American Journal of Criminal Justice
https://doi.org/10.1007/s12103-022-09686-5

Recidivism Outcomes Under a Shifting Continuum of Control

Mia Bird[1] · **Viet Nguyen**[2] · **Ryken Grattet**[3]

Received: 8 February 2022 / Accepted: 30 June 2022
© The Author(s) 2022

Abstract

Criminal justice systems across the United States are reducing reliance on prison incarceration and moving toward more local and noncustodial types of responses to felony offenders. Rather than wholesale decarceration, states and counties are shifting felons along what we call a "continuum of control," which allows for people who previously might have been incarcerated in state prison to be sentenced to jail, jail plus probation, or probation without a custodial spell. With some notable exceptions, existing research has focused primarily on contrasting prison versus community placements and ignored the intermediary alternatives between the poles of the continuum. In this study, we compare the recidivism outcomes of felons sentenced to prison versus those sentenced to jail, jail plus probation, and probation alone. On balance, our findings show that jail incarceration results in the same or lower rearrest and reconviction rates than incarceration in prison. We also find consistent evidence that while rearrests are frequently higher for probation with or without a jail spell, reconvictions are consistently lower for similarly situated offenders than prison. These findings provide partial evidence in support of policies that move people convicted of felonies to less costly, more local, and less confining alternatives than prison.

Keywords Recidivism · Alternatives to incarceration · Felony sanctions · Probation · Jail · Prison

✉ Ryken Grattet
rtgrattet@ucdavis.edu

[1] Goldman School of Public Policy, University of California, Berkeley, CA, USA

[2] Department of Criminology, University of Pennsylvania, Philadelphia, PA, USA

[3] Department of Sociology, University of California, One Shields Avenue, Davis, CA 95616, USA

Published online: 19 July 2022

Introduction

Correctional reform in the United States has been underway for more than a decade and, as a result, between 2008 and 2018 state and federal prison populations decreased by nine percent or 148,000 inmates (Carson, 2020). During the same period jail populations decreased by five percent or 39,000 inmates (Zheng, 2020). Although these declines are modest relative to the period of enormous growth in incarceration from 1980 to 2005, the public now strongly favors rehabilitative approaches and lessened reliance on prisons (Clarke, 2018; Sundt et al., 2015; Thielo et al., 2015) and policymakers in a majority of states have adopted decarcerative reforms (Gelb et al., 2017). Further reforms are currently in progress (Schrantz et al., 2018).

There are multiple political and economic forces that have contributed to prison downsizing (Phelps, 2016; Pickett, 2016; Turner et al., 2015). A key argument of advocates of decarceration–backed by a growing research literature–is that prisons are not particularly effective at reducing recidivism relative to community-based supervision (Cullen et al., 2011; Petrich et al., 2021; Villettaz et al., 2014). However, this body of research seldom considers that approaches to further downsize prisons are not reducible to a binary choice between prison and community supervision, but instead are comprised of a range of strategies that shorten or eliminate custodial sanction time or that hybridize incarceration and community supervision and/or no supervision at all. Because system actors have a degree of latitude in crafting sanctions, many similarly situated individuals are channeled through different community and custodial pathways, which is useful variation to exploit in order to examine the recidivism consequences of different sanction types.

The key question that motivates the present study is whether prison sanctions have greater, lesser, or similar impacts on recidivism when compared to fully community-based sanctions (probation), jail only, or jail plus probation supervision? To address this question, first we consider the research literature on sanction types and recidivism, which, to date, has focused primarily on outcomes for similar offenders given prison versus community supervision and found that individuals sent to prison generally do not have lower recidivism upon release. Next we provide an overview of the reforms in California, focusing on specific changes that have restructured the continuum of control and invite an investigation of how different types of sanctions impact recidivism. We describe the unique qualities of the data we gathered from twelve California counties to gauge the effect of sanction type on recidivism. In general, our analyses show that individuals given local sentences that are less severe and less costly are rearrested at higher rates, but reconvicted at lower rates than individuals sentenced to prison. We conclude with a discussion of the implications of these findings for further reforms aimed at reducing reliance on prisons.

Prior Literature

In their book, *Between Prison and Probation*, Morris and Tonry (1991) put forward the notion of a "correctional continuum" which delineated between different types of sanctions by cost and perceived severity. Lawmakers generally understand prison as the most severe

sanction, to be used for the most heinous offenses and frequent serious offenders, and that use of more severe sanctions along the correctional continuum will reduce recidivism more than lesser sanctions (Mears & Cochran, 2018). Moreover, the physical environments of prisons tend to be expensive to build, staff, and operate. A probation grant, given in lieu of incarceration, generally is understood as the least severe sanction. It is also the least expensive in terms of staff costs and the facilities required (Grattet & Martin, 2015). In between are sentences that incarcerate people convicted of felonies in jail and then release them without supervision or that split the sentence into jail and probation segments.

Whether prison sentences reduce recidivism when compared to non-custodial community sentences is the subject of a small body literature that has slowly accumulated across several decades and that varies in quality and generalizability. However, over the last decade there have been three reviews of this literature (Cullen et al., 2011; Petrich et al., 2021; Villettaz et al., 2014). This work converges on the conclusions that "compared with noncustodial sanctions, custodial sanctions, including imprisonment, have no appreciable effect on reducing reoffending" (Petrich et al., 2021, p. 49). In addition, research shows that prison sometimes has criminogenic effects, leading to worse recidivism outcomes for individuals sent to prison compared to individuals given community sanctions (Cullen et al., 2011). However, there have been few well-designed experimental and quasi-experimental studies on the topic. Those that do use strong research designs show findings that are somewhat less favorable for non-custodial sanctions. Even then, however, the finding is that custodial sanctions are no more effective in reducing recidivism than community-based sentences (Villettaz et al., 2014).

As Mears et al. points out (2015), custodial and community sanctions are heterogeneous treatments, varying over time and across location, and experienced differently based upon race and gender (May and Wood 2010). Moreover, as Yan (2017) points out, alternatives are often assembled into "sentence packages" wherein individuals are subject to multiple types of treatment and control, which makes it challenging to discern exactly what an alternative to custodial sanction actually involves. A few studies compare a particular type of community sanction to custody. For example, a small body of research on work release programs shows they have little or no impact on recidivism (Duwe, 2015). In addition, a recent review of research reports that, as of 2020, 18 of 34 studies of release to electronic monitoring show favorable results, but that findings are dependent on methods used and particular subpopulations placed into the programs (Belur et al., 2020). However, this latter work is binary in different ways, comparing fully custodial sanctions to a single type of alternative sanction.

Two studies take the approach of comparing recidivism outcomes across a range of alternatives. Cochran et al. (2014) used propensity score matching to compare outcomes for people sentenced to prison, jail, intensive probation, or regular probation in Florida and found consistent evidence of lower recidivism among people given less severe sanctions. Mears and Cochran (2018) followed a similar approach in terms of the sanctions compared and the matching methodology, but delineated between people convicted for the first and second time of felony offenses with the expectation that first-time offenders would be more likely to be deterred by more severe sanctions than second-timers. They found that for both groups, more severe sanctions tended to be associated with worse recidivism outcomes.

We follow the approach of the Cochran et al. (2014) and Mears and Cochran (2018) in the current study in investigating a range of alternatives, rather than the binary between custodial and non-custodial sanctions used in the Florida context. We also employ the use of propensity score matching on offense history and personal characteristics and temporal fixed effects to enhance our confidence that we have reduced the effect of unobserved differences between people given different sanctions. While we estimate differences in recidivism outcomes across all individuals sentenced for felonies, we take a further step to examine outcomes for individuals within offense groups with the intention of narrowing the potential unobserved differences between comparison groups. For this analysis, we focus on three of the most frequent offense types that commonly result in a range of sentence types. We compare recidivism outcomes for individuals sentenced to each type of community sentence—jail, probation, and jail plus probation—with outcomes for those sentenced to prison. These findings inform the critical question that policymakers are confronting in places like California: whether states can reduce the use of prison sentences and reduce correctional costs while maintaining public safety. We also focus on specific high-volume offenses in order to help policymakers identify the particular types of offenses that might be good candidates for non-prison alternatives. We also provide evidence from California, which has a different set of sanction options than Florida, and which during the period of our study was in the midst of decarcerative reforms that generated greater variation than other states in the use of alternative sanctions for similarly situated people.

California Context

Historically, California's recidivism rates have been among the highest in the nation (Durose et al., 2014). Prior to a wave of reforms beginning in 2011, three-fourths of individuals released from prison were rearrested and about half were reconvicted for a new offense within three years. In addition to those who were reconvicted, others returned to prison through what has been called the "revolving door" of prison revocations, when released offenders are sent back to prison for parole violations (Fischer, 2009).

In 2011, California passed one of the most far-reaching criminal justice policy reforms in recent US history. This change, known as Public Safety Realignment, marked a new era for corrections and rehabilitation—one that proponents hoped would reduce the prison population, in part by lowering recidivism and relying on alternatives to prison incarceration. Realignment was undertaken in response to a Supreme Court mandate to reduce overcrowding in the state's prisons. At the time, California faced a recessionary budget crisis, limiting its ability to build new prisons or contract out facilities to other correctional systems. Under those constraints, the state elected to shift correctional management of people convicted of lower-level felony offenses from the state prison and parole system to county jail and probation systems.

New sentencing rules under Realignment made people convicted of non-violent, non-serious, and non-sexual offenses ineligible for prison sentences and, instead, required them to be sentenced locally to jail, probation, or jail with probation supervision. In addition, by requiring that supervision violations be served in local jails

for most people convicted of felony offenses, Realignment put an end to the cycle of returning people to prison for parole violations. The state's prison population dropped by more than 27,000 in the first year of Realignment (Lofstrom & Martin, 2015), while the size of county jail and probation populations grew.

Several other reforms followed. Early on, in spite of reductions in the prison population under Realignment and changes to California's "three strikes" law in 2012, prisons remained overcrowded. In 2014, the state implemented court-ordered measures to address prison crowding. In addition, voters passed Proposition 47 (Prop 47) in November 2014, a ballot initiative that reduced drug possession and certain lower-level property offenses to misdemeanors. Within months, the prison population dropped below the court-mandated target. The jail population also decreased sharply, easing pressure in crowded jails and bringing the jail population close to its pre-Realignment level.

Taken together, this series of policy reforms resulted in a dramatic reduction in incarceration levels in California (Lofstrom et al., 2016). Between 2011 and 2015, the incarceration rate, the number of incarcerated individuals per 100,000 residents, fell by 16% (from 619 to 519). It has done so, in part, by altering the continuum of control such that individuals who previously would have gone to prison are now sent to jail, probation, or jail with probation. However, these reforms have been controversial. Proponents argue that California had long been over-incarcerating and misallocating funds toward incarceration rather than alternative interventions, resulting in inequities and low cost-effectiveness within the criminal justice system. However, opponents voice public safety concerns, citing that incarceration prevents crime by removing potential offenders from society and that long prison sentences deter crime.

Along with crime rates, recidivism rates provide a window into the effects of these policy changes on public safety. They also offer an indicator of the effectiveness of our correctional interventions. In previous work researchers have examined the effects of Realignment and Prop 47 on the recidivism outcomes of the specific offender populations targeted by these policy changes (Bird et al., 2017, 2018). In their analysis of the first two years of Realignment, Bird et al. (2018) found evidence of small reductions in recidivism—particularly reconviction rates—for some groups but small increases for other groups. In Bird et al.'s (2018) study of Prop 47, they found evidence of declines in rearrest and reconviction for those who served sentences for Prop 47 offenses. These findings help identify the effects of those specific policy reforms on the recidivism rates of certain populations, but they do not provide a broader sense of how recidivism rates differ across different types of sanctions.

More recently, Bird et al. (2019) provided a descriptive study of how recidivism rates of people convicted of felony offenses in California changed for monthly cohorts released during the period since the passage of Public Safety Realignment, from October 2011 to October 2015. They found that the recidivism rates for all people convicted of felony offenses declined over the period. The share of felony offenders rearrested for any offense within two years declined somewhat from 68 to 66% over the four-year period. The two-year reconviction rate for any offense dropped substantially from 41 to 35%. Rearrests and reconvictions for felony offenses decreased the most, although felony rearrests increased slightly for the later

cohorts. Reconvictions and rearrests for felony drug arrests fell most sharply over the period. Using regression to adjust for compositional differences across cohorts and between different sanction groups (prison, jail only, probation plus jail, and probation), they find recidivism rates declined for all four groups. Those sentenced to prison or jail experienced large declines in rearrest and reconviction rates, when compared with those sentenced to jail followed by probation or to probation only. Individuals who received probation—with or without a jail sentence—initially experienced increases in recidivism rates under Realignment but then saw decreases in later years and under Proposition 47. Individuals released from prison had the highest reconviction rates. These findings show that shifting the continuum of control in California away from prison toward alternatives to prison has generally corresponded to lower recidivism rates across different sanction groups, but not always to the same extent.

Data, Methods, and Recidivism Measurement

Data

Data for this study are from the BSCC–PPIC Multi-County Study (MCS), a collaborative effort between Public Policy Institute of California and the California Board of State and Community Corrections (BSCC). The MCS was established in the wake of Public Safety Realignment with the goal of bringing together the data needed to rigorously evaluate the statewide effects of this policy reform and identify the most effective recidivism-reduction interventions at the local level. The MCS data captures all individuals released from prison or jail or placed on probation from October 2011 to September 2015 and includes extensive individual level background and transactional data from the jail and probation systems in 12 California counties, including, including Alameda, Contra Costa, Humboldt, Fresno, Kern, Los Angeles, Orange, Sacramento, San Bernardino, San Francisco, Shasta, and Stanislaus. Taken together, the MCS counties comprise about 60% of the state population. These counties generally reflect the demographic, economic, and geographic characteristics of the state. However, the MCS counties are somewhat more urban and have a higher share of African Americans, Asian Americans, and Latinos. In addition, poverty and unemployment rates are slightly higher among the MCS counties.

The California Department of Justice (DOJ) and the California Department of Corrections and Rehabilitation (CDCR) also provide essential data to fill out the state-local picture. The MCS county data offer information about individual characteristics as well as custody and supervision at the local level, while the state data offer additional information on individual characteristics, custody spells in prison, criminal history, and statewide recidivism outcomes (in case a particular individual recidivates in a non-MCS county). Prior to the creation of the MCS, there was no available data source allowing the state to estimate recidivism outcomes for individuals sentenced locally. Recidivism estimates for the full population of people convicted of felonies in California were confined to the population sentenced to and released from prison. This study fills a gap by estimating the recidivism rates of the

full population of felony offenders released in the 12 MCS counties during the four years following realignment.

Methodological Approach

The basic logic of our analysis is to compare a less severe and expensive sanction (probation, jail, jail plus probation) with imprisonment. However, comparing groups of people convicted of felonies given different sanction types is challenging because similar factors may affect both the kinds of correctional sanctions offenders receive and their likelihood of recidivism. One of the strengths of the MCS data is that it includes extensive and statewide criminal history information in addition to demographic and case characteristics. We compare recidivism rates of people receiving a prison sentence[1] with people sentenced to probation, jail, or probation plus jail. These pairwise comparisons allow us to consider how less costly local correctional sanctions compare with sentences to prison for each offense type. We estimate the relationship between these sanction types and rearrest and reconviction outcomes for all offenders who were sentenced for felonies and subsequently released in the 12 MCS counties during the study period.

Summary statistics for the full samples and each of the four sanction types are provided in Table 1. The statistics for the sanction types show that the samples are indeed somewhat unbalanced in terms of risk factors. For example, people given prison sentences have lower age at first arrest than people given an alternative sanction types. People sanctioned with prison also have higher average counts of prior serious and violent offenses, longer lengths of stay, and are more likely to have been convicted of homicide and rape. However, people sanctioned with jail plus probation are slightly younger than people given prison sanctions and people given probation and jail alone are slightly older than people given probation. Compared with people given prison sanctions, people given jail sentences tend to have higher counts of prior arrests, felony arrests, convictions, and felony convictions. In terms of outcomes, people given jail sanctions have the highest rates of rearrest and reconviction of all types. Thus, while the groups are unbalanced in terms of current and prior offending characteristics and demographics, people given prison sanctions are not consistently the highest on static indicators of risk.

Our analyses proceed in two stages. First, we estimate regression models that include all people convicted of felonies in the MCS counties and assess the relationship between the sanction type and recidivism outcomes. Models control a number of factors known to be correlated with recidivism and use fixed effects to capture unobserved factors common to each month of the observation period (see Appendix Table 1 for a listing of the variables used in this part of the analysis). While the findings from these analyses provide us with the best available comparison of recidivism outcomes for all people convicted of felony offenses across sanction types, we must recognize the possibility there are important unobserved differences across

[1] All persons released from prison are also subject to community supervision either by the state parole agency or a local probation department.

Table 1 Summary statistics of covariates and outcomes: full sample and by sanction type

	Full Sample (305,868)		Prison Sample (87,920)		Jail Sample (34,748)		Jail with Probation (104,017)		Probation Sample (79,183)	
Covariates	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Age	33.987	11.543	33.897	11.012	35.571	10.746	33.342	11.645	34.239	12.229
Male	0.839	0.368	0.925	0.263	0.840	0.367	0.807	0.394	0.785	0.411
White	0.288	0.453	0.220	0.414	0.310	0.463	0.297	0.457	0.344	0.475
Black	0.251	0.434	0.295	0.456	0.202	0.402	0.250	0.433	0.224	0.417
Hispanic	0.405	0.491	0.428	0.495	0.446	0.497	0.393	0.488	0.377	0.485
Asian	0.021	0.142	0.010	0.101	0.018	0.133	0.028	0.166	0.023	0.150
Age at first conviction	24.068	7.995	22.717	6.798	23.483	6.903	24.915	8.544	24.711	8.676
# prior serious offenses	0.148	0.402	0.268	0.522	0.085	0.309	0.109	0.344	0.094	0.320
# prior violent offenses	0.115	0.351	0.273	0.505	0.029	0.187	0.063	0.262	0.044	0.220
# prior arrests	15.328	13.132	16.472	12.053	21.041	14.122	13.162	13.025	14.396	13.102
# prior felony arrests	8.948	7.533	10.009	7.120	11.985	7.937	7.504	7.369	8.333	7.453
# prior convictions	5.558	4.676	5.908	4.532	8.009	5.328	4.657	4.270	5.278	4.617
# prior felony convictions	2.978	2.339	3.343	2.251	4.278	2.691	2.384	2.087	2.785	2.282
Length of stay	343.262	864.215	979.952	1409.560	235.768	190.173	70.397	96.469	41.934	83.923
Homicide	0.008	0.087	0.024	0.155	0.001	0.031	0.001	0.026	0.001	0.029
Rape	0.004	0.061	0.010	0.099	0.000	0.011	0.002	0.042	0.001	0.032
Other sex offense	0.026	0.159	0.049	0.216	0.003	0.056	0.024	0.155	0.012	0.109
Assault	0.083	0.276	0.119	0.324	0.023	0.150	0.089	0.285	0.061	0.240
Robbery	0.032	0.176	0.075	0.264	0.001	0.025	0.021	0.143	0.012	0.111
Burglary	0.096	0.294	0.114	0.317	0.127	0.333	0.093	0.291	0.066	0.248
Theft	0.059	0.236	0.044	0.206	0.087	0.282	0.071	0.256	0.049	0.217
Motor vehicle theft	0.039	0.195	0.033	0.178	0.078	0.268	0.042	0.200	0.027	0.162
Other property offense	0.076	0.264	0.047	0.211	0.103	0.304	0.092	0.290	0.074	0.261
Other drug offense	0.335	0.472	0.203	0.402	0.322	0.467	0.294	0.456	0.542	0.498

Table 1 (continued)

	Full Sample (305,868)		Prison Sample (87,920)		Jail Sample (34,748)		Jail with Probation (104,017)		Probation Sample (79,183)	
Covariates	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
DUI	0.017	0.130	0.020	0.140	0.016	0.125	0.020	0.139	0.012	0.107
Weapons offense	0.055	0.228	0.082	0.274	0.031	0.174	0.056	0.230	0.034	0.181
Unknown offense	0.069	0.253	0.064	0.245	0.169	0.374	0.069	0.254	0.030	0.171
Outcome Variables										
Felony rearrest	0.558	0.497	0.469	0.499	0.578	0.494	0.561	0.496	0.643	0.479
Any rearrest	0.674	0.469	0.628	0.483	0.706	0.456	0.659	0.474	0.732	0.443
Felony reconviction	0.283	0.451	0.296	0.457	0.388	0.487	0.236	0.425	0.285	0.452
Any reconviction	0.454	0.498	0.414	0.492	0.529	0.499	0.434	0.496	0.492	0.500

Source: Data are from the California Multi-county Study (MCS) and includes demographic and criminal history characteristics for releases from October 2011 to October 2015

Table 2 Percentage of felony convictions by sanction type

Conviction offense	Prison	Jail	Jail and probation	Probation
Motor Vehicle Theft	3.3	7.8	4.2	2.7
Controlled Substance Possession	8.6	15.1	13.9	43.2
Burglary	11.4	12.7	9.3	6.6
Total	23.3	35.6	27.4	52.5

Source: Data are from the California Multi-county Study (MCS) and includes offense characteristics for releases from October 2011 to October 2015

comparison groups and it is difficult to completely adjust for these differences. Perhaps most importantly, in California, the sanction received is sometimes governed by the type of conviction offense and/or an individual's prior offense history.

In the second stage, we estimate differences in recidivism outcomes for individuals serving sentences for similar offenses. We select three offense types for in-depth analysis based on the prevalence of these offense types and the potential suitability of these offenses for less severe sanctions: burglary, motor vehicle theft, and controlled substance possession.[2] Taken together, these three offense types represent a substantial share of the study populations within each sanction group, including 23.3% of prison releases, 35.6% of jail releases, 27.4% of jail and probation releases, and 52.4% of releases to probation (Table 2). Moreover, because sentencing reform tends to be focused on changing sanctions for particular types of offenses, these three crimes represent examples of the offense types policymakers might consider as candidates for expanded use of alternatives to prison.

In this second stage of our analysis, we match released offenders within each of these three conviction offense groups across different sanction types. For each offense group, we use propensity score matching based on a number of demographic as well as current and past offending history variables to construct comparison groups. We match people who received jail, jail and probation, and probation alone sentences to those within the same offense group who were sentenced to prison. The thirteen variables used in the propensity score matching include: age, male, white, Black, Hispanic, Asian, age at first conviction, prior serious offenses, prior violent offenses, total prior arrests, total prior felony arrests, total prior convictions, and total prior felony convictions. Given the much larger population sentenced locally and the potential differences in characteristics between these groups, we pre-match the data to exclude locally sentenced individuals who are very different in their characteristics from those sentenced to prison.

[2] We started with a list of the top ten offense types among those released from prison in our sample. We selected the top two – burglary and possession of a controlled substance – for the second stage of analysis. Among the remaining eight offense types, we also selected motor vehicle theft due to the prevalence of this offense among our locally-sanctioned group and the potential suitability of this offense for a less severe sentence. We excluded the remaining violent and weapons offenses due to their low prevalence among our locally-sanctioned group, as well as an additional controlled substance offense.

Table 3 shows the improvements in covariate balance that resulted from matching. The "†" symbol indicates that the difference in matching variables between sanction types was lessened between the matched samples from prison with each alternative sanction type relative to the differences found in the full sample. With 13 variables and nine separate matched samples—three sanction comparisons across three offense types—there were a total 117 variable matches in total. 88 of those 117(75%) resulted improvements in covariate balance. Although our two-step matching (on offense type and static risk variables) yeilded better covariate balance, some imbalance between sanction types remains. Length of stay in custody, which is linked to sanction type as well as the costs associated with different sanction types, continues to vary across sanction types. For example, those sentenced to prison for burglary spent an average of 743 more days incarcerated compared to people sentenced to jail, 363 more days for individuals sentenced to jail and probation, and 541 days more than people sentenced to probation. Similar large differences in length of stay are present in the sanctions from controlled substance possession and motor vehicle theft. These averages include days spent incarcerated, pretrial and post-sentence, which is why people sentenced to probation can and do have time spent in custody. As a result, in addition to the matching we also use add these matching variables and several other variables, along with fixed effects for months, to further isolate the impact of sanction type. The specific control variables included in our models are presented along with our detailed results in Appendix Tables 2–4.

Measuring Recidivism

Recidivism—defined here as reoffending after being convicted and sentenced for an offense (Bird & Grattet, 2016; Maltz, 1984)—is important for the criminal justice system because it indicates the effectiveness of correctional interventions at improving public safety. However, recidivism is notoriously hard to measure because the absence of perfect information about reoffending behavior. Research has shown that it is unwise to focus on a single measure of recidivism, as outcomes frequently vary depending upon which measure is employed (Ostermann et al., 2015). Ostermann et al. (2015) found that including violations and revocations in recidivism measures resulted in entirely difference conclusions about the effectiveness of parole supervision. However, our research is focused on outcomes for groups of people who receive different types of post-release supervision (parole versus probation) and people who receive no supervision at all (in the case of people receiving jail sanctions). To make the recidivism outcomes of these groups comparable we focus on rearrest and reconvictions that do not include revocations and rearrests for violations.

The MCS rearrest and reconviction outcomes are tracked for people released in October 2011 through September 2015 and followed for two years post-release. This means that the recidivism outcomes for individuals released in 2014 and 2015 are tracked for two years through 2016 and 2017. Although it is possible that some people arrested after September 2015 might not have been convicted by October 2017, the vast majority would have a disposition within that two year time frame. We further disaggregate these into "any recidivism" and

Table 3 Improvement in covariate balance resulting from matching on conviction offense and propensity score. Difference in covariate means between sanction type are reported

	Original samples (full data)			Matched samples (burglary)			Matched samples (motor vehicle theft)			Matched samples (controlled substance possession)		
	Prison v. Jail	Prison v. Probation with Jail	Prison v. Probation	Prison v. Jail	Prison v. Probation with Jail	Prison v. Probation	Prison v. Jail	Prison v. Probation with Jail	Prison v. Probation	Prison v. Jail	Prison v. Probation with Jail	Prison v. Probation
Age	-1.674	0.555	-0.342	-1.183	1.437	2.041	0.984 †	0.943	1.528	1.720	0.741	0.758
Male	0.086	0.118	0.141	0.061 †	0.030 †	0.053 †	0.021 †	0.023 †	0.025 †	0.035 †	0.003 †	-0.009 †
White	-0.091	0.077	-0.125	0.046 †	-0.012 †	0.028 †	0.008 †	0.018 †	0.019 †	-0.067 †	-0.028 †	-0.018 †
Black	0.093	0.045	0.071	0.076 †	0.028 †	0.045 †	0.026 †	0.002 †	0.002 †	0.078 †	0.015 †	0.022 †
Hispanic	-0.018	0.035	0.051	-0.044	-0.012 †	0.021 †	-0.046	0.011 †	0.013 †	-0.011 †	0.013 †	-0.002 †
Asian	-0.008	0.018	-0.013	-0.009	-0.007 †	0.006 †	-0.003 †	0.001 †	0.006 †	-0.006 †	0.000 †	-0.001 †
Age at first conviction	-0.766	2.198	-1.994	-0.812	-0.440 †	0.330 †	-0.227 †	0.369 †	0.277 †	-0.875	-0.216 †	0.036 †
# prior serious offenses	0.182	0.159	0.174	0.064 †	0.048 †	0.049 †	0.073 †	0.047 †	0.045 †	0.126 †	0.075 †	0.048 †
# prior violent offenses	0.245	0.210	0.230	0.139 †	0.099 †	0.113 †	0.131 †	0.088 †	0.102 †	0.266	0.157 †	0.165 †
# prior arrests	-4.569	3.310	2.076	-2.140 †	1.492 †	1.923 †	-0.176 †	0.912 †	1.063 †	0.286 †	0.233 †	-0.054 †
# prior felony arrests	-1.976	2.505	1.676	-1.084 †	1.252 †	1.495 †	0.086 †	0.833 †	1.159 †	0.492 †	0.241 †	0.039 †
# prior convictions	-2.100	1.251	0.630	-1.038 †	0.793 †	0.901	-0.173 †	0.584 †	0.454 †	0.007 †	0.126 †	-0.001 †

Table 3 (continued)

	Original samples (full data)			Matched samples (burglary)			Matched samples (motor vehicle theft)			Matched samples (controlled substance possession)		
	Prison v. Jail	Prison v. Probation with Jail	Prison v. Probation	Prison v. Jail	Prison v. Probation with Jail	Prison v. Probation	Prison v. Jail	Prison v. Probation with Jail	Prison v. Probation	Prison v. Jail	Prison v. Probation with Jail	Prison v. Probation
# prior felony convictions	-0.935	0.959	0.558	-0.409 †	0.607 †	0.571	0.012 †	0.493 †	0.457 †	0.224	0.171 †	0.032 †

† Difference between prison and the alternative sanction is less in matched sample is than the original (full) sample

Sample sizes: **Burglary**: Prison (9,983) v. Jail (3,208), Prison (9,983) v. Probation with Jail (4,532), Prison (9,983) v. Probation (5,456); **Motor Vehicle Theft**: Prison (2,888) v. Jail (1,628), Prison (2,888) v. Jail with Probation (1,625), Prison (2,888) v. Probation (1,242); **Controlled Substance Possession**: Prison (7,579) v. Jail (2,626), Prison (7,579) v. Jail and Probation (4,532), Prison (7,579) v. Probation (5,456)

"felony recidivism" in order to capture all types of recidivism and those for which a prison sanction would have been possible prior to recent reforms. Felony recidivism is also of greater concern to the public and policymakers.

California has multiple official standards for recidivism, which encompass different observation windows and different levels of offense seriousness. The CDCR reports recidivism statistics based upon one, two, and three-year arrest, conviction, and return to prison rates for people released from CDCR custody (California Department of Corrections & Rehabilitation, 2021). The California Attorney General defines recidivism as any arrest resulting in a charge filed by a prosecutor within three years of an individual's release from incarceration or placement on supervision for a previous criminal conviction (California Department of Justice, 2014). The California Board of State and Community Corrections (BSCC) uses conviction for a felony or a misdemeanor committed within three years of release from custody or committed within three years of placement on supervision for a previous criminal conviction. The BSCC also uses supplemental measures, including whether a revocation occurred and delineating between felony and misdemeanor convictions, and observation windows to provide a more comprehensive picture (Lovell, 2015).

According to the CDCR, the vast majority of arrests occur within one year of release. For example, in California 50 percent of people released from prison are rearrested within one year. That number increases to 62 percent in year two, and 68 percent in year three. The vast majority of convictions occur within two years. For example, in California 19 percent of people released from prison are reconvicted within one year of release. Within two years, the rate increases to 35 percent and within a three-year window the rate increases to 44 percent (California Department of Corrections & Rehabilitation, 2021). Because we are employing both reconviction and rearrest as recidivism measures we opted for the second year. In addition, using three year-rates would reduce the number of cohorts we could follow until 2017. Thus, use of two-year rates captures the vast majority of recidivism events for both rearrest and reconviction and allows us to maximize the number of cohorts observed in the study.

Finally, it is important to note that rearrest and reconviction rates are imperfect measures of recidivism. Changes in rearrest and reconviction rates over time and across sentencing groups—for example, those sentenced to prison versus those sentenced to probation—can reflect differences in individual reoffending behavior but may also reflect variation in criminal justice system responses to that behavior (see Bird et al., 2018). For that reason, it is important to rely on both rearrest and reconviction to provide as complete a picture as possible. Differences in recidivism rates may also reflect variation in the underlying characteristics of offender populations. As noted above, our analysis adjusts for differences in many demographic and criminal history characteristics of the underlying population over time and across sentencing groups. However, there are some population characteristics that we are unable to observe in these data. In addition, we are unable to separate out the role that changing law enforcement and prosecutorial decision-making may have on recidivism rates.

Table 4 Coefficients estimates comparing alternative sanctions to prisons. Percent increases or decreases in selected recidivism measures are reported

	Jail	(SE)	Jail and Probation	(SE)	Probation	(SE)
Full Sample						
Any rearrest	-0.2	(0.3)	4.7 ***	(0.2)	10.3 ***	(0.3)
Felony rearrest	0.1	(0.3)	7.9 ***	(0.2)	13.7 ***	(0.3)
Any reconviction	-1.6 ***	(0.3)	-5.6 ***	(0.2)	-1.7 ***	(0.2)
Felony reconviction	-1.1 ***	(0.3)	-6.6 ***	(0.2)	-3.8 ***	(0.3)
Motor Vehicle Theft						
Any rearrest	-5.4 ***	(1.4)	0.4	(1.3)	3.1 **	(1.4)
Felony rearrest	-3.4 ***	(1.6)	5.2 ***	(1.5)	7.5 ***	(1.6)
Any reconviction	-7.7 ***	(1.7)	-10 ***	(1.7)	-8.4 ***	(1.8)
Felony reconviction	-7.4 ***	(1.8)	-11.9 ***	(1.7)	-9.8 ***	(1.9)
Controlled substance possession						
Any rearrest	-1.8 *	(1.1)	2.4 ***	(0.9)	7.1 ***	(0.8)
Felony rearrest	-1.8	(1.2)	5.4 ***	(1.0)	10.8 ***	(0.9)
Any reconviction	-6.3 ***	(1.2)	-7.2 ***	(1.0)	-2.3 **	(1.0)
Felony reconviction	-5.7 ***	(1.2)	-8.2 ***	(1.0)	-3.4 ***	(1.0)
Burglary						
Any rearrest	4.1 ***	(1.0)	7 ***	(0.9)	8.4 ***	(1.0)
Felony rearrest	5.8 ***	(1.1)	10.5 ***	(0.9)	12.2 ***	(1.0)
Any reconviction	4.2 ***	(1.1)	-3.7 ***	(0.9)	-1.8	(1.0)
Felony reconviction	4.1 ***	(1.0)	-4.3 ***	(0.9)	-4.3 ***	(1.0)

Source: Data are from the California Multi-county Study (MCS) and include two-year recidivism outcomes for releases from October 2011 to October 2015

***$p < .01$ **$p < .05$ *$p < .10$

Results

Table 4 presents descriptive findings of the relationship between sanction type and recidivism outcomes for all individuals sentenced for felony offenses. The full set of coefficients for the linear probability models used to generate these estimates are provided in Appendix Table 1. These results show that holding constant a rich set of demographic, current offense, and criminal history characteristics, along with fixed effects for release month, that jail sanctioning is associated with roughly the same rearrest (for felonies alone and arrests for both felonies and misdemeanors) as those for people sanctioned with a prison term. In contrast, among those sentenced to jail and probation or probation only terms, rearrest rates were higher in comparison to their counterparts sentenced to prison. These trends reverse when we compared reconviction rates. We find all locally sanctioned groups – whether sentenced to jail, jail and probation, or probation – had lower reconviction rates than those sentenced to prison. We present these results in more detail below.

Jail sentences are associated with a similar rate of rearrest and modestly lower felony (1.1 percentage points) and overall (1.6 percentage points) reconviction rates when compared to those sentenced to prison. For the other two local sanction types, jail plus probation and probation, we find patterns of greater likelihood of rearrest, but lower likelihood of reconviction. A jail and probation sanction is associated with a 7.9 percentage point greater felony rearrest rate and a 4.7 percentage point greater overall rearrest rate than for those sentenced to prison. However, a sentence to jail plus probation is associated with lower reconviction rates than a sentence to prison, 6.6 percentage points less for felony reconviction and 5.6 percentage points less for the combined measure of misdemeanor and felony reconviction. Probation versus prison shows a similar pattern. Probation is associated with a 13.7 percentage point higher felony rearrest rate and a 10.3 percentage point higher rearrest rate for any offense. Probation is also associated with lower reconviction rates. Those sentenced to probation are 3.3 percentage points less likely to be reconvicted of a felony and 1.7 percentage points less likely to be reconvicted of any offense.

Before drawing strong conclusions about these findings, however, it is important to recognize that a weakness of the analysis presented above is that the offense composition of those sentenced to prison is different from that of those sentenced locally. While there is overlap in offense types across these four sanctions, our ability to adjust for these offense type differences in estimating recidivism outcomes is limited by the relative infrequency of some offense types among either the prison or locally-sentenced populations. To address this challenge, we narrow our focus to a set of high volume offenses for which individuals are regularly sentenced to prison, jail, jail plus probation, or probation only. These offenses serve as examples for how policymakers might select offenses with substantial overlap across sanction type for further exploration into the relationship between the type of sanction and recidivism outcomes. Below we report findings for separate analyses of the relationship between sanction type and recidivism outcomes for individuals sentenced for the following three offense types: motor vehicle theft, controlled substance possession, and burglary.

For each analysis, we construct pairwise comparison groups using a matching strategy, which selects individuals from each of the locally sanctioned groups that are most similar to the group sentenced to prison for that offense. We then estimate differences in two-year recidivism rates by regressing each recidivism outcome on the local sanction type, including the rich set of control variables (demographics, current offense information, and past offending history) to adjust for any remaining variation in the characteristics of the comparison groups. We also include month fixed effects to adjust for any relationship between the month of release and recidivism outcomes. Results are summarized in Table 4 and presented in full in Appendix Tables 2–4.

We find jail sanctions, relative to prison, are associated with lower rates of rearrest and reconviction for individuals convicted of motor vehicle theft or possession of a controlled substance. However, jail sanctions are associated with higher rearrest and reconviction rates for those originally sentenced for burglary. The patterns for the other two locally sanctioned groups—individuals sentenced to jail and probation or to probation only—are somewhat different. Across all three offense types, people

sentenced to local sanctions that included a probation supervision term are generally more likely to be rearrested and less likely to be reconvicted than their matching prison-sentenced counterparts.

For people convicted of motor vehicle theft, among those sentenced to jail the rate of rearrest for a felony offense is 3.4 percentage points lower and the rate of rearrest for any level of offense is 5.4 percentage points lower than for individuals with similar characteristics who were sentenced to prison. Rates of felony and overall reconviction are also substantially lower: we estimate a felony reconviction rate 7.4 percentage points lower and an overall reconviction rates 7.7 percentage points lower for those sentenced to jail for motor vehicle theft. In contrast, those sentenced to jail and probation have a higher felony rearrest rate—5.2 percentage points higher—than their prison-sentenced counterparts, but there is no significant difference between the groups in the overall rearrest rate. Those sentenced to probation without jail time had higher felony and overall rearrest rates (7.5 and 3.1 percentage points, respectively). However, both groups have substantially lower reconviction rates than their matched prison-sentenced comparison group. Felony reconviction rates are 11.9 percentage points lower for the jail and probation group and 9.8 percentage points lower for the probation group. Differences in overall conviction rates are tempered somewhat by the inclusion of misdemeanor convictions, but remained large for the jail and probation group (10.0 percentage points lower) and the probation groups (8.4 percentage points lower).

Next we consider people convicted of controlled substance possession. The results are quite similar to what we found in the analyses of motor vehicle theft. Individuals sentenced to jail for controlled substance possession have a 1.8 percentage point lower overall rearrest rate and 6.3 percentage point lower overall reconviction rate. Among those sentenced to jail and probation, the felony rearrest rate is 5.4 percentage points higher and the overall rearrest rate is 2.4 percentage points higher than for those sentenced to prison. This pattern held for those sentenced probation, but rearrest rates are higher for this groups (10.8 percentage points for felony and 7.1 percentage points for overall rearrests). Despite these higher rearrest rates, differences in reconviction rates went in the opposite direction. Individuals sentenced to jail and probation are 8.2 percentage points less likely to be reconvicted of a felony and 7.2 percentage points less likely to have any reconviction. These results were similar in direction, although not as substantial in magnitude, for people sentenced to probation (-3.4 and -2.3 percentage points, respectively).

The results for burglary are distinct from the previous findings, particularly for individuals sentenced to jail. Relative to prison, individuals sentenced to jail for burglary have higher rearrest rates (5.8 for felony rearrest and 4.1 for any rearrest) and higher reconviction rates (4.1 for felony reconviction and 4.2 for any reconviction). These findings differ markedly from the results for those sentenced to jail for motor vehicle theft or controlled substance possession. As was the case in our previous findings, those sentenced to jail and probation have higher rearrest rates (10.5 percentage points higher for felony rearrest and 7.0 percentage points higher for any rearrest), and lower felony and overall reconviction rates (-4.3 and -3.7 percentage points, respectively). Like people convicted of motor vehicle theft and controlled substance possession, those sentenced to probation for burglary also have higher

felony rearrest and any rearrests (12.2 percentage points higher for felony rearrests and 8.4 percentage points higher for any rearrests). The felony reconviction rate for people convicted of burglary was lower than for people given probation rather than prison (-4.3 percentage points), but there was no significant difference in their overall likelihood of any reconviction in comparison to those sentenced to prison.

The difference in outcome dynamics between rearrest and reconviction provides support for Ostermann et al.'s (2015) observation that different measures of recidivism can lead to different conclusions about the impact of correctional interventions. In their study, they showed that different conclusions about the rate of recidivism result when violations and revocations are included in the recidivism measures. Here we find differences in conclusions depending upon whether rearrest versus reconviction are used. Moreover, with respect to reconviction, we find that, like Cochrane and Mears (Cochran et al., 2014; Mears & Cochran, 2018), more severe sanctions tend to lead to worse outcomes.

Discussion

Above we sought to compare prison sanctions for people convicted of felony offenses to less costly and less severe alternatives, specifically jail, probation, and probation with some jail time. Three aspects of our findings are notable. First, we find that in most cases a prison sanction has no better and sometimes worse recidivism outcomes than non-prison alternatives. In particular, we find that local sanctioning options are associated with lower reconviction rates. Descriptively, we find all locally sanctioned groups had lower reconviction rates in comparison to their prison-sentenced counterparts. In our analysis by offense type, we find only one case in which locally-sentenced individuals have higher reconviction rates – individuals sentenced to jail for burglary offenses.

Second, we find conviction rates are generally lower for individuals sanctioned to local sentences that include probation. This provides support for the idea that leveraging lower-cost local sanction options may improve recidivism outcomes for some types of offenders. There are likely multiple reasons for this. It could be that local sanctioning provides better opportunities for rehabilitation and better supports reentry than those provided through the prison and parole systems. It could also be that local sanctioning allows people convicted of felonies to sustain their relationships with their families and their community, which is made easier if they are held or supervised within the county they lived prior to their conviction. In California, prisons are distributed throughout the state and many of them are remote from the large and dense cities that generate the majority of felony convictions. Individuals incarcerated in prison frequently are housed hundreds of miles from the communities where they reside. It could also be, in the case of individuals sentenced to jail with no supervision period following release, that jail sentences result in fewer arrests because once an individual is released from jail custody without supervision they typically are less likely to have their misconduct or illegal activities detected.

Third, we find that for several of our analyses the two indicators of recidivism, rearrest and reconviction, do not align. Given that rearrest is a precursor to

reconviction, the two measures of recidivism ideally should align, with higher rearrests being associated with higher reconviction and vice versa. However, we find many instances where the two measures are in opposite directions, especially with respect to jail plus probation and probation. The recurring pattern is that, relative to prison, the jail plus probation and probation have higher rearrest rates, but lower reconviction rates. This was the case in our analyses of all offenders and for each of the specific offense types. It could be that probation supervises people convicted of felonies more closely than parole and detects more misconduct or illegal behavior, but that probation also relies more on alternative sanctions than parole. Rather than prosecuting people for offenses committed while on supervision they may rely on flash incarceration or increased conditions of supervision. Given the differences in how parole and probation respond to misbehaving supervisees, it may make sense to privilege the reconviction measure, which aside from jail sentences for burglary, is consistently lower than prison in all of the analyses. Reconviction results from a court process with a high standard of evidence and due process rights. Outcomes from such a process are more definitively criminal, whereas arrest involves the discretionary actions of a law enforcement or probation officers, which may or may not hold up under the scrutiny of a criminal trial. Put another way, reconviction is likely to be underinclusive of the criminal activities of people released after felony convictions, whereas rearrest is potentially overinclusive. Thus, reconviction is a more conservative and consistent measure of recidivism than rearrest. Partly for this reason the California Board of State and Community Corrections advocates reconviction for a felony or a misdemeanor as its primary measure of recidivism.

The results of our analyses suggest policymakers in California and nationally should further investigate the efficacy and efficiency of longer and more costly prison sentences relative to shorter and less costly local sanctioning options for some offense types. These results are consistent with past research showing that custodial sanctions do not appear to have worse outcomes for similar offenders given community-based sanctions (Petrich et al., 2021) as well as more granular research by Cochran et al., (2014; Mears & Cochran, 2018) that shows that more severe sanctions do not reduce recidivism. In addition, this work aligns with research finding that prison downsizing in California has generally reduced reconviction rates among people convicted of lower-level felony offenses (Bird et al, 2017, 2018). However, as with nearly all quasi-experimental work this interpretation of the results is conditional on the extent to which we were able to adequately address systematic selection of offenders into sanction types. In this study, we leverage a rich set of demographic and criminal history control characteristics to first refine sanction comparison groups using matching and then by using a regression model to estimate differences in recidivism rates, adjusting for these characteristics and the timing of release. However, we were only able to adjust for observed characteristics. It is possible that there are unobserved characteristics that drive both the likelihood of receiving a prison sentence and the likelihood of being reconvicted. In the context of the comparisons considered here, for example, it seems likely that prison sentences might be marginally more likely in circumstances where judges rely on unobserved indicators of risk to recidivate. If that were the case then recidivism outcomes would likely be worse for individuals sentenced to prison, even with a robust

set of controls and month fixed effects, and therefore not necessarily attributable to the type of sanction.

Conclusions

Policymakers across the United States are seeking creative ways of lessoning the reliance on prison incarceration as a response to people convicted of felony offenses. California has taken a number of steps to shift offenders to local correctional systems, given greater responsibilities to probation departments to manage people convicted of felony offenses, and expanded the use of blended sentences involving some jail time followed by a period of community supervision by probation. Most existing research has focused exclusively on contrasting prison and community sanctions and has shown that outcomes for people given community sanctions have better or no different recidivism outcomes than for people placed into custody. However, the contrast between prison versus community placements does not capture the range of alternatives that policymakers are currently considering. Research contrasting sanction types, arrayed in terms of severity, from Florida has begun to address this gap. We sought to contribute to this line of inquiry with data from California, analyzing the recidivism impacts of multiple options along what Morris and Tonry (1991) call the "continuum of control." Our findings provide support for idea that at least some types of felonies could be handled by jail, jail plus probation, or probation rather than incarceration in prison. In some cases, using alternatives to prison might lead to increased rearrest, but in most cases in our analyses the alternatives were associated with lower reconvictions than prison incarceration. Shifting offenders into more local and less confining conditions would also save money, as prisons are the most expensive correctional option and reduce the myriad collateral consequences that have been documented as associated with prison incarceration.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s12103-022-09686-5.

Authors Contributions Mia Bird conceptualized and implemented the research design. Viet Nguyen compiled and structured the dataset. Ryken Grattet wrote the first draft of the article and oversaw the revisions with Mia Bird's assistance.

Declarations

Ethics Approval The methodology for this study was approved by the Institutional Review Board of the Public Policy Institute of California.

Conflicts of Interest None to declare.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is

not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

Belur, J., Thornton, A., Tompson, L., Manning, M., Sidebottom, A., & Bowers, K. (2020). A systematic review of the effectiveness of the electronic monitoring of offenders. *Journal of Criminal Justice, 68*, 101686.

Bird, M., & Grattet, R. (2016). Realignment and recidivism. *The Annals of the American Academy of Political and Social Science, 664*(1), 176–195.

Bird, M., Grattet, R., & Nguyen, V. (2017). *Realignment and Recidivism in California*. Public Policy Institute of California.

Bird, M., Lofstrom, M., Martin, B., Raphael, S., Nguyen, V., & Goss, J. (2018). *The impact of Proposition 47 on crime and recidivism*. Public Policy Institute of California.

Bird, M., Nguyen, V., & Goss, J. (2019). *Recidivism of felony offenders in California*. Public Policy Institute of California.

California Department of Corrections and Rehabilitation. (2021). *Recidivism Report For Offenders Released From the California Department of Corrections and Rehabilitation in Fiscal Year 2015–16*. Office of Research.

California Department of Justice. (2014). Attorney General Kamala D. Harris Releases Proposed Statewide Definition of Recidivism. *Press Release*. https://oag.ca.gov/news/press-releases/attorney-general-kamala-d-harris-releases-proposed-statewide-definition. Accessed 24 May 2022.

Carson, E. A. (2020). *Prisoners in 2018 (NCJ 253526)*. Bureau of Justice Statistics, U.S. Department of Justice.

Clarke, M. (2018). Polls Show People Favor Rehabilitation over Incarceration. *Prison Legal News*. https://www.prisonlegalnews.org/news/2018/nov/6/polls-show-people-favor-rehabilitation-over-incarceration/. Accessed 19 Nov 2021.

Cochran, J. C., Mears, D. P., & Bales, W. D. (2014). Assessing the effectiveness of correctional sanctions. *Journal of Quantitative Criminology, 30*(2), 317–347.

Cullen, F. T., Jonson, C. L., & Nagin, D. S. (2011). Prisons do not reduce recidivism: The high cost of ignoring science. *The Prison Journal, 9*(3), 48–65.

Durose, M. R., Cooper, A. D., & Snyder, H. N. (2014). *Recidivism of prisoners released in 30 states in 2005: Patterns from 2005 to 2010* (Vol. 28). US Department of Justice, Office of Justice Programs, Bureau of Justice ….

Duwe, G. (2015). An outcome evaluation of a prison work release program: Estimating its effects on recidivism, employment, and cost avoidance. *Criminal Justice Policy Review, 26*(6), 531–554.

Fischer, R. (2009). Are California's recidivism rates really the highest in the nation? It depends on what measure of recidivism you use. *Center for Evidence-Based Corrections Bulletin, 1*(1), 1–4.

Gelb, A., Gramlich, J., & Stevenson, P. (2017). *State Reforms Reverse Decades of Incarceration Growth: Policies have reduced prison populations, expanded prison alternatives, protected public safety*. The PEW Charitable Trusts.

Grattet, R., & Martin, B. (2015). *Probation in California (Just the Facts)*. Public Policy Institute of California.

Lofstrom, M., Bird, M., & Martin, B. (2016). *California's historic corrections reforms*. Public Policy Institute of California.

Lofstrom, M., & Martin, B. (2015). *Public safety realignment: Impacts so far*. Public Policy Institute of California.

Lovell, D. (2015). *Guidelines for recidivism studies: Measuring criminal justice outcomes for local programs*. California Board of State and Community Corrections. https://www.bscc.ca.gov/wp-content/uploads/Recid-Guidelines.pdf. Accessed 24 May 2022.

Maltz, M. D. (1984). *Recidivism*. Academic Press.

Mears, D. P., & Cochran, J. C. (2018). Progressively tougher sanctioning and recidivism: Assessing the effects of different types of sanctions. *Journal of Research in Crime and Delinquency, 55*(2), 194–241.

Mears, D. P., Cochran, J. C., & Cullen, F. T. (2015). Incarceration heterogeneity and its implications for assessing the effectiveness of imprisonment on recidivism. *Criminal Justice Policy Review, 26*(7), 691–712.

Morris, N., & Tonry, M. (1991). *Between prison and probation: Intermediate punishments in a rational sentencing system*. Oxford University Press.

Ostermann, M., Salerno, L. M., & Hyatt, J. M. (2015). How different operationalizations of recidivism impact conclusions of effectiveness of parole supervision. *Journal of Research in Crime and Delinquency, 52*(6), 771–796.

Petrich, D. M., Pratt, T. C., Jonson, C. L., & Cullen, F. T. (2021). Custodial sanctions and reoffending: A meta-analytic review. *Crime and Justice, 50*(1), 000–000.

Phelps, M. S. (2016). Possibilities and contestation in twenty-first-century US criminal justice downsizing. *Annual Review of Law and Social Science, 12*, 153–170.

Pickett, J. T. (2016). Reintegrative populism? *Criminology & Public Policy, 15*(1), 131–135. https://doi.org/10.1111/1745-9133.12191

Schrantz, D., DeBor, S. T., & Mauer, M. (2018). *Decarceration strategies: How 5 states achieved substantial prison population reductions*. The Sentencing Project. https://www.sentencingproject.org/publications/decarceration-strategies-5-states-achieved-substantial-prison-population-reductions/

Sundt, J., Cullen, F. T., Thielo, A. J., & Jonson, C. L. (2015). Public willingness to downsize prisons: Implications from Oregon. *Victims & Offenders, 10*(4), 365–378.

Thielo, A. J., Cullen, F. T., Cohen, D. M., & Chouhy, C. (2015). Rehabilitation in a Red State. *Criminology & Public Policy, 15*(1), 137–170. https://doi.org/10.1111/1745-9133.12182

Turner, S. F., Davis, L. M., Fain, T., Braithwaite, H., Lavery, T., Choinski, W., & Camp, G. (2015). A national picture of prison downsizing strategies. *Victims & Offenders, 10*(4), 401–419. https://doi.org/10.1080/15564886.2015.1078185

Villettaz, P., Gillerion, G., & Killias, M. (2014). *The effects on re-offending of custodial versus non-custodial sanctions*. bra National Council for Crime Prevention.

Zheng, Z. (2020). *Jail Inmates 2018 (NCJ 253044)*. Bureau of Justice Statistics, U.S. Department of Justice.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.