Examining Bias-Sentencing and Recidivism of Minorities in South Texas: A Case Study Data Analysis

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ABSTRACT: Bias sentencing is subjective sentencing. This case study evaluated sentencing disparities based on gender, race, education, prior conviction(s), prior probation/parole, and prior revocation may effectually contribute to criminal justice reform. The investigator examined the available evidence on how the experience of incarceration impacted the probability that formerly incarcerated individuals would re-offend. Based on an initial examination of peer-reviewed quantitative data, the investigator theorized that a central aspect of bias in multi-racial and multi-ethnic societies is equal treatment under the law without regard to race, ethnicity, or gender. Prison overpopulation and astronomical incarceration costs have become a financial burden for many states. The favor of probation and parole is a critical component of the criminal justice system. There are more probationers than parolees, prisoners, and jail inmates combined. The disparities in probation revocations contribute to the disparities in incarceration. Few studies carefully examine racial and ethnic disparities at this decision point. The perception of bias plays a crucial role in the revocation rates for Black probationers, coupled with the risk assessment scores and criminal history being significant factors in revocation. Furthermore, this case study aims to build upon previous research on risk factors influencing sentencing and enhance the wealth of literature on predictive bias in sentencing and recidivism. This case study has practical implications for federal and state-level sentencing guidelines considering the risk factors that influence action and those (risk) factors that are unalienable to diminish prison recidivism rates in South Texas.

KEYWORDS: Recidivism, Sentencing, Criminal Justice Reform, Bias, Disparities, Gender, Race, Education Level, Prior Conviction, Probation/Parole, Revocation

1. Introduction

There has been a significant focus on prison recidivism rates, highlighted by inequalities that exist within race, class, and ethnicity (Omori and Petersen 2020; Skeem and Lowenkamp 2016). However, these studies have failed to study other factors influencing prison recidivism and prison sentencing, such as age, gender, education level, prior offense(s), prior conviction(s), prior arrest(s), and prior probation/parole revocations. The investigator defines uncontrollable factors as factors that are outside the control of the convicted. These factors include age, gender, and race. On the other hand, controllable factors are defined as those factors that are within the control of the convicted, which

include: education level, offense, prior convictions, prior arrests, and prior probation/parole revocation.

This study aims to close the research gap between uncontrollable and controllable factors and their correlation to sentencing and recidivism rates. This study plans to add to the wealth of literature on the topic, adding a certain depth to the research by including variables that may correlate to an increase in prison recidivism and prison sentencing. The potential impacts of this study are innumerable, with applications in criminal justice reform and behavioral rehabilitation. In support, a South African study chronicles how prison rehabilitation is enhanced through trust rather than good prison behavior. This research starkly contrasts what researchers have been led to believe about prison reform and highlights the importance of further exploration on this topic (Gaum, Hoffman, and Venter 2006). This study makes a good case for the resourceful management of resources within the criminal justice system to ensure proper labels are placed on the offender to provide them with a targeted rehabilitation plan.

In addition, this study aims to close the gap in research between disparity and inequality in sentencing guidelines based on factors outside the control of the convicted, such as gender and race. A Florida study in Miami-Dade County determined that the most significant disparity in conviction rates and sentencing exists between White non-Latinos and Black Latinos, followed by White non-Latinos and Black non-Latinos (Omori and Petersen 2020). This research has the prospective to highlight inequalities in criminal justice that can change laws moving forward that affect federal and state sentencing guidelines for minority groups especially. The American justice system must provide rehabilitation to criminal offenders, and the findings of this research can provide the data necessary to create rehabilitation modules for non-violent offenders (MacKenzie, Bierie, and Mitchell 2007).

2. Literature Review

2.1. Predictive Bias in Sentencing

Skeem and Lowenkamp (2016) studied risk factors associated with sentencing, such as race, type of offense (violent or non-violent), and prior convictions. Traditionally, in America, these factors have been considered risk factors to the public. Risk assessment has been used to inform sentencing verdicts for almost 100 years (Administrative Office of the U.S. Courts, 2011, as cited in Skeem and Lowenkamp 2016). The front-running nature of this type of risk assessment has raised ethical concerns. Moreover, advocates of prison reform have underscored the moral responsibility of the American justice system in relation to sentencing guidelines (Skeem and Lowenkamp 2016). For this study, participants were selected from a group of prior offenders, and race was coded as Black or non-Hispanic White. Additionally, gender and prior convictions were factored into the selection process. The most astonishing finding during the sampling process was the disparity between Black and White offenders (Skeem and Lowenkamp 2016). Black males were determined to be younger and male compared to their White counterparts. The findings from the study suggest that risk assessment has been based on something other than race. On the contrary, risk assessment was determined to be strongly rooted in prior convictions, a strong indicator of recidivism amongst offenders (Skeem and Lowenkamp 2016). In summation, most differences in prison sentencing can be attributed to differences in criminal history, according to Skeem and Lowenkamp (2016). A 2018 study builds upon the foundation provided by previous research by exploring the role of race, and charge characteristics in bail decisions (Dobbie, Goldin, and Yang 2018). This study constructs the sampling method from data collected from the IRS and court data from Philadelphia, PA, and Miami, FL. This type of sample construction intersects the financial ability of an individual to post bail with the type of charge the individual has. Unlike most previous studies, this research is

quantitatively based, increasing the results' validity. Furthermore, the study employs data triangulation to furthermore increase the reliability of the results. The findings from this paper indicate that individuals released before trial have greater leverage than those that are not released before trial. The longer a defendant is incarcerated during pretrial, the more leveraging power for the courts is obtained (Dobbie et al. 2018). This further emphasizes the immoral practices of the courts to achieve guilty convictions at the expense of the convicted record, finances, and conscience.

2.2. Spatial Distribution of Felons and Race

An interesting study on the spatial distribution of felons in America extensively researched the connection between geography and demography. The aim of this study was to provide scope to the reach of the criminal justice system in America, specifically pertaining to those offenders that have attained felony conviction status. study consulted federal resources for data collection of the number of felons by race, by state from 1948. The study separated statistics by decade from 1980 to 2010 based on race and state. The findings of this study revealed that since the 1980s, there had been domestic growth in felony convictions deep-seated in race (Shannon et al. 2017). As of 2010, 10% of African American adults have been in prison or are currently in prison; however, the rate is 12% in California and 1% in Maine. This may be attributed to population size; however, Petit has estimated 28% of African American men will have entered prison by age 30 (2012, as cited in Shannon et al. 2017). This type of research benefits behavioral and lawmakers to comprehend the breadth of the social injustice and inequality in America. King's (2019) study further suggested a link between proximity and sentencing yet builds upon previous research by focusing on the societal changes for the rise in imprisonment rates. The study pulls data from the Minnesota Sentencing Guidelines Commission from 1981 to 2013 from 355,554 felony convictions. This longitudinal research design benefits the study by examining the change in conviction rates over time. The study showed that the likelihood of a prior convict returning to prison increased, consistent with findings from Shannon et al.'s study (2017) and King (2019). In addition, other studies suggested that an increase in convictions is a causative factor to an increase in prison sentencing (King 2019; Shannon et al. 2017; Omori and Petersen 2020).

2.3. Probation Rabbit hole

Between 1980 and 2007, the number of adults under probation supervision in the United States grew from 1.1 million to 4.3 million. While initially, probation was designed as a system to exact judgment on those deemed worthy of escaping the institutionalization of prison and jail. Research in the juvenile criminal justice system suggests that young black men are less likely to be recommended to rehabilitative programs over prison confinement (Phelps 2018). This study inherently suggests that there are potential biases in the probation system in which race is viewed as a potential risk factor in relation to choosing rehabilitative measures for offenders. in 2010, Minnesota reported an annual probation admission rate of more than 1,200 per 100,000 residents; New York's rate was just 175 per 100,000. According to researchers, disparities in annual probation admission rates can be attributed to the state's racial composition, violent crime rates, political philosophy, and the region (Phelps 2018). This research chronicles the need to close the gap between sentencing inconsistencies from region to region.

A 2020 Florida study determined quantitatively that being black male led to a 14.7% decrease in the possibility of receiving a split sentence when compared to whites and a 26.6% for Hispanics compared to whites (Lehmann and Gomez 2021). Furthermore, supporting the theory that young men of color are perceived to be more cognizant of the crimes they are committing in perpetuity and with a reprobate mind than their white

counterparts. This research does build upon previous research in the field of thought with findings that indicate greater racial disparities in offenders of age 21-29 and offenders over 30 (Lehmann and Gomez 2021). These findings may help future research by formulating studies that determine how certain age demographics are viewed in the eyes of probation/parole officers, judges, and jury members. In addition, these findings are particularly interesting because offenders of ages 18-20 may be considered juveniles in some cases, while in others, they may be prosecuted or convicted as adults (Lehmann and Gomez 2021). This discrepancy should also be studied to determine nuances in sentencing between age groups.

3. Theoretical Model

For this study, a binary regression model is proposed in the form of Bayesian regression using a model proposed by (De la Cruz et al. 2021). This study differs from De la Cruz et al. (2021) because this study does not aim to employ Bayesian regression methods to determine the likelihood of recidivism but rather correlations among variables. The data in this study were coded to binary form (count) data, and because of the lack of continuous form, simple regression methods would be required. In addition, the natural stepwise progression of the dataset is not maximized under simple regression methods (State of Georgia 2021). Also, Bayesian regression allows for efficient and thorough data analysis over a specific spatial distribution.

The sample size of this study includes 25,835 data points collected from the Bureau of Justice Statistics from survey statistics at the Georgia Department of Community Supervision factors influencing prison recidivism. Respondents were provided a survey that asked for responses about their criminal history, employment history, gender, race, and bail amount with current charges. The study's respondents were male and female, with respondents grouped into race as either black or non-black (State of Georgia 2021). The age range of the respondents is 28 to over 48 years old. Furthermore, the design of this study is a mixed-method design to add breadth and depth to the study by employing both quantitative and qualitative measures. In addition, data triangulation favors mixed-method studies, and this study aims to stand as credible, reliable research.

For this research proposal, the dependent variable, prison recidivism, is analyzed to determine factors influencing an offender returning to prison within the first three years of the initial release. The dependent variable is RECIDIVISM WITHIN 3 YEARS OF RELEASE, while the independent variables include BLACK (race), EDUCATION LEVEL, MALE (gender), OFFENSE, SENTENCE PRIOR FELONY CONVICTIONS, PRIOR FELONY ARRESTS, PRIOR MISDEMEANOR CONVICTIONS, PRIOR MISDEMEANOR ARRESTS, PRIOR PAROLE REVOCATIONS, and PRIOR PROBATION REVOCATIONS.

The investigator proposes that the independent variables EDUCATION LEVEL will exhibit an indirect relationship with the dependent variable RECIDIVISM WITHIN 3 YEARS OF RELEASE. On the other hand, the investigator proposes that all other independent variables will display a direct relationship between the dependent variables RECIDIVISM WITHIN 3 YEARS OF RELEASE.

For this study, various regression models were employed in preliminary data analysis. Preliminary logistic regression shows skewed results with more data points versus fewer data points. Therefore, for the purposes of this study, only 100 random data points were used in the analysis. All data was coded to ensure the data could be used to analyze under regression conditions. Previous literature on prison recidivism studies used Bayesian regression models for the data analysis (De la Cruz et al. 2021). Optimally, a Bayesian zero-

inflation count model would fit the data set best because the data is not continuous but relatively discrete.

4. Results of Analysis

4.1. Description of Data (Variables)

The data below is reliable because it came from a previous study on prison recidivism (State of Georgia 2021). However, because the type of Bayesian regression required to analyze this data is beyond the scope of this course, the dataset requires a further understanding of complex regression analysis.

Table 1. Summary Statistics for Dependent and Independent Variables

Variables	Name	N	M	SD	Min.	Max.	Source
Dependent Variable							
Has the released offender been sent back to prison/jail within 3 years of release (True/False)	RECIDIVISM WITHIN 3 YEARS OF RELEASE	25,835	0.42	0.49	0	1	NIJ
Independent Variables							
1 if male, 0 if female	MALE	25,835	0.88	0.33	0	1	NIJ
1 if black, 0 if non-black	BLACK	25,835	0.57	0.49	0	1	NIJ
0 if offender has less than HS diploma, 1 if offender has a HS diploma, 2 if the offender has at least some college	EDUCATION LEVEL	25,835	0.80	0.72	0	2	NIJ
0 if drug offense, 1 if other defense, 2 if property offense, 3 if offense is considered violent	OFFENSE	25,835	1.51	1.23	0	4	NIJ
0 if offender was sentenced to less than 1 year, 1 if offender was sentenced between 1-2 years, 2 if offender was sentenced to 2-3 years, 3 if the offender was sentenced to more than 3 years.	SENTENCE	25,835	1.28	1.12	0	3	NIJ
0 if offender has less than 10 prior	PRIORFELONY ARRESTS	25,835	0.24	0.43	0	1	NIJ

felony arrets, 1 if the offender has more than 10 prior felony arrests							
0 if offender has less than 6 prior misdemeanor arrests, 1 if the offender has more than 6 prior misdemeanor arrests	PRIOR MISDEMEANOR ARRESTS	25,835	0.32	0.47	0	1	NIJ
0 if offender has less than 3 prior felony convictions, 1 if the offender has more than 3 prior felony convictions	PRIOR FELONY CONVICTIONS	25,835	0.27	0.44	0	1	NIJ
0 if the offender has less than 4 prior misdemeanor convictions, 1 if the offender has more than 4 prior misdemeanor convictions	PRIOR MISDEMEANOR CONVICTIONS	25,835	0.23	0.42	0	1	NIJ
True if prisoner has previous parole violation resulting in being sent back to prison, false if prisoner has not violated parole resulting in being sent back to prison	PRIOR PAROLE REVOCATIONS	25,835	0.90	0.29	0	1	NIJ
True if prisoner has previous probation violation resulting in being sent back, false if prisoner has not been sent back to prison because of probation violation	PRIOR PROBATION REVOCATIONS	25,835	0.85	0.35	0	1	NIJ

Note. NIJ = National Institute of Justice.

5. Discussion of Results

Table 1 displays the descriptive statistics for this mixed-methods study's independent and dependent variables. The first column describes each independent and dependent variable within the scope of this investigation. The mean of the dependent variable RECIDIVISM WITHIN 3 YEARS OF RELEASE, is 0.42, which means that an average of 42% of respondents have recidivated within three years of prison or supervised release. The mean of the independent variable MALE is 0.88, which means that, on average majority of the

respondents are skewed towards being male. The independent variable RACE was determined to have a mean of 0.57, meaning that most of the respondents were black as the binary block code was one and non-white was 0. These findings are supported by Lehmann & Gomez, in which black females receive split sentencing at a rate of 3.04% lower than their white female counterparts. In comparison, the overall black-white marginal difference ranges from -7.41% to -5.30% (2021). The mean for EDUCATION LEVEL was around 0.80, meaning most respondents had an education level consummate with almost completing HS referenced by skewing closer to 1. The value 1 is equivalent to the offender completing a high school diploma.

The SENTENCE variable was determined to have a mean of 1.28, this statistic is parallel with the sentence in years, and most respondents were determined to have an average sentence of 1.28 years. When compared to the independent variable OFFENSE, with a mean of 1.51, most offenders were low-level offenders charged with minor offenses and minor property crimes. This is also exhibited in Phelps's research and how low-level offenders were processed, wasting valuable time and resources while causing punitive damage to the offender (2018).

The independent variables, PRIOR FELONY ARRESTS, and PRIOR FELONY CONVICTIONS, were determined to have a mean of 0.24 and 0.27, respectively. This means that most offenders have lower than ten felony arrests and lower than three felony convictions which may point to lower recidivism amongst the offenders. On the other hand, the independent variables PRIOR MISDEMEANOR ARRESTS and PRIOR MISDEMEANOR CONVICTIONS were determined to have a mean of 0.32 and 0.23, respectively. This data contrasts the felony subgroup data in that, on average more offenders were arrested for misdemeanor charges and not convicted for these same charges.

Conversely, on average, more offenders were convicted for felonies than their original arrests. These results differ from Omori and Petersen's study, in which convictions were lower than arrests (2020). The difference in findings may be attributed to the strict judicial philosophy of the Georgia Department of Corrections and harsher punishment for low-level offenders. The standard deviation for the independent variable PRIOR PROBATION REVOCATIONS is 0.06 higher than the standard deviation for the independent variable PRIOR PAROLE REVOCATIONS. These results are supported by a similar study that determined that by 2015, 3.8 million adults were under probation supervision, accounting for 56 percent of the 6.7 million adults under criminal justice control (Phelps 2018). Post analysis, the investigator conducted Bayesian multilevel Poisson regression on this dataset because of the data count data rather than continuous data. Initial results indicate that all the independent variable's mean fall within the 95% confidence interval range.

6. Conclusion and Future Scope

This case study has endeavored to broaden the scope of the research of Phelps (2018) and Lehmann and Gomez (2021) with a dataset from 2021 to determine the correlation between (un)controllable risk factors and sentencing for offenders using a statewide dataset. This research provides a valuable finding of an increase in the number of probation revocations from parole revocations. This finding may suggest an increase in the number of probation violators combined with most low-level offenders suggesting nuances in sentencing for these offenders. Furthermore, community resources should be allocated for the proper rehabilitating of offenders whose offense is consummate with a sentence of supervised release. While supervised release may be seen as a privilege to some, few studies, if any, have failed to study determining factors such as prior convictions and prior arrests. The variables were statistically manipulated in this case study to add to the field of thought

considerations of criminal record when determining where the offended should receive the supervised release. The EDUCATION LEVEL is an interesting variable that should be further studied to determine if offenders with a perceived higher level of education are more aware of the consequences of their actions. In addition, the study should examine the likelihood of the more educated offender committing crimes with a sub-focus on the magnitude of the offense.

The possibilities for this research topic moving forward are endless. There is a plethora of research that has been conducted about prison recidivism both nationally and internationally. In addition, there is plenty of data for those who look to pursue this research topic further. However, this research topic comes with its shortcomings from an ethical and practical perspective. Firstly, a thorough study of how practical the survey administration is must be considered. Due to the mental and physical constraints of being an inmate, inmates have no incentive to complete a survey on prison recidivism accurately and or within a timely manner. Also, this survey's ethical ramifications extend to gaining IRB approval. Change to: The lessons learned from this research assignment are innumerable. On the one hand, the study did not go as anticipated; however, the investigator acquired a deeper understanding of how to conduct a more thorough study in the future. Additionally, data analysis is an important part of the research that may be overlooked for quantitative and mixed methods studies. Data analysis tools like STATA allow researchers to analyze raw and coded data but require specific knowledge of various analysis methods. This research topic is relevant, and future research should look to add original findings to the field of thought.

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