

Introduction

Recidivism, as described by the National Institute of Justice, is “measured by criminal acts that resulted in rearrest, reconviction or return to prison with or without a new sentence during a three-year period following the prisoner’s release.” The national average for recidivism is 68%.

As an ex-offender who, from the age 18-22 years old, was incarcerated in the Georgia Department of Corrections, I am passionate about prison reform. Within the system, I lived in fear for my life from the other inmates and my basic needs were not met. Guards harassed me in hopes of verbal or physical retaliation so they could put me in solitary confinement. If offenders are afraid for their lives, or do not have basic needs met, they will be less likely to focus on improving their lives and critical thinking. In addition to prison reform, I am passionate about the causes of recidivism and the changes that can be made to lower recidivism, while increasing the utility of the offenders once released from prison. This is why I chose my data.

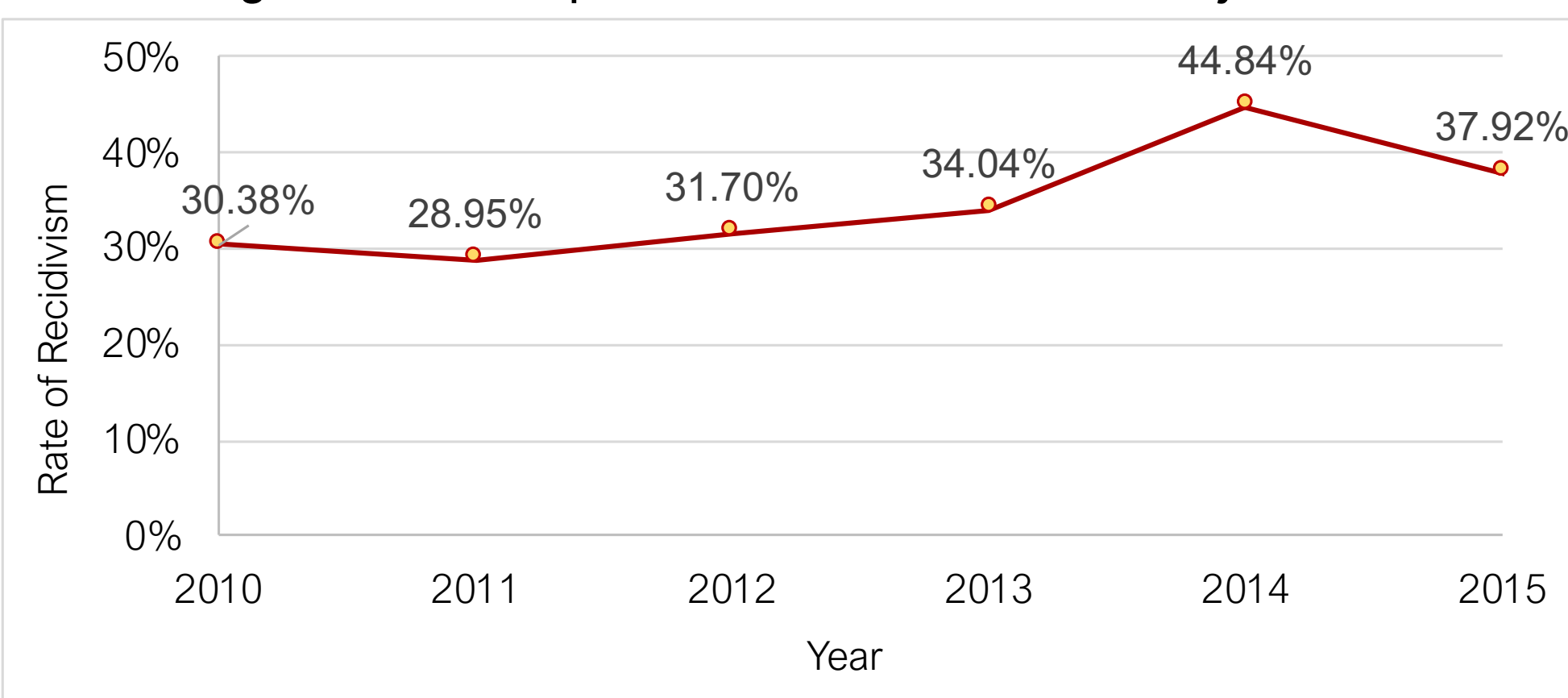
Using the Iowa Department of Corrections dataset on over 26,020 inmates released during 2010-2015, I investigate the associations and interactions between variables that were included in the dataset, as well as the variables I created. Ex-offenders were followed for three-years to determine whether they recidivated, and if they did, how. The variables from the dataset and those that I created are listed in the boxes below:

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> Fiscal Year Released (yrs. 2010-2015) Recidivism Reporting Year (yrs. 2015-2018) Main Supervising District Release Type Race - Ethnicity Age At Release Sex Offense Classification Offense Type Offense Subtype | <ul style="list-style-type: none"> Return to Prison (yes/no) Days to Return (Quantitative) Recidivism Type (New Offense, No Recidivism, Technicality (e.g., failure to report to parole officer or fail drug test)) New Offense Classification New Offense Type New Offense Sub Type Target Population (yes/no) | <ul style="list-style-type: none"> Created Variables Release1 – Parole vs. Not Parole Offense2 – Violent vs. Non-Violent Release2 – Condensing Release Type into End of Sentence, Expiration of Sentence, Parole and Special Sentence Offense Type – Drops level “Other” Offense New Offense Type – Drops level “Other” Offense |
|--|--|---|

Methods

- Mosaic Bar Charts** display the relationships of 1) original Offense Type and New Offense Type, and 2) Age at Release by Recidivism Type.
- Two-way ANOVA** was used to see if there was an interaction effect on 1) Offense Type and Recidivism Type on the Days to Return, and 2) Release2 (Special Sentence, End of Sentence, Expiration of Sentence, and Parole) and Recidivism Type on Days to Return.
- Chi-Square Test of Independence** was used to determine whether a significant relationship exists between 1) original Offense Type and New Offense Type, 2) Age at Release and Recidivism Type, 3) Age at Release and Offense Type, and 4) Offense Type and Recidivism Type.
- Corrplots** were used to graphically display these relationships using a residuals table from a Chi-Square Test.
- Scatterplot** displays recidivism rate by year.

Figure 8: Scatterplot of the Recidivism Rates by Year



Graphics

Table 1: Does Parole Predict Recidivism Type?

Pearson's Chi-squared test

data: tbl
X-squared = 767.64, df = 2, p-value < 0.00000000000000022

	New	No Recidivism	Tech
Not Parole	2.497111	7.800909	-20.864919
Parole	-1.814230	-5.667607	15.159024

Figure 1: Does Parole Predict Recidivism Type?



Figure 3: Mosaic Plot Showing Distribution of Recidivism Type by Age at Release

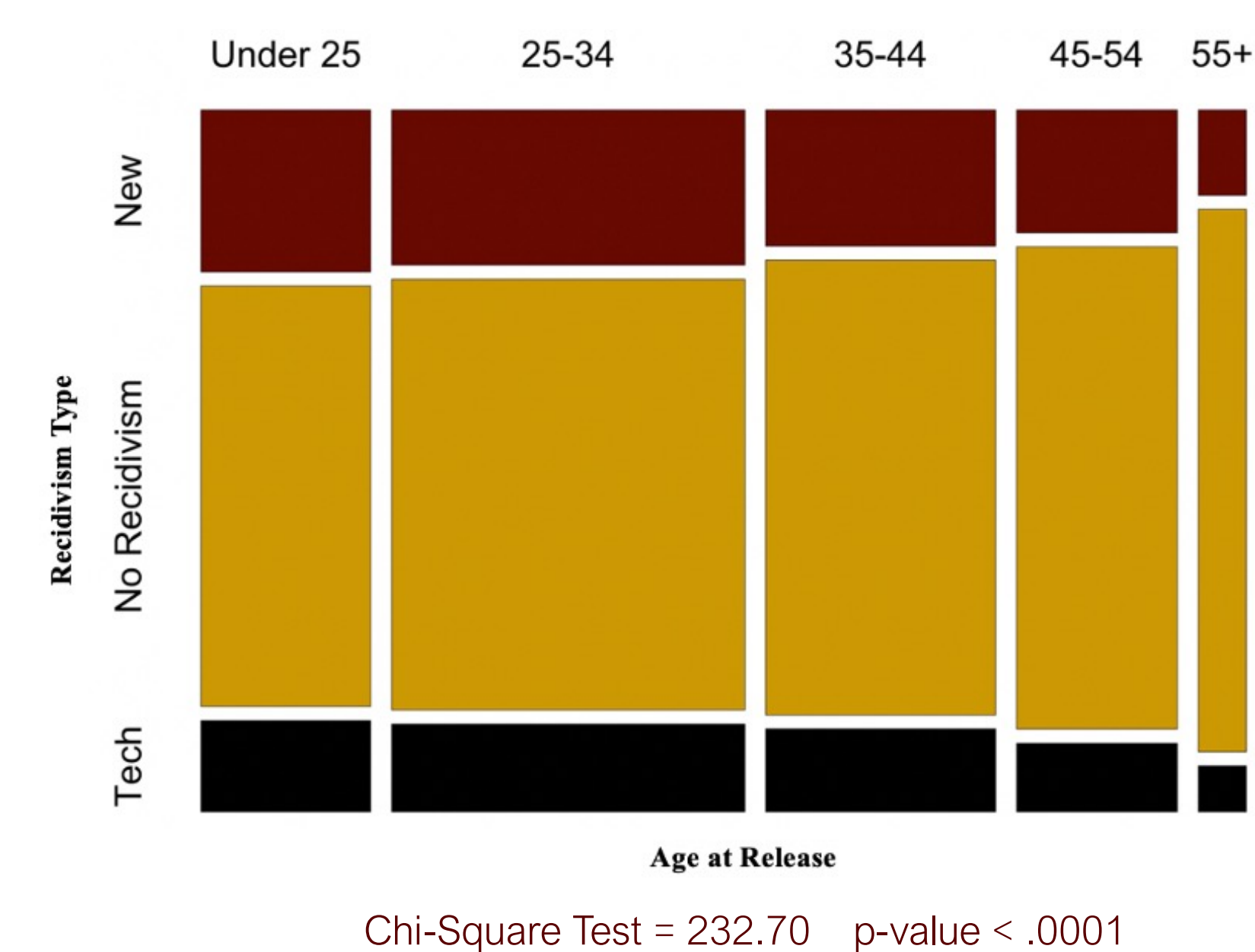


Figure 5: Corrplot of Age at Release by Offense Type

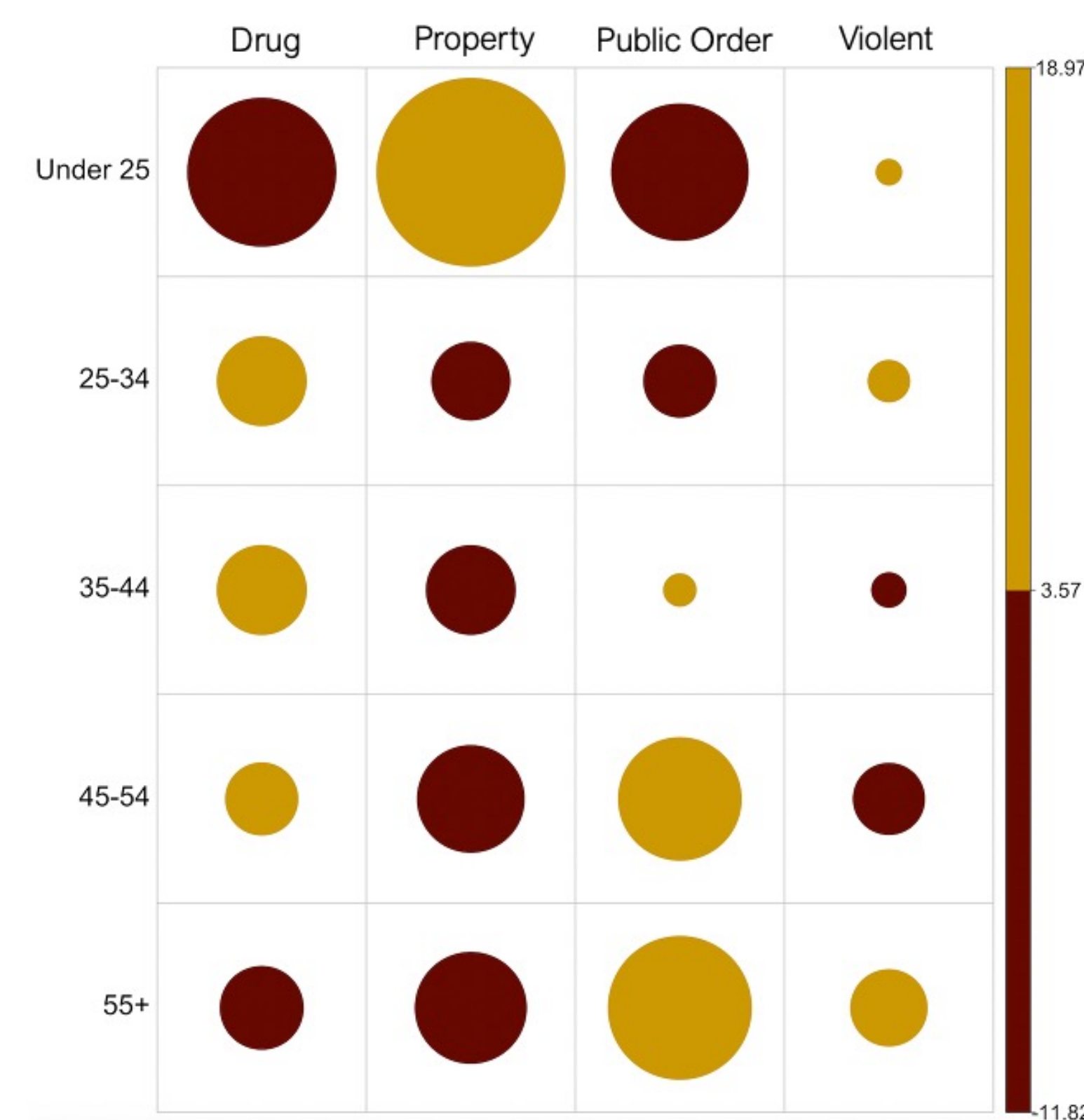


Table 2: Does Release Type Predict Recidivism Type?

Pearson's Chi-squared test

data: tbl
X-squared = 1372.8, df = 6, p-value < 0.00000000000000022

	New	No Recidivism	Tech
End of Sentence	0.8284614	8.8930342	-21.3207460
Expiration of Sentence	4.5620102	4.4017680	-16.0193825
Parole	-1.8021709	-5.4547678	14.7812672
Special Sentence	-1.9485289	-5.8517984	15.8771284

Figure 2: Interaction Plot of Release2 and Recidivism Type by Days to Return

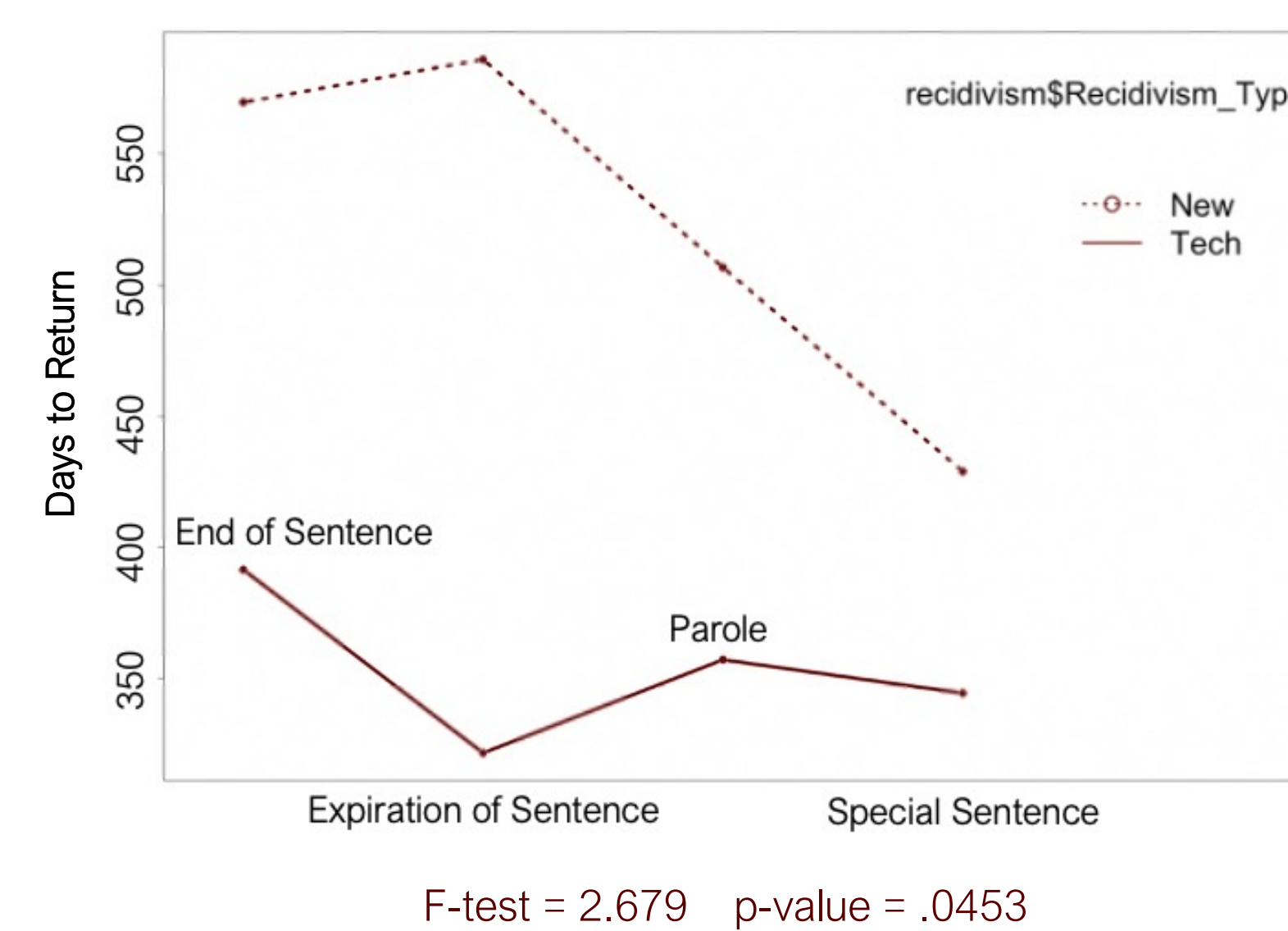


Figure 4: Corrplot of Offense Type by Recidivism Type

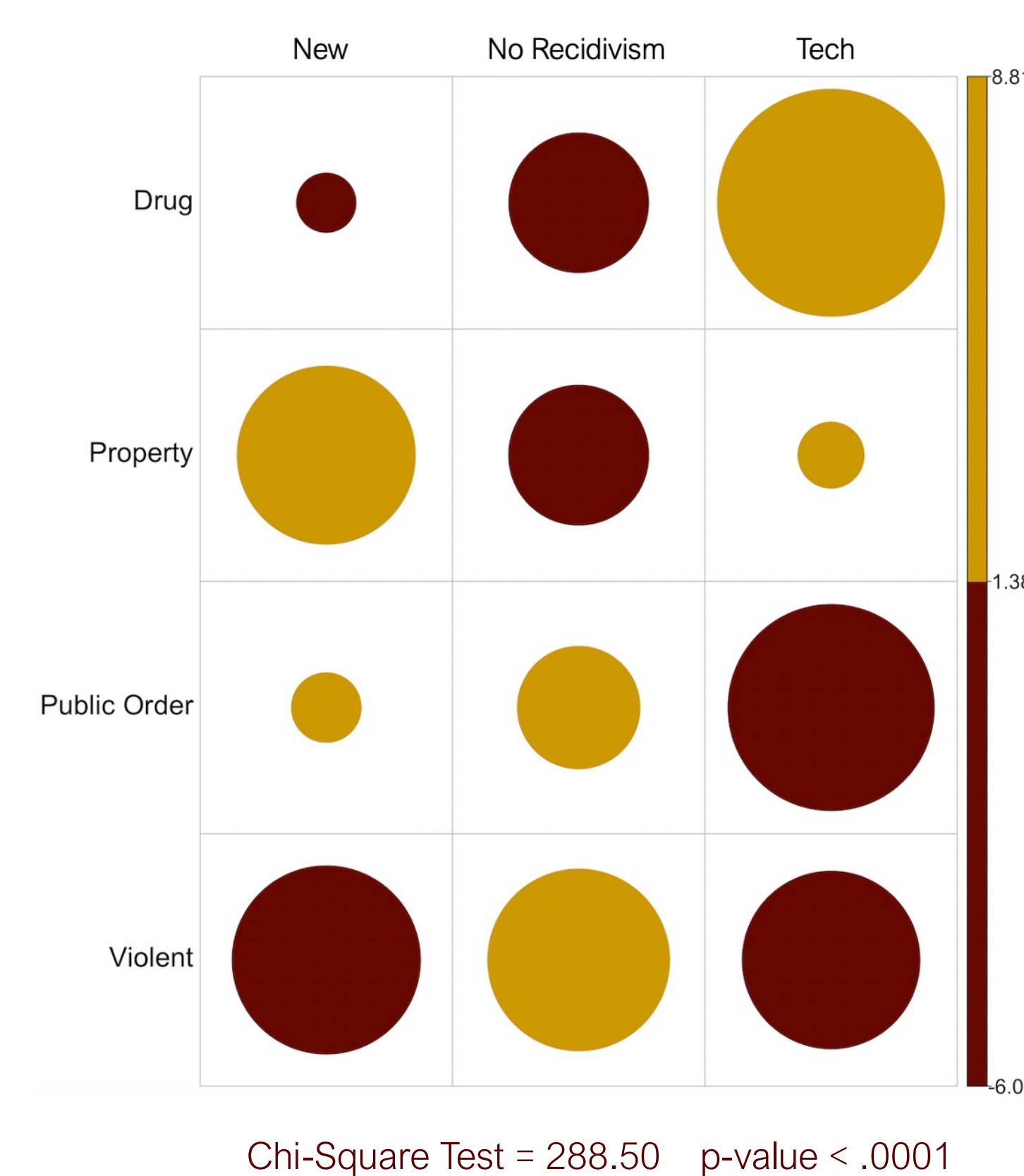
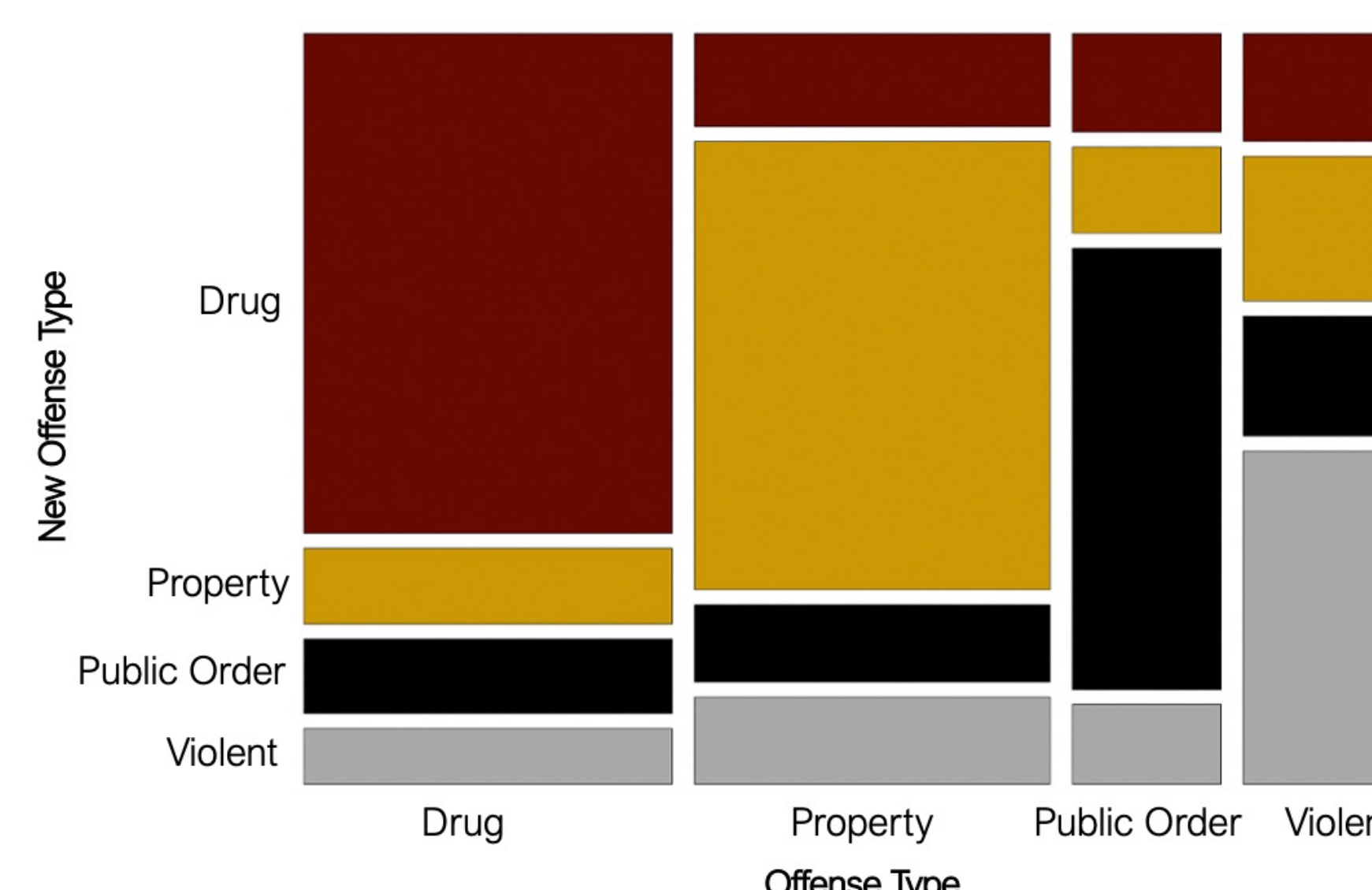


Figure 6: Mosaic Plot Showing Distribution of Original and New Offense



Results

- Table 1 shows a significant relationship between whether a person was released on parole and whether or how they recidivated, with a p-value of less than .0001. Considering the residual plot for the correlation test, all the cells contributed significantly to the Chi-Square test.

- Figure 1 is a post-hoc comparison for Table 1. Parolees are more likely to return on a technical offense and are less likely to recidivate than offenders not released on Parole.

- Table 2 considers the variables separately that were combined to make “Not Parole” in Table 1 and shows a significant relationship as well. End of Sentence (EOS) has some sort of supervision left after their prison, as compared to expiration of sentence (EXS) which has none. EOS is less likely to return on a technicality. EXS is more likely to return for a new crime. Offenders released on Special Sentence, which is used for sexual offenses, are more likely to return for technical offenses.

- Figure 2 focuses on those who recidivate. No matter how offenders are released, technical offenses return an offender faster than a new crime. Within those who return to prison for a technical offense, offenders released at the End of Sentence are slower to recidivate, and for those offenders who recidivate with a new crime, they recidivate faster if they are released on a special sentence.

- Figure 3 shows the younger age groups in the sample (<25 – 34 years old) recidivated more often with new and technical offenses. Box widths vary based on the frequency of the age groups (e.g., over 55+ are a smaller share of the prison population.)

- Figure 4 shows that Drug offenders are more likely to recidivate with a technicality. Property has a higher likelihood to recidivate with a new crime. Violent offenders are less likely to recidivate.

- Figure 5 shows that young offenders are more likely to commit property and violent crimes. Drug offenses are more likely to be committed by the middle age groups ranging from 25 to 54 years old.

- Figure 6 shows that offenders are most likely to come back for the same crime for which they were initially imprisoned.

- Figure 7 shows that technical offenses are sending offenders back to prison faster than returning for a new crime. Public order offenders have the quickest return time to prison.

- Figure 8 is a scatterplot of the recidivism rate by each reported year. The lowest reported year was 2011 but had an upward trend thereafter.

Recommendations

- To reduce recidivism, restructure the penal system into a rehabilitative system.
- Give more support to offenders in and out of prison.
- Give educational opportunities to offenders.
- Improve prison conditions so offenders can focus on improving their lives vs. survival.

Figure 7: Interaction Plot of Offense Type and Recidivism Type by Days to Return

