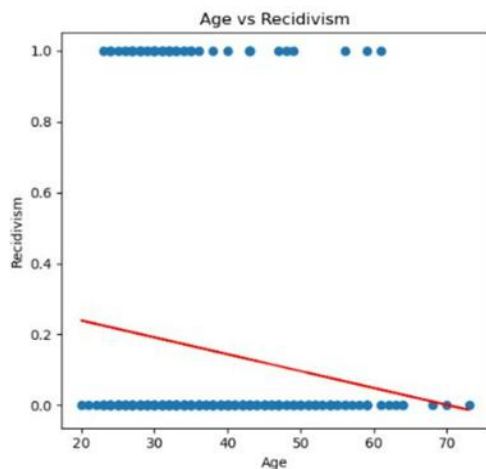
Age vs Recidivism Graph

The graph visualizing this relationship between Age and Recidivism has been plotted to show Age along the x-axis from the lowest age, 20 to the highest age, 73. The y-axis for this graph has been fitted with the recidivism variable, with 0 indicating no reoffending, and 1 indicating that the individual recidivated. This scatter plot was fitted with the regression line, as seen in red indicating the direction and strength of the relationship between the two variables. As can be observed visually, the regression line is slightly negative, showing that there exists a clear negative relationship, although not very strong, proving this hypothesis.

Table 1	
Hypothesis 1: Age	
Significance Value	0.019
Pearson Correlation Coefficient	-0.131

Table 1

The table contains the results of the statistical test conducted using the SPSS statistical software. As can be seen, this correlation test returns the Pearson Coefficient as well as the significance level, allowing us to better analyze the significance and strength of the relationship between Age and Recidivism. As mentioned above, the Pearson Coefficient value returned indicates a weak negative relationship, and the significance value returned denotes that the relationship between the two variables analyzed is statistically significant.

Given the statistical results of the correlation test, I can accurately conclude that age is negatively correlated with the probability of recidivating. While the regression graph was useful in visualizing the results of the correlation conducted using SPSS, that is where its purpose ends. With a more specific significance level, I can determine with certainty the presence of a statistically significant relationship. Moreover, the Pearson Coefficient allows us to determine the specific strength of the relationship confirmed by analyzing the significance level.
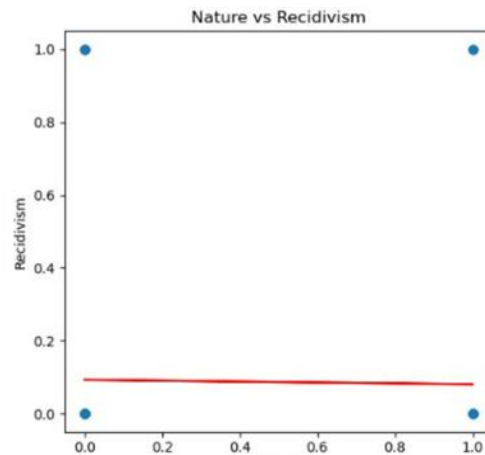
The results of the correlation test conducted on the relationship between the Nature of Former Crime(s) and Recidivism revealed a statistically insignificant relationship between the two, allowing us to reject this hypothesis and accept the null hypothesis. Although I were not able to accept this hypothesis as statistically significant, the Pearson Coefficient indicated the presence of a slightly negative relationship.

More specifically, the results of the correlation test yielded two values that were instrumental in analyzing the relationship between the Nature of Former Crime(s) and Recidivism: the Pearson Correlation Coefficient and the significance value. The result of the former value was -.018, which revealed the direction and magnitude of the relationship, allowing us to determine the strength of the correlation. Given that this value was less than 0, but greater than -.3, I can conclude that the relationship between these two values is a weak negative one.

However, the significance value returned by the same test has ramifications for how this relationship can be applied elsewhere. This test returned a significance value of .374, and because it is greater than the acceptable value of .05, I cannot accept the relationship interpreted from the Pearson Coefficient as significantly significant. On the contrary, such a high significance level suggests that the chance of the relationship discovered above being a result of chance is nonnegligible.

The results of this statistical test conflict with what has been traditionally observed by the established literature. While studies conducted on populations similar to the ones presently studied (e.g. the Federal formerly incarcerated population) have found a statistically significant relationship between the violence level of former crimes committed and the likelihood of recidivism, this study found no such conclusive relationship. A factor that may have contributed to the absence of this relationship that has been widely observed elsewhere could be the differences in the gravity of crime that exist between State and Federal-level offenses.

Nature vs Recidivism Graph

The graph visualizing the relationship between the Nature of Former Crime(s) and Recidivism is plotted with Nature occupying the x-axis, and Recidivism occupying the y-axis. Because both of these variables were measured on nominal scales, all data points will be confined to only four corners, thus making it difficult to visualize the relationship that was analyzed using SPSS statistical software. Therefore, as with the Age-Recidivism graph, a regression line was added in order to make it easier to visualize the magnitude and direction of the relationship between the Nature of Former Crime(s) and Recidivism. As was confirmed with the Correlation test, the regression line is only slightly pointing downward, indicating a weak negative relationship.

Table 2	
Hypothesis 2: Nature of Former Crime(s)	
Significance Value	0.374
Pearson Correlation Coefficient	-0.018

Table 2

As with Table 1, this one also contains the results of the statistical correlation conducted using the SPSS statistical software. From this test, both the significance levels and the Pearson Correlation Coefficients were recorded and used to determine the chance the observed relationship was due to chance, and the magnitude of the relationship between the two variables,

respectively. With regard to the significance of the relationship recorded between the Nature of Former Crime(s) and Recidivism, the recorded value was .374, denoting a 37% chance that the relationship was due to chance. Because this value was extremely high, and because it was greater than the acceptable .05, or 5% value, I can only reject this hypothesis. Regarding the magnitude of the observed relationship, the Pearson Correlation Coefficient recorded was a value of -.018, indicating a weak relationship between the variables studied. However, the value was negative, denoting a negative relationship.

Interestingly, because the scale used to record the Nature of Former Crime(s) was nominal with 0 = non-violent crime and 1 = violent crime, I observed a very weak, but slightly negative relationship. This indicates that those who have committed violent crimes were slightly less likely to recidivate than those who committed non-violent crimes. While other studies have found mixed results at most, this study is at odds with all established literature studied in that it has found a negative, albeit very weak, relationship between Violent vs Non-Violent Crime and Recidivism. However, it is important to note the high levels or probability that the observed relationship in the present study was due to chance, far beyond the acceptable limit.

However, as with age, I must recognize the difference between offenses committed that would necessitate State or Federal incarceration and those that would only require County-level custody. It is likely that those who have committed violent crimes were simply isolated incidents while those who committed non-violent crimes committed more crimes that were easily repeatable, such as theft. With the current support system that exists to support the formerly incarcerated population, those who were released likely had no choice but to once again turn to a life of crime to support themselves, with conventional employment being too difficult to obtain, and crime being too easy to fall back onto.

Ultimately, the hypotheses that a violent criminal history is positively correlated to the probability of recidivism, and likewise, a non-violent criminal history is negatively correlated

to the probability of recidivism must be rejected. This is primarily due to the high chance that the slightly weak relationship discovered in the population presently studied is due to chance. With a significance value of .374, .324 greater than the acceptable level of .05, I have no choice but to reject this proposed relationship between the Nature of Crime(s) Committed and Recidivism.

Time Served versus Time Sentenced

Like with the previous two relationships analyzed, the relationship between the Proportion of Time Served versus Time Sentenced and Recidivism was investigated using a correlation test with the SPSS statistical software and visualized with Python's Matplotlib module. Through the statistical test, it was discovered that there was a weak negative relationship between these two variables. In other words, an individual who served more of their sentence were less likely to recidivate than those who served less time. However, I discovered that the probability that the relationship observed was due to chance was far beyond the acceptable limit of 5%. As such, I must reject this hypothesis.

More specifically, the results of the correlation test returned two values, the same ones as mentioned above. The Pearson Correlation Coefficient for this test was -.16, indicating a weak negative relationship as this value falls between the -.3 to 0 bucket. However, the second value returned, the Significance Value, was .389, indicating that the relationship observed from the Correlation Coefficient had a 38.9% probability of being the result chance. Furthermore, because this value was over the acceptable value of .05, I could not accept this relationship as statistically significant.

In Los Angeles County, due to overcrowding, many incarcerated individuals are often released far earlier than their original sentenced time. As discussed earlier, the established literature details two approaches to discussing this topic. The first approach holds that individuals released earlier will recidivate at higher rates than those who serve their full sentences because the punitive deterrent of crime is weakened. In

stark contrast, the second approach proposes that individuals released earlier will recidivate at lower rates because there is less of a chance to gain crime-specific resources while incarcerated, and could even benefit from programs designed to rehabilitate formerly incarcerated individuals after release.

The statistical tests conducted revealed that the data collected followed the first interpretation: early release follows an increase in recidivism. However, this may be due to a variety of factors. Those who were released early tended to have committed non-violent crimes. Moreover, within the population of those released early, 17% of these individuals were serving time for drug related offenses.

The relationship between drug use and crime has been well-documented by scholars such as Pierce et al. (2017), Bennett et al. (2008), and many more. This, coupled with the significant amount of drug offenders in our population, necessitates the need to acknowledge the role substance use plays in the relationship observed by the present study.
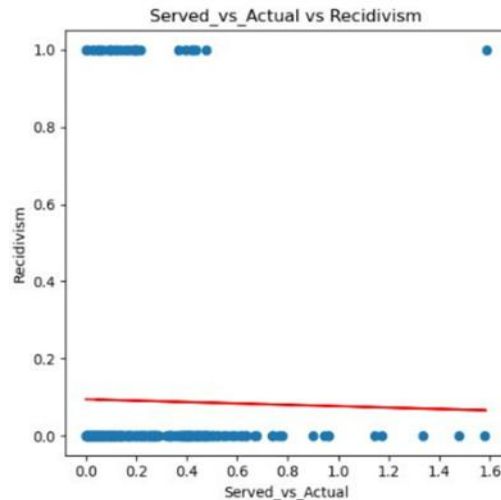
Served vs Actual vs Recidivism

This graph visualizes the relationship between the two variables studied in my third hypothesis, Proportion of Time Served and Recidivism. Supporting what was interpreted from the Pearson Correlation Coefficient, the regression line exhibits a slightly negative relationship

between the two variables. Even more interesting, however, most individuals who recidivated served less than 80% of their sentence, with only one individual who served more than 80% of their sentence recidivating. However, this is likely since the vast majority of individuals were released early, thus maintaining the same proportion of individuals who ultimately ended up recidivating as the population who served more than 80% of their sentence.

Table 3	
Hypothesis 3: Time Served vs Time Sentenced	
Significance Value	0.389
Pearson Correlation Coefficient	-0.016

Table 3

The following table details the results of the correlation test conducted using the SPSS statistical software. The Pearson Correlation Coefficient returned was -.16, indicating a weak negative relationship, as discussed above. Because it fell between the values of -.3 and 0, I were able to determine the magnitude and direction of the relationship between Time Served versus Time Sentenced and Recidivism. However, due to the high probability that the aforementioned relationship was due to chance, as indicated by the significance value of .389, I were not able to accept the hypothesis that as the proportion of actual served versus sentenced time an individual serves decreases, their probability of recidivism increases.

Ultimately, while the data collected and explored while analyzing this hypothesis revealed some interesting insights and posed some questions relevant to the research question presently studied, the probability that the observed relationship was due to chance was far too high to be acceptable. Therefore, I must reject this hypothesis and accept that no statistically significant relationship was found between the Proportion of Time Served and Recidivism.

Limitations

While this study revealed many interesting insights into the formerly incarcerated population at the County level, I must recognize some

of the limitations posed by the nature of the design and population studied. Moreover, I must recognize outside factors that may have affected the results of the various tests conducted on the data collected, primarily factors that have been known to affect the probability of recidivism in some way. While some of these variables are more easily discernable, such as drug use, the variables that ultimately factor into the decision of an individual to offend are numerous, and are therefore difficult to control for the limited scope of the present study.

With regard to the population studied, it is important to note the population from which the sample studied now was drawn. The sample was drawn from the Los Angeles County Sheriff's database, encompassing the entire county, with cases as far apart as Pomona and San Fernando. Moreover, the County is one of the most populous and diverse in the country, with lifelong and new residents alike. With such a diverse population, I must acknowledge the unique culture that is matched only by very few metropolitan areas. Furthermore, other factors such as the political culture, physical landscape, and unique struggles only serve to set this population apart from practically every other population, both domestically and abroad. As such, it becomes difficult to generalize the results of this study to other populations, especially those that are not as diverse.

Following this same caution that one must take when generalizing the results discussed above, I must also recognize the differences in the level of incarcerated populations that exist. While those who commit crimes of a more serious nature are usually incarcerated at State or Federal institutions, those who commit less serious felonies and misdemeanors are typically incarcerated at County facilities. As such, I must consider the differences between those who would commit more serious crimes and those who would commit less serious offenses and recognize that the results of the latter population as presently studied cannot be generalized to the former population.

Further Research

While this study attempts to study a population that the established literature to this date has very much glossed over, I must recognize the limited scope of this project due to time and resource constraints. Taking this into account, further research could explore these relationships in more depth.

For example, while this study explored the differences in Age and Recidivism, the literature studied has established that the relationship observed between these two variables is primarily motivated by a developing perception of risk and reward, as well as problems uniquely associated with populations aged 18-25, other factors such as financial gain are unrelated to this hypothesis. Like this, future studies could control for these factors by examining crimes that are related to developing risk-reward perceptions. Taking this a step further, studies attempting to build on the work done here could even examine recidivism within specific subsets of crimes that are often committed for similar motives.

Other research should be conducted into the factors that may have affected the outcomes of this study. One factor, as discussed above, is the difference between drug-related convictions and non-drug-related offenses. As dependence on drug use may affect the probability of recidivism more strongly, if future studies do not specifically study the relationship between this effect and recidivism, they should at least control for this. One way of doing this may be to completely omit any individuals who have been convicted for drug-related offenses.

Besides these obvious branches for future research, future studies should examine the effects presently studied in other populations. As mentioned above in the limitations section, the population of Los Angeles County is unique, and as such, the results of this study cannot be easily generalized to the State and Federal levels, but also to different populations that are likely geographically, culturally, and politically distinct. Therefore, it becomes imperative to study other populations at the county level in order to allow for more generalizable results.

Furthermore, this study focused exclusively

on the formerly incarcerated population when studying the effects of recidivism. However, I must recognize that individuals do not have to be incarcerated in order to recidivate. Rather, recidivism takes place when an individual who has committed an offense commits another offense at a later date, regardless of whether they were incarcerated or not for their initial offense. As such, future studies could also examine recidivism in populations that have not been incarcerated. Such populations are likely to include individuals who have committed minor misdemeanors that do not necessitate incarceration as a case outcome. As such, the results are likely to vary from not only what was observed in this study, but also what was observed in the established literature studied.

Conclusion

The present study only analyzes three variables, Age, Nature of Former Crime(s), and Time Served versus Time sentenced, and their effect on recidivism at the county level to better understand this phenomenon in a less-studied population. To date, the vast majority of the established literature conducted on recidivism specifically within the County level population of those formerly incarcerated is sparse, as most studies focus on the State and Federal levels or the populations of other countries. Furthermore, of the few studies that do examine this relationship among a more local population in the United States, cultural, geographical, and other circumstances unique to those localities make it difficult to generalize their results elsewhere. Therefore, these limitations in the present existing research necessitate further research to be conducted, and this study attempts to fill the gaps observed in current knowledge.

As mentioned in the introduction, this study attempts to fill this gap in knowledge by presenting the following research question: "How does age, nature of convicted crime(s), and time served versus time sentenced affect a formerly incarcerated individual's likelihood to recidivate within their first year of release from incarceration?" From this research question, three different hypotheses were proposed after analyzing the current literature. It was hypothesized that Age is negatively correlated with the probability of Recidivism, Violent Priors are positively correlated with the probability of Recidivism, and Less Time Served is positively correlated with the probability of Recidivism.

The data for the present study was drawn from the incarcerated population of Los Angeles County using the Los Angeles Sheriff's Department database, randomizing case numbers to randomly draw a sample for this study. After ensuring each individual committed their first offense between the years of 2019-2021, their age, convicted charge, and time served as opposed to time sentence were recorded, as well as whether or not they recidivated in the three years following their first offense. From here, this dataset was then analyzed first using the SPSS software, which I used to conduct correlation tests to determine the validity of each relationship studied. Correlation tests were chosen specifically because of their ability to determine the strength and direction of each relationship, and also because they allowed us to determine if the relationship observed was statistically significant. After this, the data for each hypothesis was then plotted using Python, specifically the Matplotlib module. After plotting each data point, a regression line was then added to visualize the relationship between the independent and dependent variables.

The results of the Correlation test allowed us to confirm or reject the relationships observed. The only relationship I could accept as statistically significant is the slightly negative relationship between Age and Recidivism. While the other two relationships between the Nature of Former Crime(s)/Recidivism and Time Served versus Time Sentenced/Recidivism were slightly negative, the probability that the observed relationships were due to chance was far beyond the acceptable limit of 5%, and as such, I rejected these two hypotheses.

While the results of this study were a step in the right direction for studying more local levels of recidivism, more study is required to fully understand this topic. Additionally, I must acknowledge the limitations of this study, primarily with the difficulty in generalizing the

results to other populations, given the unique nature of Los Angeles County and Southern California within the broader United States and global community.

References

Alper, Mariel, Matthew R. Durose, and Joshua Markman. "2018 Update on Prisoner Recidivism: A 9-Year Follow-up Period (2005-2014)" Bureau of Justice Statistics, 2018

Adekeye, Deborah Shade, and Paul Emmanuel. "The nexus between early release of inmates and juvenile recidivism." International Journal of Sociology and Social Policy, vol. 38, no. 9/10, 2018, pp. 837–850, https://doi.org/10.1108/ijssp-11-2017-0145.

Bennett, Trevor, et al. "The Statistical Association Between Drug Misuse and Crime: A meta-analysis." Aggression and Violent Behavior, vol. 13, no. 2, Mar. 2008, pp. 107–118, https://doi.org/10.1016/j.avb.2008.02.001.

Bodenhorn, Howard. "Prison crowding, recidivism, and early release in early Rhode Island." Explorations in Economic History, vol. 59, 2015, pp. 55–74, https://doi.org/10.3386/w20837.

Farrington, David P. "Age and Crime." Crime and Justice, vol. 7, no. 1, 1986.

"Federal Bureau of Prisons." BOP Statistics: Average Inmate Age, www.bop.gov/about/statistics/statistics_inmate_age.jsp. Accessed 12 Nov. 2023.

García-Gomis, Arancha, et al. "Risk factors and youth recidivism prediction in general and property offenders." Psychiatry, Psychology and Law, vol. 24, no. 2, 2016, pp. 308–318, https://doi.org/10.1080/13218719.2016.1247419.

Gove, Walter R. "The effect of age and gender on deviant behavior: A biopsychosocial perspective *." Gender and the Life Course, 16 Jan. 2018, pp. 115–144, https://doi.org/10.4324/9781351329040-9.

Hanson, R. Karl. "Recidivism and age: Follow-up data from 4,673 sexual offenders." Journal Of Interpersonal Violence, vol. 17, no. 10, 2002, pp. 1046–1062, https://doi.org/10.1177/088626002236659.

Hester, Rhys. "Prior record and recidivism risk." American Journal of Criminal Justice, vol. 44, no. 3, 2018, pp. 353–375, https://doi.org/10.1007/s12103-018-9460-8.

Hunt, Kim Steven, et al. Recidivism Among Federal Violent Offenders.

Lansford, Jennifer E. "Development of aggression." Current Opinion in Psychology, vol. 19, 2018, pp. 17–21.

Lowder, Evan M., et al. "Proxy assessments and early pretrial release: Effects on criminal case and recidivism outcomes." Psychology, Public Policy, and Law, vol. 28, no. 3, 2022, pp. 374–386, https://doi.org/10.1037/law0000341.

Mears, Daniel P., et al. "Recidivism and Time Served in Prison." The Journal of Criminal Law and Criminology, vol. 106, no. 1, 2016, pp. 83–124.

Meier, Armando N, et al. "Early Release and Recidivism." Institute of Labor Economics, 2020.

"Offense Definitions." FBI, FBI, 13 Sept. 2019, ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/topic-pages/offense-definitions.

Pierce, Matthias, et al. "Insights into the link between drug use and criminality: Lifetime offending of criminally-active opiate users." Drug and Alcohol Dependence, vol. 179, Oct. 2017, pp. 309–316, https://doi.org/10.1016/j.drugalcdep.2017.07.024.

Rakes, Sarah, et al. "Recidivism among Older Adults: Correlates of Prison Re-entry." Justice Policy Journal, vol. 15, no. 1, 2018.

Sekhonyane, Makubetse. "Emergency measures: Early releases to alleviate prison overcrowding." South African Crime Quarterly, no. 1, 2006, https://doi.org/10.17159/2413-3108/2002/v0i1a1089.

Semisch, Courtney R, et al. "RECIDIVISM OF FEDERAL VIOLENT OFFENDERS RELEASED IN 2010." United States Sentencing Commission, 2022.

Spruit, Anouk, et al. "Age differences in the severity, impact and relative importance of dynamic risk factors for recidivism." Journal of Criminal Justice, vol. 50, 2017, pp. 69–77, https://doi.org/10.1016/j.jcrimjus.2017.04.006.

Stalans, Loretta J., et al. "Comparing nonviolent, other-violent, and domestic Batterer Sex offenders." Criminal Justice and Behavior, vol. 37, no. 5, 2010, pp. 613–628, https://doi.org/10.1177/0093854810363794.

Stalans, Loretta J., Paul R. Yarnold, et al. "Identifying three types of violent offenders and predicting violent recidivism while on probation: A classification tree analysis." Law and Human Behavior, vol. 28, no. 3, 2004, pp. 253–271, https://doi.org/10.1023/b:lahu.0000029138.92866.af.

Thornton, David. "Age and sexual recidivism: A variable connection." Sexual Abuse, vol. 18, no. 2, 2006, pp. 123–135, https://doi.org/10.1177/107906320601800202.

Trulson, Chad R., et al. "Blended sentencing, early release, and recidivism of violent institutionalized delinquents." The Prison Journal, vol. 91, no. 3, 2011, pp. 255–278, https://doi.org/10.1177/0032885511409868.

United States Sentencing Commission. The Effects of Aging on Recidivism Among Federal Offenders, 2017.