JUDICIAL COUNCIL OF CALIFORNIA

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HON. TANI G. CANTIL-SAKAUYE
Chief Justice of California
Chair of the Judicial Council

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Chair, Executive and Planning Committee

HON. DAVID M. RUBIN
Chair, Judicial Branch Budget Committee
Chair, Litigation Management Committee

HON. MARLA O. ANDERSON
Chair, Policy Coordination and Liaison Committee

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Chair, Rules and Projects Committee

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MR. MARTIN HOSHINO
Administrative Director, Judicial Council

November 7, 2019

Ms. Diane F. Boyer-Vine
Legislative Counsel
State Capitol, Room 3021
Sacramento, California 95814

Ms. Erika Contreras
Secretary of the Senate
State Capitol, Room 400
Sacramento, California 95814

Mr. E. Dotson Wilson
Chief Clerk of the Assembly
State Capitol, Room 3196
Sacramento, California 95814

Re: *Dispositions of Criminal Cases According to the Race and Ethnicity of the Defendant: 2019 Report to the California Legislature as Required by Penal Code Section* 1170.45

Dear: Ms. Boyer-Vine, Ms. Contreras, and Mr. Wilson:

Attached is the Judicial Council report on criminal dispositions according to the race and ethnicity of the defendant, as required under Penal Code section 1170.45. Since 2001, the Judicial Council has produced this report by analyzing the disposition of felony arrests using data provided by the California Department of Justice.

The 2019 report indicates that legal factors such as prior criminal record and offense type are the primary drivers of disposition outcomes. Demographic factors including age, gender, and race/ethnicity also had a significant impact on conviction, level of conviction offense, and

sentencing. The largest difference among racial/ethnic groups was in the sentencing outcome.

If you have any questions related to this report, please contact Ms. Shelley Curran, Director, Criminal Justice Services, at 415-865-4013 or shelley.curran@jud.ca.gov.

Sincerely,

Martin Hoshino
Administrative Director
Judicial Council

MH/SJ/SC/ts
Attachment
cc: Diane F. Boyer-Vine, Legislative Counsel
Erika Contreras, Secretary of the Senate
E. Dotson Wilson, Chief Clerk of the Assembly
Eric Dang, Policy Consultant, Office of Senate President pro Tempore Toni G. Atkins
Alf Brandt, Senior Counsel, Office of Assembly Speaker Anthony Rendon
Gabrielle Zeps, Policy Consultant, Office of Assembly Speaker Anthony Rendon
Amy Alley, Policy Advisor, Office of Senate President pro Tempore Toni G. Atkins
Anita Lee, Principal Fiscal and Policy Analyst, Legislative Analyst's Office
Tina McGee, Executive Secretary, Legislative Analyst's Office
Margie Estrada, Chief Counsel, Senate Judiciary Committee
Mary Kennedy, Chief Counsel, Senate Public Safety Committee
Eric Csizmar, Consultant, Senate Republican Policy Office
Morgan Branch, Consultant, Senate Republican Policy Office
Alison Merrilees, Chief Counsel, Assembly Judiciary Committee
Gregory Pagan, Chief Counsel, Assembly Public Safety Committee
Lindsay Mitchell, Consultant, Assembly Republican Office of Policy & Budget
Gary Olson, Consultant, Assembly Republican Office of Policy & Budget
Daryl Thomas, Consultant, Assembly Republican Office of Policy & Budget
Amy Leach, Minute Clerk, Office of Assembly Chief Clerk
Members of the Judicial Council's Criminal Law Advisory Committee
Cory T. Jasperson, Director, Governmental Affairs, Judicial Council

Peter Allen, Director, Public Affairs, Judicial Council
Yvette Casillas-Sarcos, Administrative Coordinator, Governmental Affairs, Judicial Council

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MR. MARTIN HOSHINO
Administrative Director, Judicial Council

Report title: *Disposition of Criminal Cases According to the Race and Ethnicity of the Defendant: 2019 Report to the California Legislature as Required by Penal Code Section 1170.45*

Statutory citation: Penal Code section 1170.45

Date of report: October 17, 2019

The Judicial Council has submitted a report to the Legislature in accordance with Penal Code section 1170.45, which requires an annual report on the statewide disposition of criminal cases according to defendants' race and ethnicity.

The following summary of the report is provided under the requirements of Government Code section 9795.

The Judicial Council's Criminal Justice Services office analyzed felony arrest disposition data from 2018 for this report.

This report presents findings based on three case disposition outcome measures: conviction rates, conviction offense level, and the type of sentence. This report describes patterns seen in these disposition outcomes by race/ethnicity, both overall and when comparing defendants who are similarly situated in terms of available legal and demographic factors.

Although legal factors such as prior criminal record were found to primarily drive disposition outcomes, race/ethnicity also had a significant impact on conviction, level of conviction offense, and sentencing. The largest difference was found in sentencing: relative to similarly situated white individuals, Hispanic and black individuals were respectively 13.8 percent and 12.3 percent more likely to receive a prison sentence.

The full report can be accessed here: *www.courts.ca.gov/7466.htm*

A printed copy of the report may be obtained by calling 415-865-4559.

Disposition of Criminal Cases According to the Race and Ethnicity of the Defendant

2019 REPORT TO THE CALIFORNIA LEGISLATURE AS REQUIRED BY PENAL CODE SECTION 1170.45

JUDICIAL COUNCIL OF CALIFORNIA

Judicial Council of California
Operations and Programs Division
Criminal Justice Services
455 Golden Gate Avenue
San Francisco, California 94102-3688

This report has been prepared and submitted to the California Legislature as required by Penal Code section 1170.45.

This report is also available on the California Courts website at *www.courts.ca.gov*.

JUDICIAL COUNCIL OF CALIFORNIA

Hon. Tani G. Cantil-Sakauye
Chief Justice of California and
Chair of the Judicial Council

Martin Hoshino
Administrative Director
Judicial Council

OPERATIONS & PROGRAMS DIVISION
Robert Oyung
Chief Operating Officer

CRIMINAL JUSTICE SERVICES
Shelley Curran
Director

Francine Byrne
Manager, Program Administration and Evaluation

Sal Lempert
Primary Author of Report

Introduction

Background

This report examines the disposition of criminal cases across racial/ethnic groups as required by Penal Code section 1170.45.[1] In order to identify patterns by race/ethnicity, it also analyzes the impact of age, gender, and legal predictors—including criminal history and type of arrest—on disposition outcomes. This report fulfills the legislative mandate by identifying criminal case disposition outcomes broken out by race/ethnicity based on three distinct outcome measures: conviction rates, level of conviction offense (i.e., felony versus misdemeanor), and whether a prison or lesser sentence was imposed.

Source of Data

The data used in this report come from the Offender-Based Transaction Statistics (OBTS) data set, which is a compilation of data on adult felony arrest dispositions produced annually by the California Department of Justice (DOJ). The DOJ extracts information from their Automated Criminal History System, which is comprised of information reported to the DOJ by law enforcement agencies, prosecutors, and courts through fingerprint cards (FD-249) and *Adult Disposition of Arrest and Court Action* (JUS 8715) forms, on paper or electronically. The OBTS data track the processing of felony arrests from the point of entry into the criminal justice system to the point of final disposition. This data set only contains data for adult felony arrests with final dispositions in 2018. Arrests that occurred before 2018 are included if their final disposition date was in 2018.[2]

Figure 1 shows the number of dispositions at distinct case processing stages for all OBTS felony arrest dispositions in 2018. The entry point for cases analyzed in this report is a felony arrest. OBTS recorded 215,230 adult felony arrests with final dispositions in calendar year 2018. Of OBTS felony arrest cases, 22 percent were dropped by law enforcement or prosecution before being filed with the court. An arresting agency or the prosecutor may dispose of the case for multiple reasons including insufficient or inadmissible evidence, lack of probable cause, or absence of a witness. The remaining 78 percent (168,637) of cases proceeded to a court disposition. The race/ethnicity breakdown for filed cases closely resembles that of all felony arrest cases. This report focuses on felony defendants with final court dispositions, thus all data and analyses presented in the remainder of the report include only filed cases.[3]

Analysis

This report presents findings based on three case disposition outcome measures:

[1] See Appendix A.

[2] OBTS 2017 Technical Manual.

[3] For summary statistics of all felony defendants, see Appendix B, Table B1.

- Conviction rates—whether a case results in a conviction or alternatively in a dismissal or acquittal;
- Conviction offense level—whether the case resulted in a felony or misdemeanor conviction; and
- Type of sentence—whether the defendant was sentenced to prison or received a lesser sentence.[4]

For each outcome, descriptive information is presented on patterns seen in the data. In addition to looking at the breakdown of the data by race/ethnicity, several other legal and demographic features that may relate to outcomes are also described and analyzed, including gender, age, prior criminal history, and features of the current arrest offense or offenses. Next, statistical testing is used to determine whether race/ethnicity plays a role in predicting disposition outcomes above and beyond differences across groups in these other relevant legal and demographic factors (see Appendix B for detail).

Limitations

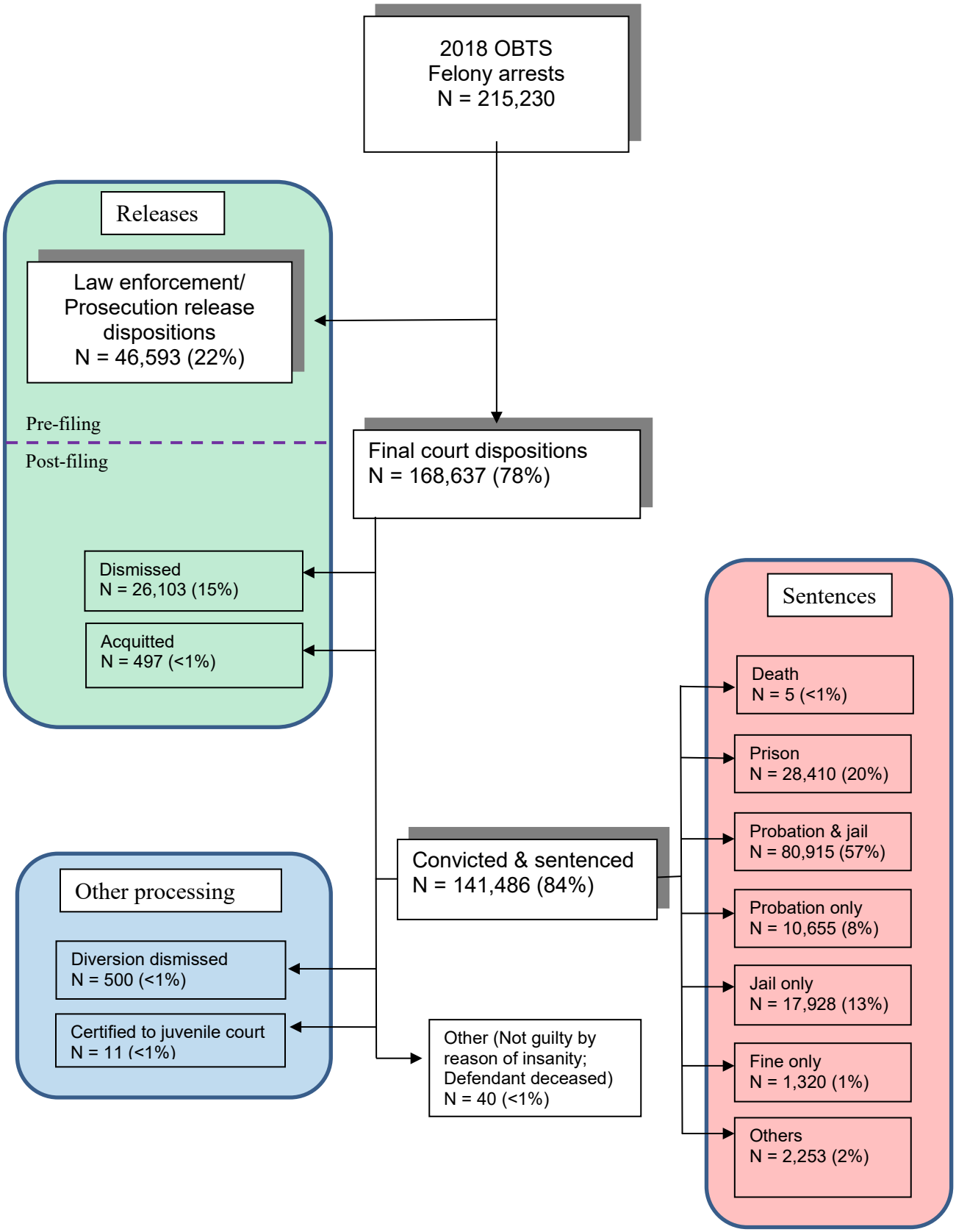
Differences in the disposition of misdemeanor arrests by race/ethnicity are not addressed in this report. OBTS is not a complete record of all felony arrests in the state, but rather the subset of those with final dispositions in 2018 reported to the DOJ—estimated by the Criminal Justice Statistics Center to be about 65 to 75 percent of all felony arrests disposed in the 2018 calendar year. The OBTS data focus on the most serious arrest charge, without providing additional detail on secondary arrest offenses. OBTS sentencing data contain the category of sentences (e.g., prison or jail), but do not include the length of sentence. Similarly, prior criminal records are grouped into broad categories. An analysis of more detailed data would allow for the control of a wider array of factors that may account for more of the differences in outcome based on race and ethnicity.[5]

None of the results found in this report can be taken as causal evidence of discrimination or bias at any point in the system. The analyses presented here are correlational, and any correlations between race and outcomes could be the result of more detailed case information not contained in OBTS. Additionally, each outcome discussed is reached through the interaction of many actors and structural elements within the system, and so cannot be attributed to any single actor. It is important to note that approximately 97 percent of convictions are a result of plea bargain agreements in which both the prosecutor and defense agree to the terms prior to judicial action.

[4] Nonprison sentences in OBTS are referred to as miscellaneous sentences and include jail, probation, combined probation and jail, and fines.

[5] Examples of more detailed data include information on prior offense type, warrants, and prior probation or parole violations.

Figure 1: Numbers of Dispositions at Distinct Case Processing Stages in OBTS (2018)



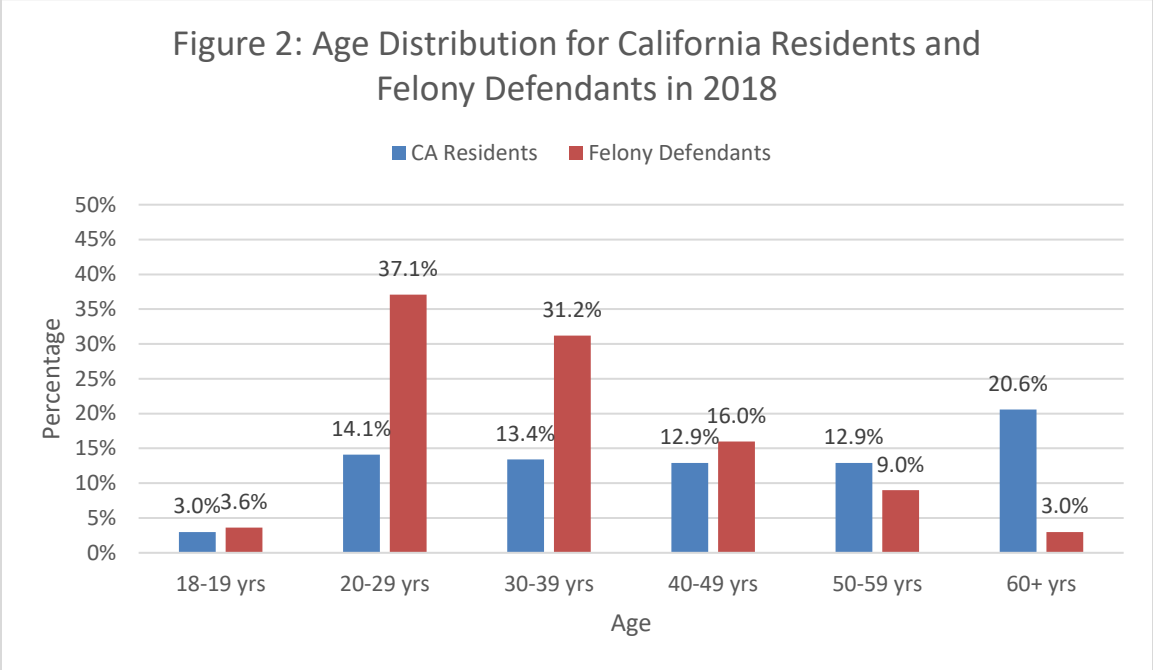
Demographics of Felony Defendants

Gender

Males made up 81.1 percent of the defendants reported to have received a court disposition in 2018; females made up 18.9 percent. Compared to the state as a whole, in which males are 49.7 percent of the population,[6] felony defendants are disproportionately male (81.1 percent).

Age

Relative to the state's population, felony defendants are more concentrated between the ages of 20–39 years of age (figure 2).[7] Compared to the California population, defendants ages 20–29 (37.1 percent) and 30–39 (31.2 percent) were arrested for felony-level offenses at disproportionately high rates, those ages 40–49 (16 percent) at somewhat higher rates, and those ages 18-19 (3.6 percent) at slightly higher rates.[8] Defendants ages 60 or older (3.0 percent) were arrested at disproportionately lower rates relative to the state's population, and those ages 50–59 (9.0 percent) at somewhat lower rates.[9]



[6] Data on gender/sex are based on the California Department of Finance's total state population estimate for 2018, *www.dof.ca.gov/Forecasting/Demographics/Projections/*.

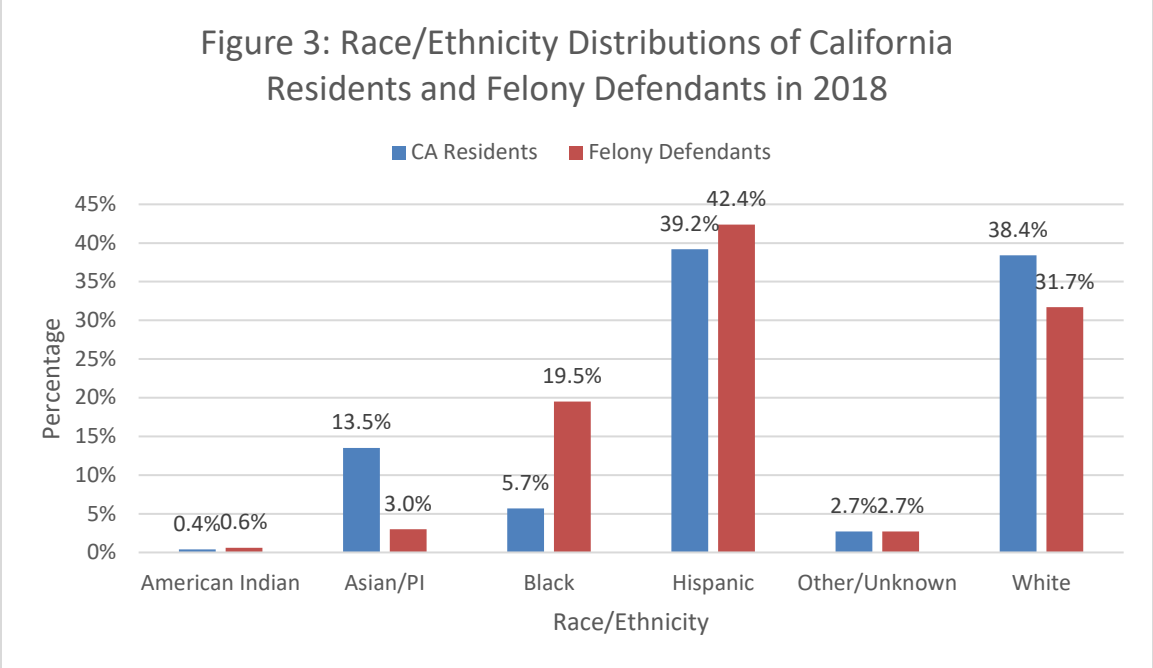
[7] The OBTS file contains the date of birth and date of disposition for each felony defendant, from which we calculate "age at the time of disposition." This information was classified into the following age categories: ages 18–19, 20–29, 30–39, 40–49, 50–59, and 60 or older.

[8] OBTS also includes 34 defendants (0.02 percent) under the age of 18 who were adjudicated in the adult criminal court, due to small numbers these individuals are not shown in Figure 2.

[9] Age data were drawn from the California Department of Finance's total state population estimate for 2018, *www.dof.ca.gov/Forecasting/Demographics/Projections/*.

Race/ethnicity

As with age and gender, the racial and ethnic makeup of felony defendants differs from the general population (figure 3). Black individuals make up 19.5 percent of felony defendants and 5.7 percent of the total California population. Asian/Pacific Islander (PI) individuals make up 3 percent of felony defendants compared to 13.5 percent of the general population. Hispanic individuals make up 42.4 percent of felony defendants and 39.2 percent of the overall state population, and white individuals represent 31.7 percent of felony defendants and 38.4 percent of the general population[10].



Prior criminal record

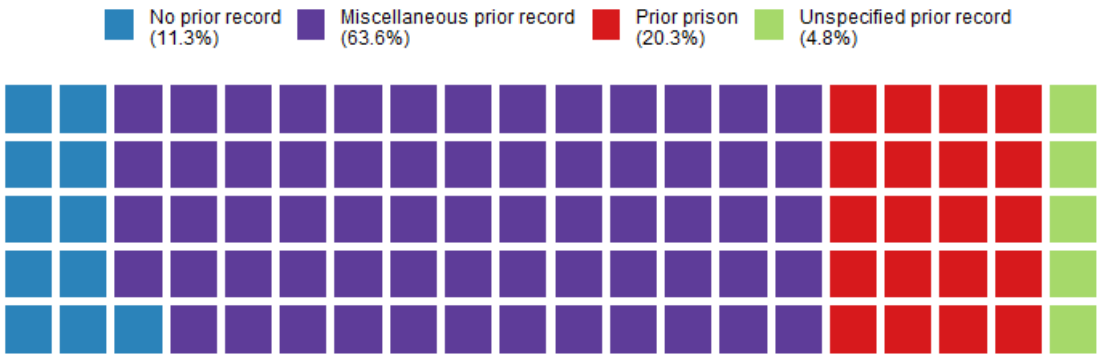
The vast majority of felony cases in the data set involved defendants who already had a criminal record (figure 4). Only 11.3 percent of felony defendants had no identified prior criminal record. Over 20 percent had one or more identified prior prison commitments, while the majority of defendants (63.6 percent) had prior criminal history not involving prison commitment, which OBTS labels as a "miscellaneous" prior record.[11] A small number of defendants (4.8 percent) had an unspecified prior record.[12]

[10] Race/ethnicity data were drawn from the California Department of Finance's total state population estimate for 2018, *www.dof.ca.gov/Forecasting/Demographics/Projections/*. Due to low numbers in American Indian and Other/Unknown categories, these groups were not be included in the main analyses.

[11] OBTS contains limited information on prior criminal record; no further distinctions are available in the "miscellaneous prior record" category.

[12] This category, according to the OBTS technical manual and denoted by a blank for this field, represents a "lengthy record (prior to 1982)." This category was not looked at in the analyses due to the lack of specificity, as it is unknown whether these criminal records involve a prior prison commitment.

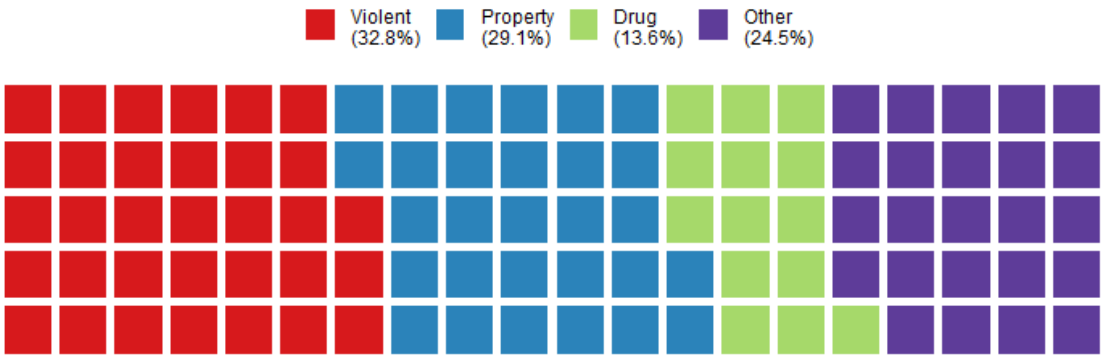
Figure 4: Prior Record of Felony Defendants



Arrest offense type

The largest proportion of felony defendants in OBTS were arrested for violent crimes (32.8 percent), followed by defendants arrested for property offenses (29.1 percent) and other felony offenses (24.5 percent). Defendants arrested for drug offenses (13.6 percent) comprised the smallest group in the OBTS file for calendar year 2018.[13]

Figure 5: Arrest Offense Type for Felony Defendants



[13] Categories are based on those used by the Bureau of Justice Statistics. Violent offenses include homicide, rape, robbery, and assault. Property offenses include burglary, theft, forgery, and arson. Drug offenses include all felony-level drug offenses. Other felony offenses include all weapons offenses and a range of other offenses such as vandalism and driving under the influence of drugs or alcohol.

Outcomes

This report presents findings based on three case outcomes:

- Conviction rates—whether a case results in a conviction or alternatively in a dismissal or acquittal;
- Conviction offense level—whether the case resulted in a felony or misdemeanor conviction; and
- Type of sentence—whether the defendant was sentenced to prison or received a lesser sentence.

The construction of each outcome from the OBTS data set is described briefly below.

Conviction Versus Acquittal/Dismissal

Once a case has been filed with the court, the case may result in either a conviction or alternatively in a dismissal or acquittal.[14] Dismissal and acquittal are combined into a single category in the following analyses because there are too few acquittals (497 acquittals versus 26,103 dismissals) to analyze on their own. The vast majority of convictions (97 percent for felony cases) are achieved by plea bargaining deals that are negotiated between the prosecution and defense prior to judicial decisionmaking.[15]

Felony Versus Misdemeanor Conviction

Although all arrest charges in the OBTS data set are felony-level arrests, a reduction in charges may occur by plea deal or dismissal of the primary felony charge, resulting in conviction on a secondary misdemeanor charge or an infraction.16 Overall, felony convictions made up 56.7 percent and misdemeanors 43.3 percent of convictions.17 In this report, the term "felony conviction rate" is used to refer to the percentage of defendants whose conviction was for a felony-level offense as opposed to a lesser offense.

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[14] Other possible outcomes are diversion dismissed (n = 500) or certified to juvenile court (n = 11; this occurs when the case is filed as an adult case but it is later found that the defendant was in fact a juvenile at the time of the alleged offense), which have been removed from analysis because the numbers are too small to analyze separately and they do not conceptually fit with either conviction or dismissal/acquittal.

[15] OBTS does not have a data field for whether a case was resolved by plea or by trial, so it is impossible to analyze these outcomes separately. The percentage of convictions achieved by plea deal were calculated from Judicial Council of California, *2018 Court Statistics Report: Statewide Caseload Trends 2007–2008 Through 2016–2017*, www.courts.ca.gov/documents/2018-Court-Statistics-Report.pdf. This is comparable to the proportion of convictions achieved by plea found in other states (95 percent of felony convictions; data on all convictions for felony cases not available). Bureau of Justice Statistics, *State Court Sentencing of Convicted Felons 2004*, www.bjs.gov/content/pub/html/scscf04/tables/scs04401tab.cfm.

[16] The small number of cases in this data set resulting in infraction conviction (255) were included in the misdemeanor category because there were too few to analyze infractions as its own category.

[17] Not including 11,376 cases with unknown conviction offense level.

Prison Versus Intermediate Sentence

Sentencing is the final disposition outcome analyzed in this report.[18] Sentences vary widely, and OBTS only provides the category of sentence without specifying sentence length. This report divides sentences into two categories: prison or intermediate sentence. Prison sentences are on average longer, and therefore are considered the more severe sentencing category in this report. All non-prison sentencing options are categorized in this report as "intermediate sentences."[19]

Because convictions below the felony level are categorically ineligible for prison sentences, analyses of prison versus intermediate sentences are restricted to defendants convicted of a felony. Further restriction to prison-eligible felony crimes is challenging—although criminal justice realignment shifted sentencing such that in some cases sentences that previously would have been served in state prison are now served in county jail, the many exceptions based on criminal history and other factors make it difficult to achieve categorical separation among felonies.[20] Therefore, all felony-level convictions are included in the analyses. The "prison sentence rate" discussed in the following analyses represents the proportion of all felony-level convictions receiving a prison sentence.

Observed Disposition Outcomes

Prior Criminal Record

Prior criminal record has significant impact on whether a defendant is convicted, receives a felony or misdemeanor conviction, and, if convicted of a felony, receives a prison sentence. Figure 6 arrays each outcome (rows) by prior criminal record, arrest offense and race/ethnicity (columns). The first column shows that the effect of prior criminal history is consistent for each outcome. For example, the conviction rate ranges from a low of 78.7 percent for those with no prior record to a high of 86.7 percent for those with a prior prison record. Similarly, the share of those convicted of a felony versus a misdemeanor ranges from 41.4 percent for those with no prior record to 70.5 percent for those with a prior prison record. And finally, the share of convicted felons sentenced to prison was 21.9 percent for those without a prior prison record and 61.4 percent for those with a prior prison record.

Arrest Offense

Arrest offense type also has significant impact on whether a defendant is convicted, receives a felony or misdemeanor conviction, and, if convicted of a felony, receives a

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[18] Plea deals represent approximately 97 percent of convictions in felony cases in California and may impact sentencing outcomes. See *2018 Court Statistics Report, www.courts.ca.gov/documents/2018-Court-Statistics-Report.pdf*.

[19] Death sentences (5) and sentences to the Department of Juvenile Justice (2) were very scarce, and therefore were not included in the analyses. Sentences only specified as "Other" (2,251) were also removed due to lack of specificity. Other sentencing options in OBTS include jail, probation, combined probation and jail, and fines.

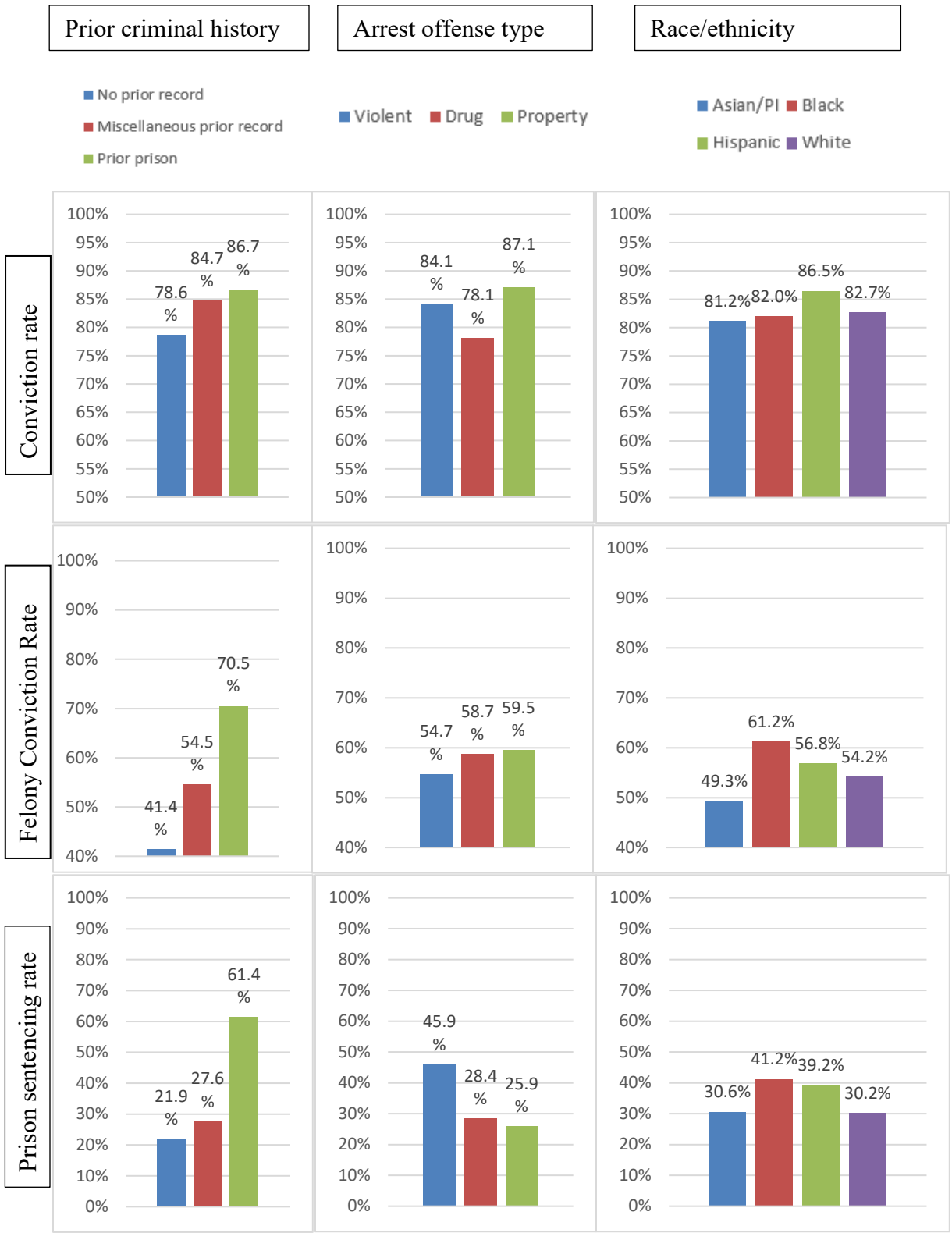
[20] Assem. Bill 109 ([Comm. on Budget], Stats. 2011, ch. 15).

prison sentence. However, the pattern varies based on the outcome. For example, figure 6 (second column) illustrates the percentage of defendants convicted versus dismissed/acquitted by arrest offense type. The highest conviction rates (row 1) are for property offenses (87.1 percent), and the lowest for drug offenses (78.1 percent). The felony conviction rate (row 2) for violent crime is 54.7 percent, while for drug crimes the felony conviction rate is 58.7 percent and property crimes 59.5 percent. Prison sentencing rates (row 3) range from 25.9 percent for property crimes to 45.9 percent for violent crimes.

Race/Ethnicity

The percentage of individuals convicted versus dismissed/acquitted by race/ethnicity without taking any other factors into account is also presented in figure 6 (third column). For all racial/ethnic groups, conviction rates are high (81–87 percent). They range from a low of 81.2 percent for the Asian/PI group to a high of 86.5 percent for the Hispanic group. Felony conviction rates range from a low of 50.7 percent for the Asian/PI group, to 56.8 percent for the Hispanic group, and to a high of 61.2 percent for the black group. The percentage of individuals who received a sentence to prison as opposed to an intermediate sentence shows that prison sentences were lower for white (30.2 percent) and Asian/PI (30.6 percent) groups, and higher for black (41.2 percent) and Hispanic (39.2 percent) groups.

Figure 6: Observed Outcomes by Prior Criminal History, Arrest Offense Type, and Race/Ethnicity



Note: These graphs show the overall percentages, not controlling for other factors.

Outcomes for Similarly Situated Defendants

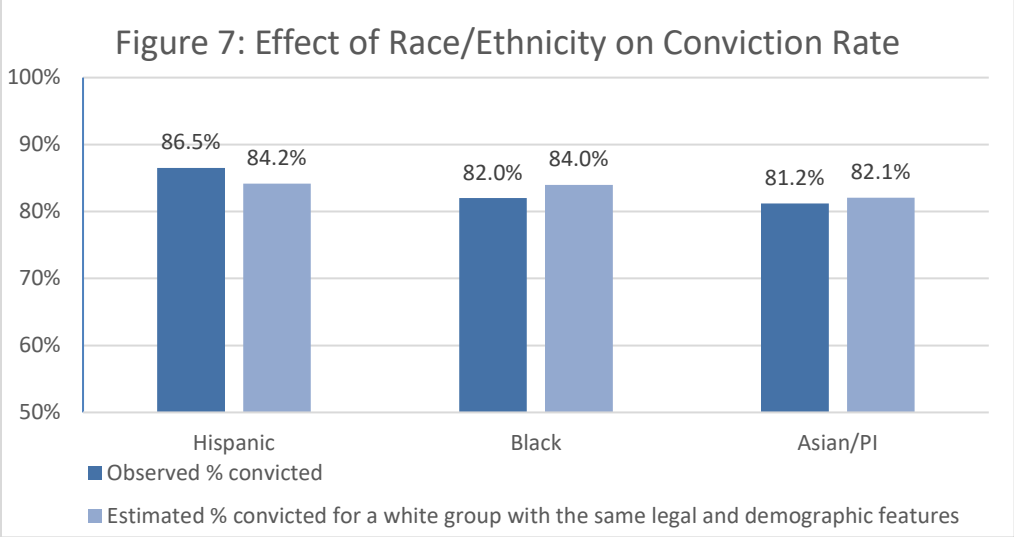
The last column in figure 6 illustrates that Hispanic defendants have conviction rates of 86.5 percent, compared to white defendants at 82.7 percent, black defendants at 82 percent, and Asian/PI defendants at 81.2 percent. Asian/PI (50.7 percent) and white defendants (54.2 percent) have a lower rate of felony convictions relative to black (61.2 percent) and Hispanic defendants (56.8 percent). When convicted of a felony, black (41.2 percent) and Hispanic defendants (39.2 percent) receive prison sentences more often than white (30.2 percent) and Asian/PI defendants (30.6). However, the differences between racial/ethnic groups in these outcomes are confounded by the differences between groups in criminal history, features of the current offense or offenses, gender, and age. For racial/ethnic differences in these characteristics, see Appendix B, table B1. The following section corrects for these differences in order to compare outcomes for defendants who are similarly situated in terms of age, gender, and legal factors available through OBTS.[21]

Conviction Rates for Similarly Situated Defendants by Race/Ethnicity

Using statistical methods that control for the confounding effects of differences between groups in age, gender, and legal factors, Hispanic individuals are estimated to be 2.8 percent more likely to receive a conviction than white defendants. If this estimation had been 0 percent instead of 2.8 percent, this would mean that age, gender, and legal factors predicted all of the differences in conviction rates by race/ethnicity. Applying the 2.8 percent difference to the observed conviction rate of Hispanic defendants of 86.5 percent, this would be equivalent to a conviction rate of 84.2 percent for white defendants with the same age, gender, and legal makeup as the Hispanic group (see figure 7).

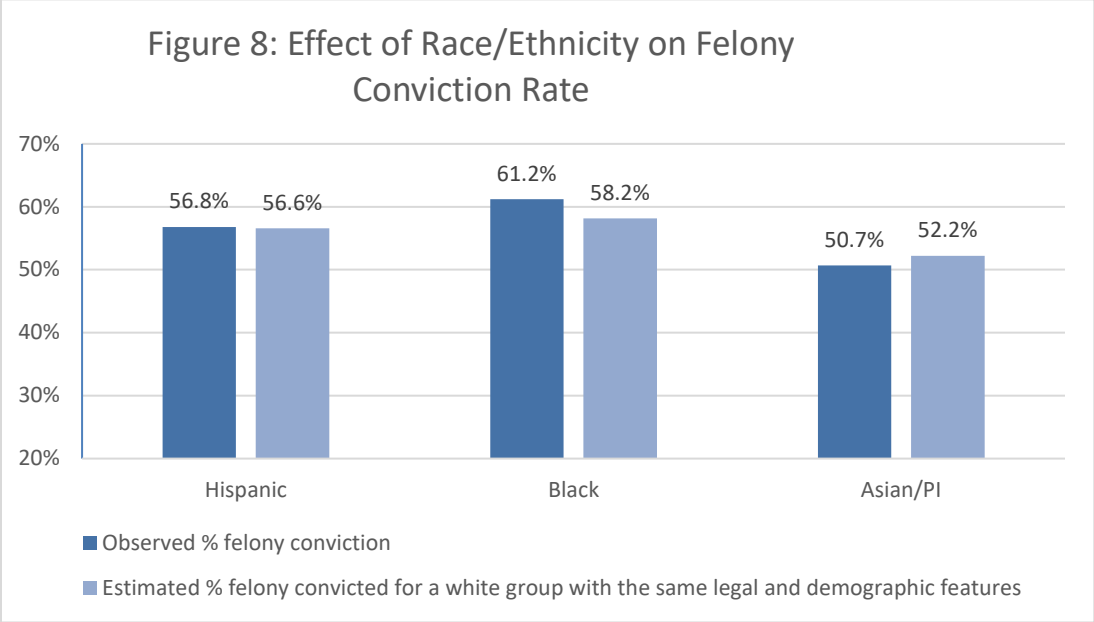
The statistical method estimated that conviction was 2.3 percent less likely for black individuals as compared to whites, and 1.0 percent less likely for Asian/PI individuals as compared to whites. The difference for Asian/PI individuals was not statistically significant. Using the same technique described above, figure 7 shows the differences in observed conviction rates and estimated conviction rates for similarly situated white individuals.

[21] Defendants may not be similarly situated based on other unobserved variables; "similarly situated" is an approximation based on available data.



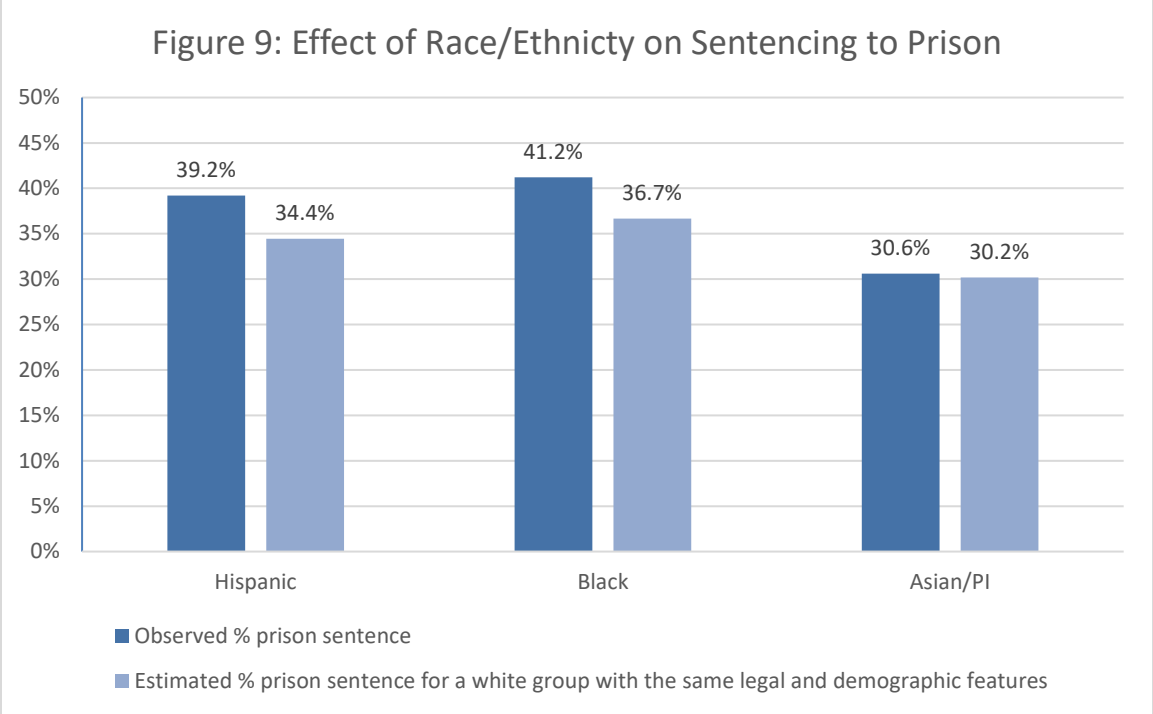
Felony Versus Misdemeanor Conviction Rate for Similarly Situated Defendants by Race/Ethnicity

The effect of race/ethnicity on felony conviction rate was estimated using the same technique described above. The statistical method estimated that felony conviction was 5.2 percent more likely for black individuals as compared to whites when controlling for age, gender, and legal factors. Hispanic individuals were estimated to be 0.4 percent more likely to receive a felony conviction and Asian/PI individuals 2.9 percent less likely as compared to whites. The differences for Hispanic and Asian/PI individuals were not statistically significant. Figure 8 shows the differences in observed felony conviction rates and estimated felony conviction rates for similarly situated white individuals.



Sentencing for Similarly Situated Individuals by Race/Ethnicity

Again, using the same technique described above, figure 9 shows the differences in observed prison sentencing rates and estimated prison sentencing rates for similarly situated white individuals. The statistical method estimated that prison sentencing was 13.8 percent more likely for Hispanic individuals and 12.3 percent more likely for black individuals as compared to whites when controlling for age, gender, and legal factors. Asian/PI individuals were estimated to be 1.4 percent more likely to receive a prison sentence as compared to whites, but this difference was not statistically significant.



Summary of Findings

Legal factors such as the type of offense and the defendant's prior criminal record exerted the strongest influence on conviction rate, felony versus misdemeanor conviction, and sentencing to prison.[22] More serious offenses and prior records were both associated with higher conviction rates, more felony versus misdemeanor convictions, and more prison sentences.

After controlling for legal factors, the study found that defendant characteristics such as race/ethnicity, gender, and age are still significantly associated with rates of conviction, rates of felony versus misdemeanor convictions, and imposition of a prison sentence versus an intermediate sentence.

After controlling for all available legal and demographic factors:

- Relative to black and white defendants, Hispanic defendants were more likely to be convicted rather than be acquitted or have their cases dismissed;
- White defendants were less likely to receive a felony versus a misdemeanor conviction when compared to black defendants; and
- Relative to white individuals, black and Hispanic individuals convicted of a felony were more likely to receive a sentence to prison rather than an intermediate sentence.

These findings are consistent with prior years' reports.[23]

[22] As determined by a comparison of McFadden pseudo R-squared values which estimate the relative contribution of each predictor to the overall predictive power of the statistical model. See Appendix B for more detail.

[23] See Appendix C.

Appendix A

Penal Code section 1170.45:

> The Judicial Council shall collect data on criminal cases statewide relating to the disposition of those cases according to the race and ethnicity of the defendant, and report annually thereon to the Legislature beginning no later than January 1, 1999. It is the intent of the Legislature to appropriate funds to the Judicial Council for this purpose.

Appendix B

This appendix contains a table (table B1) of the characteristics of felony defendants in the OBTS database and the regression results referred to in this report. Regression is a statistical process of determining the relationship between an outcome of interest and a set of predictors. The mathematical equation that is used to determine this relationship contains the predictors being examined and is referred to as a "model."

For conviction rate and level of conviction offense, the items included in the model were:

- Prior criminal record;
- Arrest offense type;
- Number of arrest charges;
- Age;
- Gender;
- Race; and
- DOJ offense hierarchy value for arrest offense.

For sentencing, the items included in the model were:

- Prior criminal record;
- Conviction offense type;
- Number of convictions;
- Age;
- Gender;
- Race; and
- DOJ offense hierarchy value for conviction offense.

Poisson regression was used with robust standard errors. Poisson regression is a specific type of regression ideal for estimating relative risk (the ratio of the probability of an outcome for one group over another), and robust standard errors ensure that the significance of the results can be accurately assessed.

A likelihood ratio test was used to compare the model strength for each model with and without race/ethnicity. These tests demonstrate that a model that includes race as a predictor is significantly more predictive than a model without race.[24]

[24] For each outcome $p < 0.0001$, indicating it is extremely unlikely to observe this difference by chance if the two models were equally predictive.

Table B1: Characteristics of felony defendants

	Total %	Asian/PI %	Black %	Hispanic %	White %
All defendants	--	3.1	20.2	44.0	32.8
Outcome Variables					
Case Outcome					
Acquittal or Dismissal	15.8	18.8	18.0	13.5	17.3
Conviction	84.2	81.2	82.0	86.5	82.7
Conviction type (among convictions)					
Misdemeanor	43.4	49.3	38.8	43.2	45.8
Felony	56.6	50.7	61.2	56.8	54.2
Sentence Outcome (among felonies)					
Intermediate Sentence	63.4	69.4	58.8	60.8	69.8
Prison	36.6	30.6	41.2	39.2	30.2
Situational Variables					
Arrest Offense Type					
Violent	32.8	30.3	38.9	33.5	28.4
Property	29.1	29.8	27.0	27.7	32.1
Drug	13.6	18.3	10.3	13.2	15.8
Other	24.5	21.6	23.8	25.6	23.7
Arrest Offense DOJ Hierarchy[*]					
Average hierarchy value	0	-0.0188	0.0957	0.0237	-0.0858
Prior Record					
No prior record	11.3	26.3	9.0	11.6	10.8
Miscellaneous	63.6	56.2	58.2	65.3	65.4
Prior Prison	20.3	14.8	25.8	19.6	18.5
Lengthy record (before 1982)	4.8	2.6	7.1	3.5	5.4
Defendant Characteristics					
Gender					
Male	81.1	80.2	81.2	84.0	77.2
Female	18.9	19.8	18.8	16.0	22.8
Average Age	34.4	35.8	34.4	32.3	37.0
Number of Cases	160,787[†]	4,957	32,490	70,671	52,669

[*] The DOJ produces a hierarchy of criminal codes with values representing the severity of crimes. The variable has been scaled for ease of interpretability so that the overall mean hierarchy value is 0 and the standard deviation is 1. Positive values represent average hierarchy values more severe than the mean.

[†] Excluding defendants of other races and genders.

Table B2: Robust Poisson regression predicting conviction versus dismissal/acquittal

Variable	Estimate (Robust Standard Error)	Relative Risk	$p^{\dagger}$
(Intercept)	-0.141 (0.007)	0.868	<2e-16 ***
Prior record: Lengthy record (prior to 1982)	0.059 (0.008)	1.060	8.25e-13 ***
Prior record: Miscellaneous prior record	0.069 (0.004)	1.072	<2e-16 ***
Prior record: Prior prison	0.106 (0.005)	1.111	<2e-16 ***
Arrest offense type: Drug	-0.116 (0.004)	0.890	<2e-16 ***
Arrest offense type: Other	0.004 (0.003)	1.004	0.203
Arrest offense type: Violent	-0.060 (0.003)	0.942	<2e-16 ***
Multiple arrest charges	0.008 (0.0008)	1.008	<2e-16 ***
Age	-0.003 (0.0001)	0.997	<2e-16 ***
Gender: Female	-0.020 (0.003)	0.980	<2e-16 ***
Race/ethnicity: Asian/PI	-0.010 (0.008)	0.990	0.175
Race/ethnicity: Black	-0.024 (0.004)	0.977	4.4e-11 ***
Race/ethnicity: Hispanic	0.027 (0.003)	1.028	<2e-16 ***
DOJ hierarchy (arrest offense, scaled)	0.058 (0.002)	1.060	<2e-16 ***

n = 160,787

Excluding those with outcomes other than acquitted/dismissed, intermediate sentence, or prison sentence, as well as those for whom Criminal Justice Information Services codes could not be matched to DOJ offense hierarchy.

* p<0.05; ** p<0.01; *** p<0.001

† p represents the probability that these results could be obtained by chance if that predictor did not have any predictive value. P-values below 0.05 are typically viewed as representing a "significant" result—that the estimate is unlikely to have occurred by chance if there were no true effect.

Table B3: Pseudo R-squared results for model predicting conviction versus dismissal/acquittal

Contribution for each variable calculated by taking the McFadden pseudo R-squared value for the full model and subtracting the McFadden pseudo R-squared value for a model without that variable. McFadden pseudo R-squared values are difficult to interpret individually, but the relative values give information about the relative contribution of each predictor to the overall predictive power of the model.

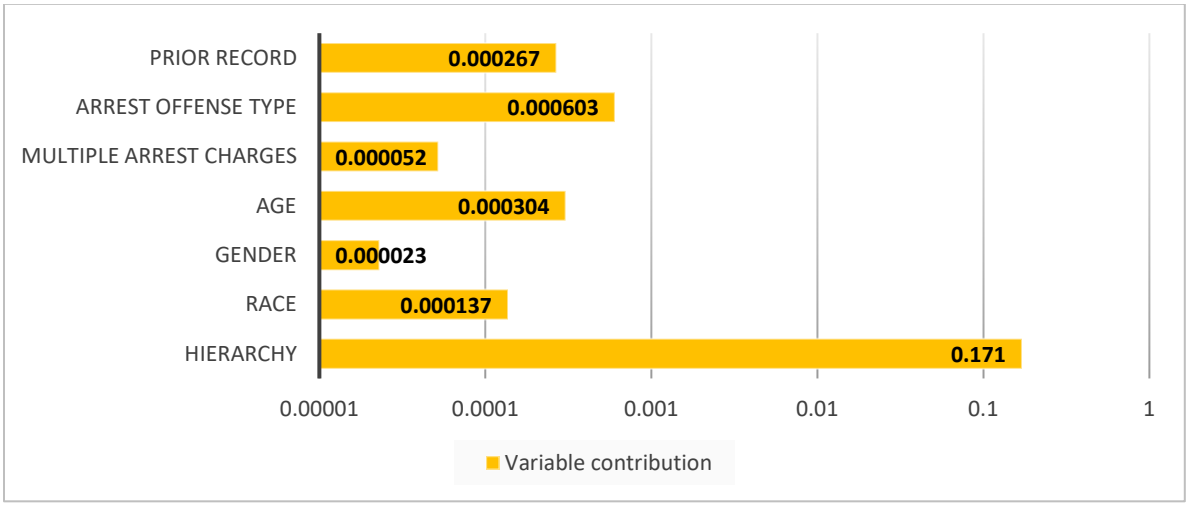

PRIOR RECORD
ARREST OFFENSE TYPE
MULTIPLE ARREST CHARGES
AGE
GENDER
RACE
HIERARCHY
0.000267
0.000603
0.000052
0.000304
0.000023
0.000137
0.171
0.00001
0.0001
0.001
0.01
0.1
1
Variable contribution

Table B4: Robust Poisson regression predicting felony versus misdemeanor conviction

Variable	Estimate (Robust Standard Error)	Relative Risk	$p^{\dagger}$
(Intercept)	-0.692 (0.016)	0.500	<2e-16 ***
Prior record: Lengthy record (prior to 1982)	0.370 (0.017)	1.448	<2e-16 ***
Prior record: Miscellaneous prior record	0.269 (0.011)	1.309	<2e-16 ***
Prior record: Prior prison	0.489 (0.012)	1.631	<2e-16 ***
Arrest offense type: Drug	-0.114 (0.008)	0.892	<2e-16 ***
Arrest offense type: Other	0.046 (0.008)	1.048	4.24e-09 _
Arrest offense type: Violent	-0.287 (0.007)	0.750	<2e-16 ***
Multiple arrest charges	-0.0008 (0.002)	0.999	0.643
Age	-0.003 (0.0003)	0.997	<2e-16 ***
Gender: Female	-0.145 (0.008)	0.865	<2e-16 ***
Race/ethnicity: Asian/PI	-0.029 (0.017)	0.971	0.093 ___
Race/ethnicity: Black	0.051 (0.007)	1.052	6.29-12 ***
Race/ethnicity: Hispanic	0.004 (0.006)	1.004	0.531 _
DOJ hierarchy (arrest offense, scaled)	0.275 (0.004)	1.316	<2e-16 ***

n = 124,155

Excluding those with missing data for type of conviction.

* p<0.05; ** p<0.01; *** p<0.001

† p represents the probability that these results could be obtained by chance if that predictor did not have any predictive value. P-values below 0.05 are typically viewed as representing a "significant" result—that the estimate is unlikely to have occurred by chance if there were no true effect.

Table B5: Pseudo R-squared results for model predicting felony versus misdemeanor conviction

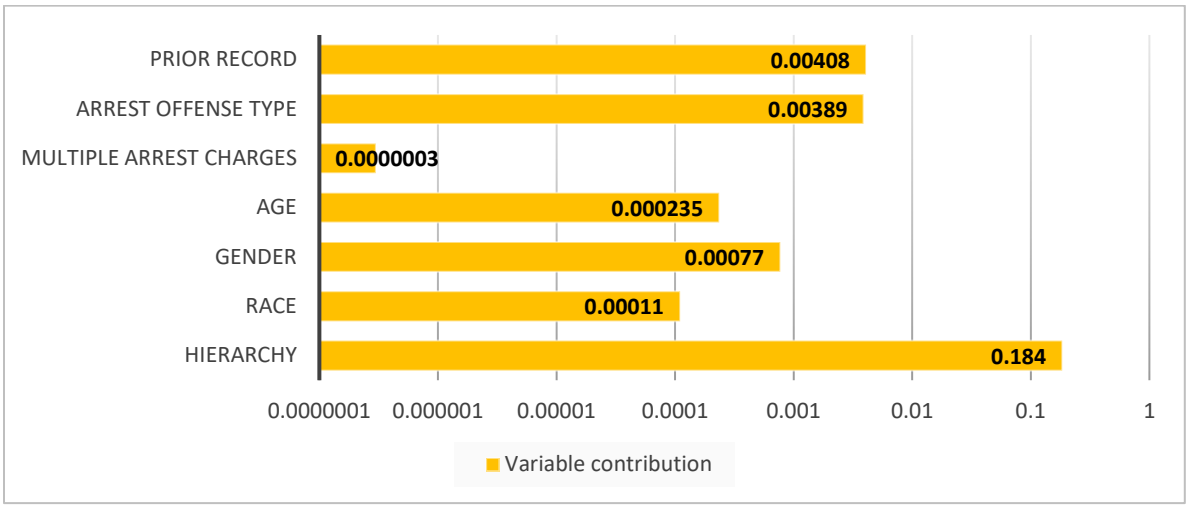


Table B6: Robust Poisson regression predicting prison sentence versus intermediate sentence

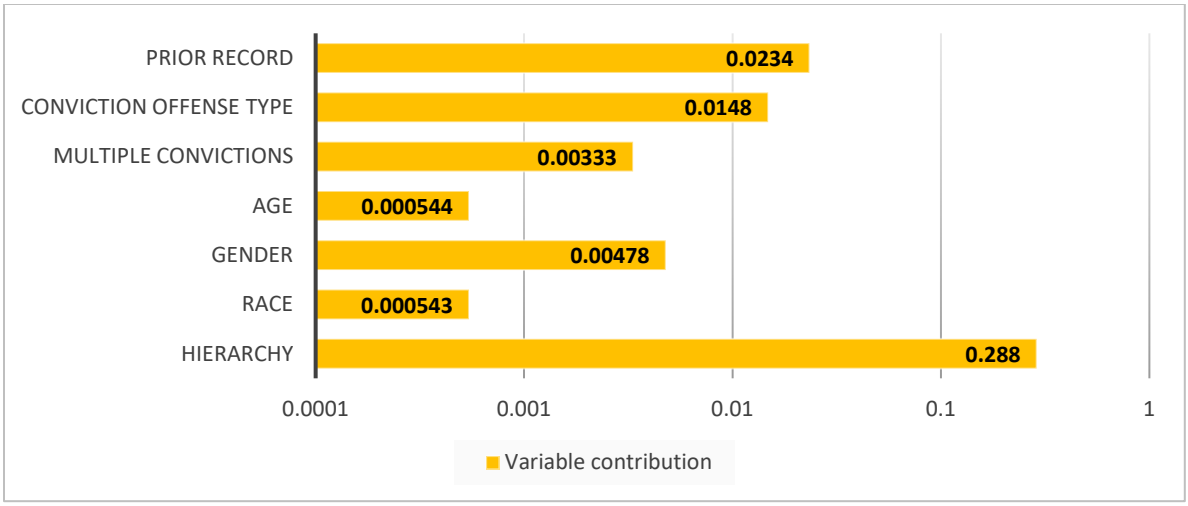
	Estimate (Robust Standard Error)	Relative Risk	$p^{\dagger}$
(Intercept)	-2.373 (0.035)	0.093	<2e-16 ***
Prior record: Lengthy record (prior to 1982)	0.754 (0.035)	2.125	<2e-16 ***
Prior record: Miscellaneous prior record	0.251 (0.025)	1.285	<2e-16 ***
Prior record: Prior prison	1.027 (0.025)	2.792	<2e-16 ***
Conviction offense type: Drug	-0.294 (0.021)	0.745	<2e-16 ***
Conviction offense type: Other	0.541 (0.015)	1.717	<2e-16 ***
Conviction offense type: Violent	0.406 (0.015)	1.501	<2e-16 ***
Multiple convictions	0.085 (0.003)	1.089	<2e-16 ***
Age	-0.005 (0.0006)	0.995	<2e-16 ***
Gender: Female	-0.574 (0.024)	0.563	<2e-16 ***
Race/ethnicity: Asian/PI	0.014 (0.038)	1.014	0.719
Race/ethnicity: Black	0.116 (0.016)	1.123	8.74e-14 ***
Race/ethnicity: Hispanic	0.129 (0.014)	1.138	<2e-16 ***
DOJ hierarchy (conviction offense, scaled)	0.914 (0.018)	2.493	<2e-16 ***

n = 70,305

* p<0.05; ** p<0.01; *** p<0.001

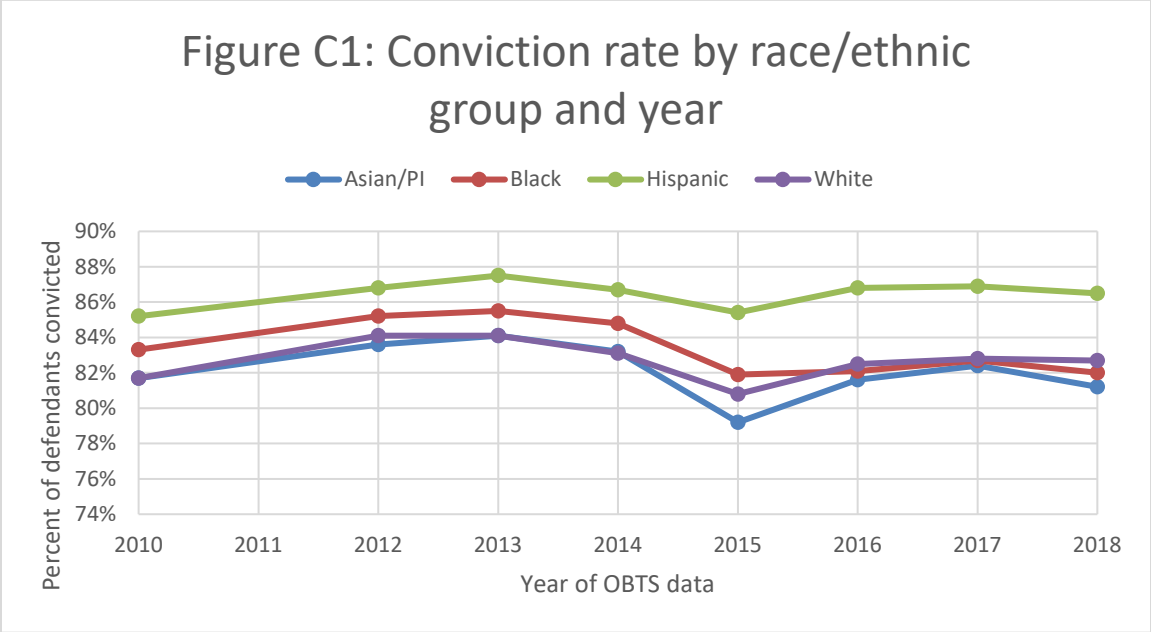
† p represents the probability that these results could be obtained by chance if that predictor did not have any predictive value. P-values below 0.05 are typically viewed as representing a "significant" result—that the estimate is unlikely to have occurred by chance if there were no true effect.

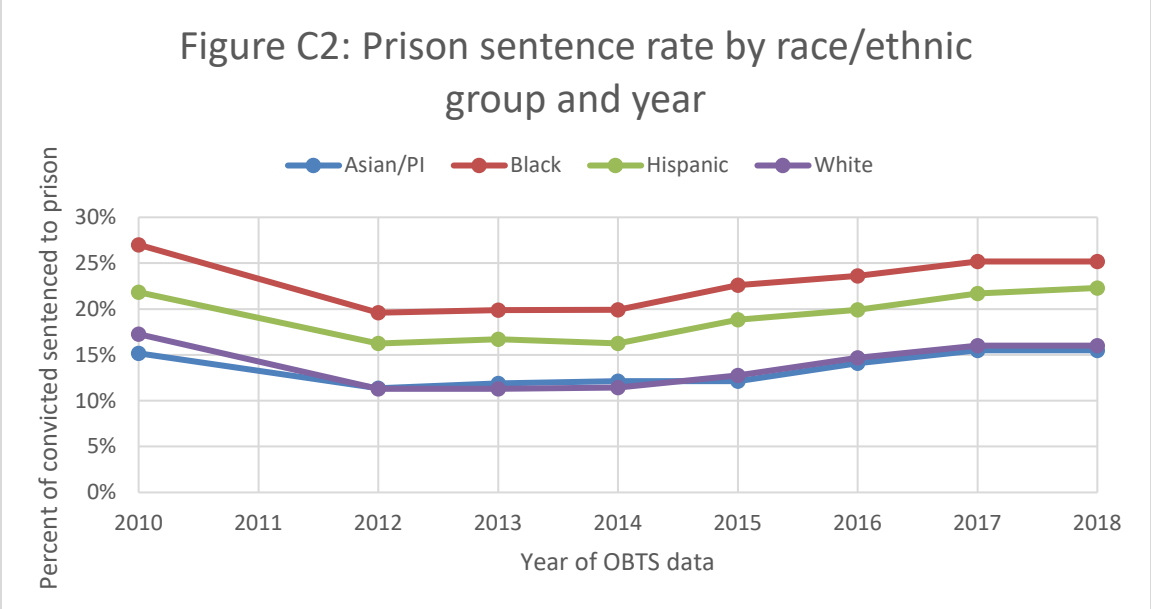
Table B7: Pseudo R-squared results for model predicting prison versus intermediate sentence



Appendix C

Descriptive data from previous years' reports[25] (compiled in figures C1 and C2) suggest that the trends found in this year's report are consistent with that of prior years.[26] Additional research is needed to gain a clearer understanding of what is driving these trends.





Note: These graphs show overall percentages, not controlling for prior record, offense features, age, or gender. Data not available for calendar year 2011.

[25] For figure C2, the prison sentence rate is out of all convicted defendants, not solely those charged with felonies, in order to be consistent with previous years' analyses.

[26] Felony versus misdemeanor conviction charge is not graphed because recent years' reports did not analyze this outcome.

Appendix D

The analyses presented in this report represent average differences across each racial/ethnic group. The following charts show the more nuanced patterns of outcomes broken down by race/ethnicity, prior criminal record, and arrest offense type. Since the numbers for Asian/PI defendants are comparatively small, caution should be used in interpreting the subsetted percentages visualized below.

These graphs show the observed percentages, not controlling for prior record, arrest offense, number of arrest charges, age, or gender. “Other felony” type is not shown due to the lack of interpretability of such a broad category of offenses.

Figure D1a. Arrest Offense Type: Violent

Percent convicted

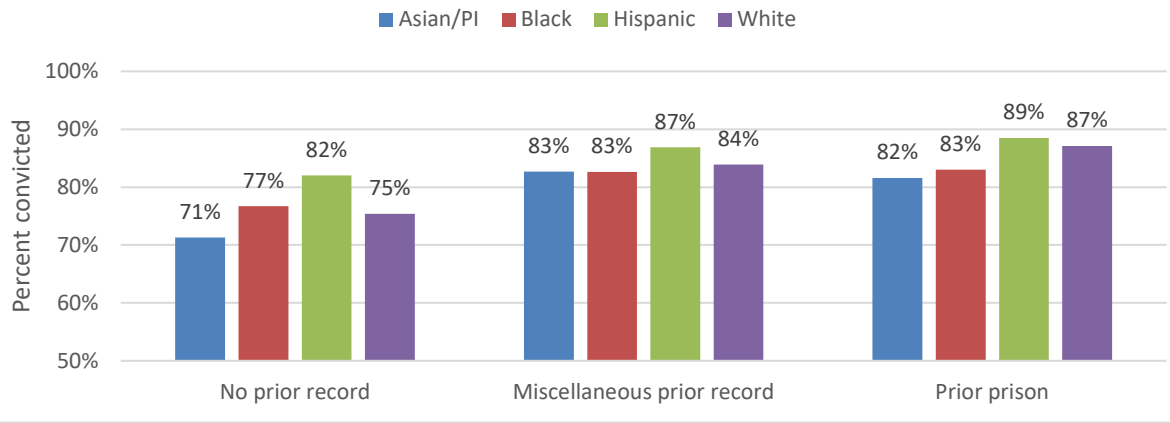


Figure D1b. Arrest Offense Type: Drug

Percent convicted

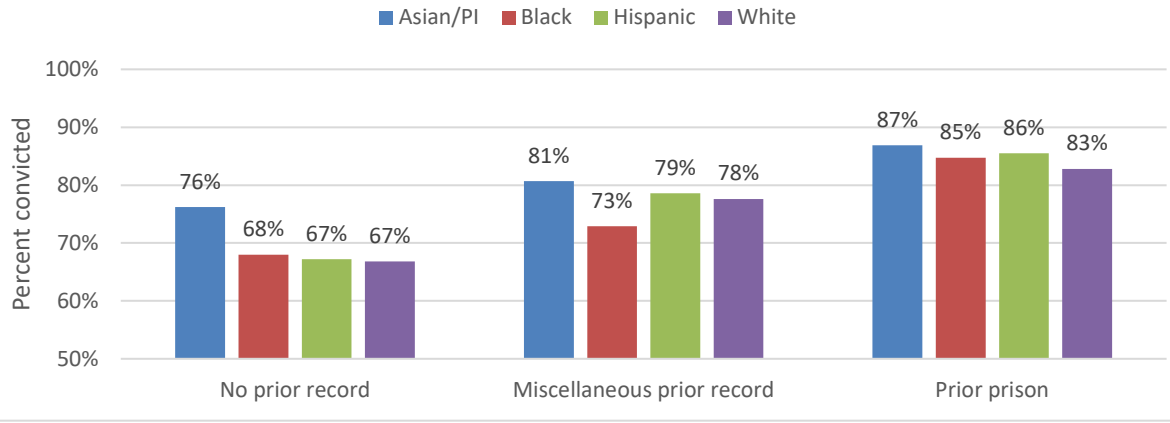


Figure D1c. Arrest Offense Type: Property

Percent convicted

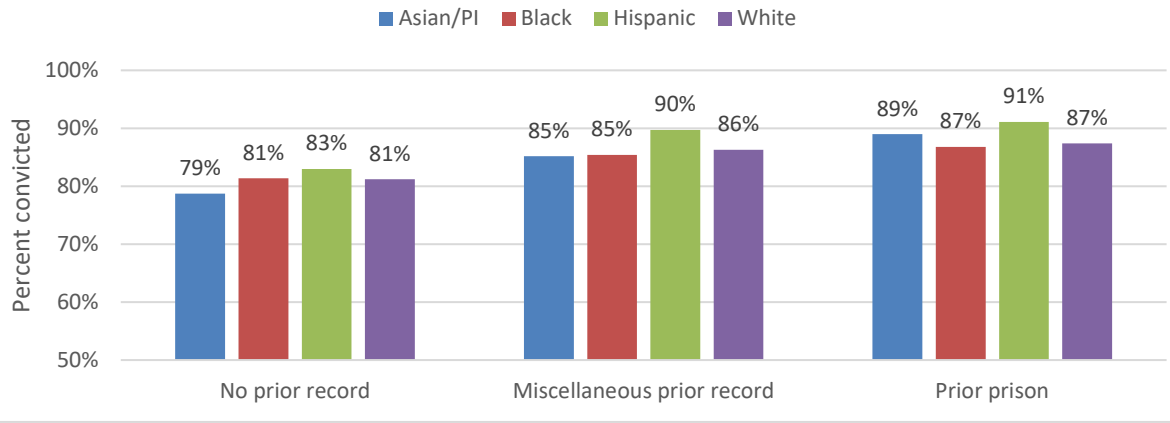


Figure D2a: Arrest Offense Type: Violent

Percent of convicted defendants with felony conviction

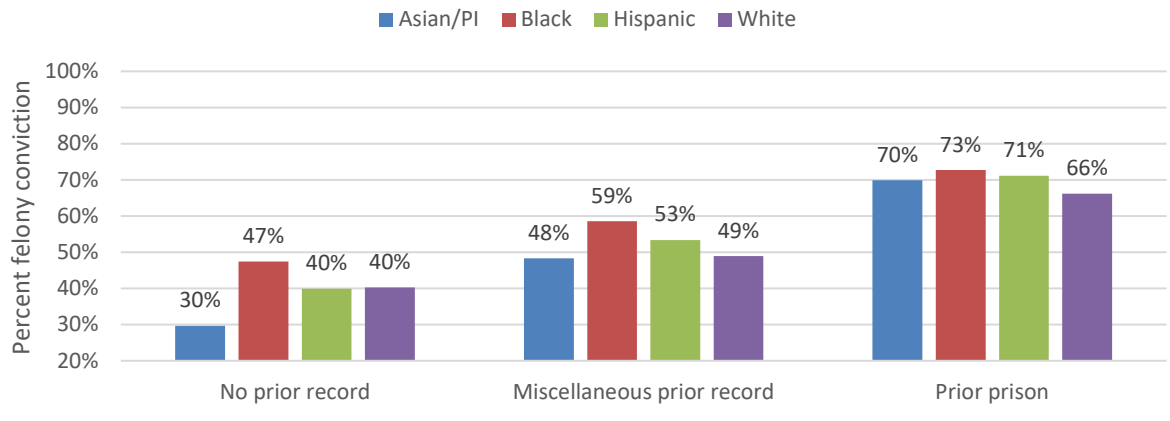


Figure D2b: Arrest Offense Type: Drug

Percent of convicted defendants with felony conviction

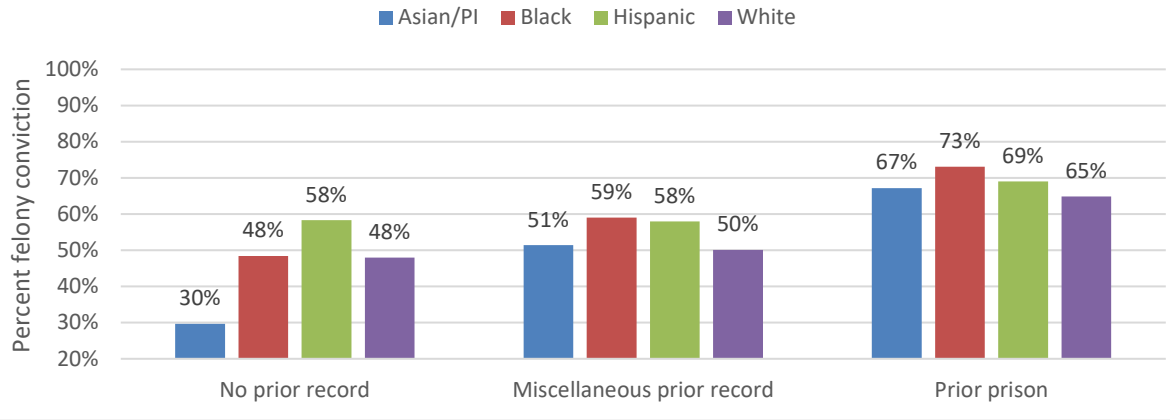


Figure D2c: Arrest Offense Type: Property

Percent of convicted defendants with felony conviction

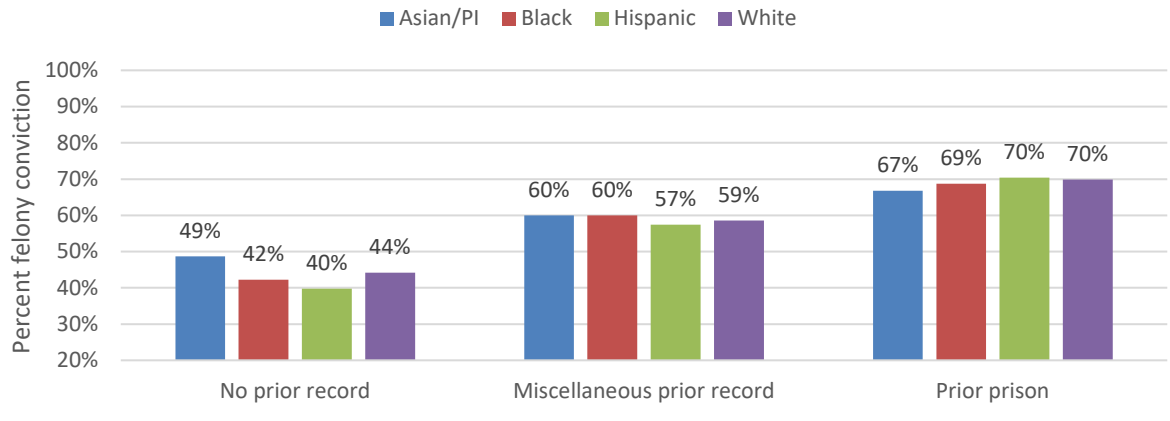


Figure D3a: Arrest Offense Type: Violent

Percent of felony convicted defendants given a prison sentence

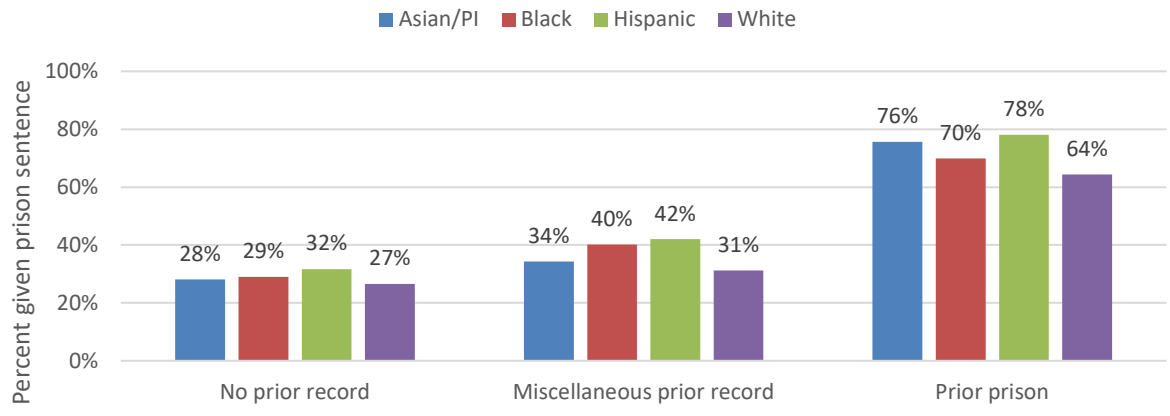


Figure D3b: Arrest Offense Type: Drug

Percent of felony convicted defendants given a prison sentence

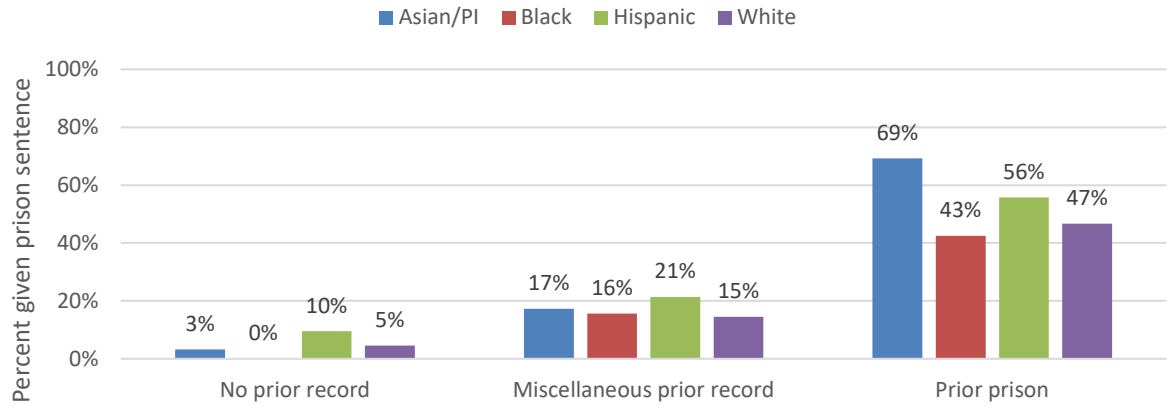
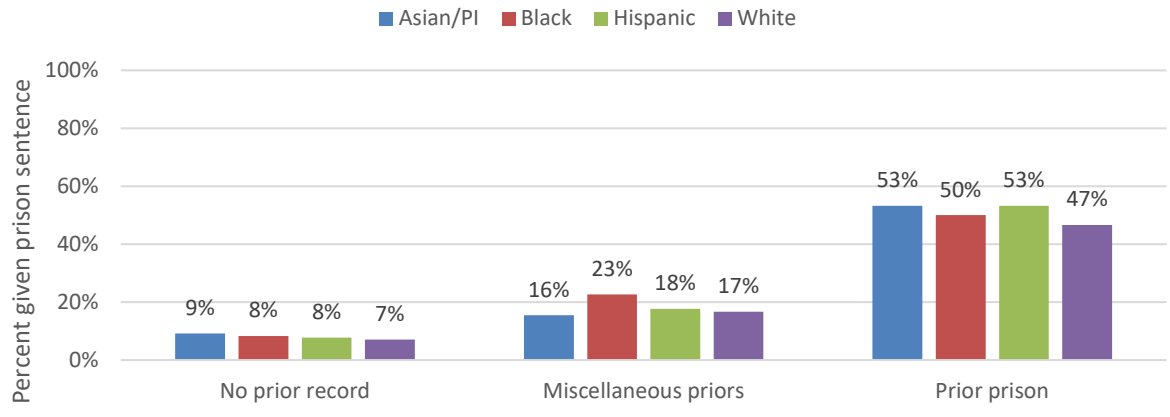


Figure D3c: Arrest Offense Type: Property

Percent of felony convicted defendants given prison sentence