The Effect of Prison Industry on Recidivism: An Evaluation of California Prison Industry Authority (CALPIA)

James Hess and Susan F. Turner Center for Evidence-Based Corrections University of California, Irvine November 2021

## **Executive Summary**

The California Prison Industry Authority (CALPIA) is a self-supporting training and production program currently operating within the California Department of Corrections and Rehabilitation (CDCR). CALPIA provides training, certification and employment to inmates in a variety of different fields. The goods and services produced by CALPIA are sold to the state and other government entities, which provides an economic benefit to the state. In addition to the vocational and economic aspect of the program, one of CALPIA's missions is to reduce the subsequent recidivism of their inmate participants. This research examines the effect of participation in CALPIA on the recidivism of CDCR inmates released into the community.

Unlike prior recidivism reports on CALPIA, this study compares CALPIA participants with at least 6 months in the program and released between August 2014 and July 2018 with incarcerated individuals who were accepted into the CALPIA program but were released before they could actively participate (i.e., the "Waitlist" group). Both groups must apply and be accepted into the program, thus the Waitlist group helps control for eligibility criteria as a comparison group. To further our confidence that any program effects are due to the program, we utilize a propensity score matching (PSM) technique to statistically match CALPIA and Waitlist individuals in order to control for the differences in background characteristics.

This draft reports on measures of recidivism in three ways: rearrest, reconviction and reincarceration during one-, two- and three-years post-prison release. We also examine participation in Career Technical Education (CTE). Our findings show that participation in CALPIA is associated with reduced offending overall. CALPIA individuals had lower rates of arrests, convictions and incarcerations during a three-year follow-up than a Waitlist comparison group. Although the sample size for our analysis of CTE was small, participation in this CALPIA program yields lower recidivism rates than other CALPIA program participation. For female individuals, observed differences for CALPIA and Waitlist individuals were significant, however, no differences remained significant between groups after matching was performed.

# Contents

Executive Summary i
Contents ii
List of Tables iv
Introduction1
California Prison Industry Authority (CALPIA)1
CALPIA Career Technical Education (CTE)2
Joint Venture and Free Venture2
Previous Research on CALPIA2
Research on Prison Industry and Recidivism3
The Prison Industry Enhancement Certification Program4
Prison Industries4
The Current Research
Methods7
Sample Selection
Data Collection7
The Comparison Group7
Sample Characteristics
Observed
Weighted – Propensity Score Matching8
Outcome Measures12
Overall Results
Rearrest
Observed: Rearrest
Propensity Score Match: Rearrest
Reconviction13
Observed: Reconviction
Propensity Score Match: Reconviction13
Return to Custody (RTC)14
Observed: RTC14
Propensity Score Match: RTC14
CTE versus Other CALPIA Participant Results14
Rearrest15

Observed: Rearrest
Propensity Score Match: Rearrest15
Reconviction16
Observed: Reconviction
Propensity Score Match: Reconviction16
Return to Custody (RTC)16
Observed: RTC
Propensity Score Match: RTC17
Female CALPIA Versus Waitlist Results17
Rearrest17
Observed: Rearrest
Propensity Score Match: Rearrest
Reconviction
Observed: Reconviction
Propensity Score Match: Reconviction19
Return to Custody (RTC)19
Observed: RTC
Propensity Score Match: RTC
Conclusions
References
APPENDIX A

# List of Tables

Table 1.         Background Characteristics of CALPIA and Waitlist Participants – Unweighted and Weighted
Table 2. Percent Rearrest Rate for All CALPIA and Waitlist Participants – Unweighted
Table 3.         Percent Rearrest Rate for CALPIA and Waitlist Participants – Based on Propensity Score Weights
Table 4.         Percent Reconviction Rate for CALPIA and Waitlist Participants – Unweighted
Table 5. Percent Reconviction Rate for CALPIA and Waitlist Participants – Based on Propensity Score Weights
Table 6.         Percent Returned to Custody for CALPIA and Waitlist Participants – Unweighted
Table 7.         Percent Returned to Custody for CALPIA and Waitlist Participants – Based on Propensity Score Weights
Table 8. Percent Rearrest Rate for CTE versus Other CALPIA Participants – Unweighted15
Table 9. Percent Rearrest Rate for CTE versus Other CALPIA Participants – Based on Propensity Score Weights
Table 10.         Percent Reconviction Rate for CTE versus Other CALPIA Participants – Unweighted
Table 11.         Percent Reconviction Rate for CTE versus Other CALPIA Participants – Based on Propensity Score Weights
Table 12.         Percent Returned to Custody for CTE versus Other CALPIA Participants – Unweighted
Table 13.         Percent Returned to Custody for CTE versus Other CALPIA Participants – Based on Propensity Score Weights
Table 14.         Percent Rearrest Rate for Female CALPIA versus Waitlist Participants - Unweighted
Table 15.         Percent Rearrest Rate for Female CALPIA versus Waitlist Participants – Based on Propensity Score Weights
Table 16.         Percent Reconviction Rate for Female CALPIA versus Waitlist Participants – Unweighted
Table 17.         Percent Reconviction Rate for Female CALPIA versus Waitlist Participants – Based on Propensity Score Weights
Table 18.         Percent Returned to Custody for Female CALPIA versus Waitlist Participants – Unweighted
Table 19.         Percent Returned to Custody for Female CALPIA versus Waitlist Participants – Based on Propensity Score Weights 20
Table 20. Bias Diagnostic for the Total Sample of CALPIA versus Waitlist for Propensity Score Match

## Introduction

The California Prison Industry Authority (CALPIA) is an enterprise that provides work assignments to inmates housed in the California Department of Corrections and Rehabilitation (CDCR). CALPIA currently manages manufacturing, service provision and consumables production in all 35 CDCR prisons. Produced goods are sold to state and other government offices. CALPIA is a self-supporting business—in other words, the profits that are generated using inmate labor sustain the organization without state and federal funding. In addition to providing inmate training and certification, producing goods, and providing an economic benefit to the state, one of CALPIA's missions is reducing recidivism, which is the focal point of the current study.

The University of California, Irvine's (UCI) Center for Evidence-Based Corrections (CEBC) was asked to conduct a recidivism analysis of CALPIA participants. This study compares recidivism for incarcerated individuals who participated in CALPIA programming to individuals who were waitlisted for CALPIA but were released before participation.

## California Prison Industry Authority (CALPIA)

CALPIA was established in 1983 as part of the California state correctional system, but with oversight from an eleven-member Prison Industry Board. The Board's responsibility was to ensure that the entity was self-sufficient and did not cause adverse impact on private sector businesses. In 2005, when California's state correctional system underwent reorganization, CALPIA was also reorganized—still operating within CDCR prisons and with the Prison Industry Board, but now as an autonomous entity. In addition to selfsustainability, the goal of CALPIA is to provide work opportunities to incarcerated individuals, and to provide job skills training with the potential of earning industry-accredited certifications.

The qualifications for individuals to participate in CALPIA are governed by law (15 CA ADC § 8004). For example, inmates must apply between two and five years from their earliest possible release date and have a minimum adult basic education score. Any inmate who meets the legal requirement may apply for CALPIA.<sup>1</sup> All CALPIA individuals must also earn a high school diploma (or equivalent) within two years of joining the program to continue. The programmatic requirements of CALPIA mean that accepted inmates may be distinct from the general population of CDCR inmates.

In FY 2019-2020, CALPIA managed approximately 7,000 assignments.<sup>2</sup> CALPIA has over 100 accredited certification programs in numerous areas like agriculture, manufacturing, maintenance and

<sup>&</sup>lt;sup>1</sup> Generally, inmates serving a life sentence without the possibility of parole are not eligible for participation in CALPIA. Some incarcerated individuals convicted of specific offenses, like arson, are not eligible for participation in any CALPIA program unless an exception is made. Individuals with a history of certain criminal offenses are prohibited from participating in programs involving those offenses. For example, individuals convicted of forgery or counterfeiting are not assigned to the CALPIA printing plant.

<sup>&</sup>lt;sup>2</sup> CALPIA Annual Report to the Legislature: https://www.calpia.ca.gov/wp-

content/uploads/calpia/news/Reports\_and\_Publications/Report%20To%20The%20Legislature%20FY%202019-20%20(FINAL%20-%20low-resolution).pdf

administration (CALPIA, 2018).<sup>3</sup> In exchange for their work, CALPIA participants are paid a nominal amount per hour with raises for promotion. The pay scale as of August 2018 was \$.35 to \$1.00 per hour (15 CA ADC §8006).<sup>4</sup>

## CALPIA Career Technical Education (CTE)

CALPIA also runs a Career Technical Education (CTE) Program. The CTE pilot program was launched in 2006. It also provides incarcerated individuals work training and opportunities to earn accredited certifications, but the CTE program partners with trade unions, non-profit organizations, and public or private companies. Currently, the CTE program offers seven certifications in construction, roofing, iron working, commercial diving, facilities maintenance, computer-aided design, computer coding and culinary arts management.<sup>5</sup> The CTE program is not available in all CDCR prisons.

## Joint Venture and Free Venture

In California, CDCR holds the Prison Industry Enhancement Certification Program (PIECP) certificate for the Joint Venture Program (JVP), which is run by CALPIA. PIECP is run by the Bureau of Justice Assistance through the U.S. Department of Justice. JVP can partner with public, non-profit or for-profit organizations or businesses to employ inmate labor. Unlike CALPIA, JVP inmates are paid a comparable wage to non-inmate employees doing similar work. A portion of the inmate's salary is then paid to CDCR for reimbursement, restitution, family/child support, an inmate's mandatory savings account, and deposited in an inmate's institutional account for personal use.

CALPIA also runs the Free Venture Program (FVP) within the CDCR's Division of Juvenile Justice (DJJ). This program is structured like the Joint Venture Program but runs in the juvenile state correctional facilities.

## Previous Research on CALPIA

CALPIA periodically releases analyses of the economic impact of the program on the state of California (Goldman et al., 1998; Goldman & Pradhan, 2002; Price et al, 2008; Harris & Goldman, 2014). Their most recent economic impact report concluded that CALPIA had a total impact of 375.4 million dollars on the state's economy in fiscal year 2012-13 (Harris & Goldman, 2014). The report also cites the National Corrections Industries Association's assessment that in FY 2012-2013, CALPIA had the highest sales of any state correctional industry in the country (Harris & Goldman, 2014).

CALPIA also measures its economic impact by the amount of money saved by reducing recidivism. A CALPIA report that examined the return to prison rate of CALPIA participants between the years 2008 to 2011 found that in the third-year post-release, around 47 to 50 percent of CALPIA participants were recommitted compared to 63 to 67 percent of the general CDCR population (CALPIA, 2013). To date, no

<sup>&</sup>lt;sup>3</sup> The following areas are all training programs (and the number of different certificates) offered by CALPIA: Optician (1), Welding (4), Linen Management (3), Food and Agriculture (3), Electronics Technician (3), Braille (6), Metalworking (3), Food Service (2), Technician (5), Forklift Operator (2), Printing (4), Dental Technician (1),

Machinery (1), Fundamental Training (10), Electrical (11), Mechanical (10), Packing (3), Machine Shop (9),

Mechanical Maintenance (7), Building and Grounds (7), Welding (4), Custodial Maintenance (5).

<sup>&</sup>lt;sup>4</sup> https://govt.westlaw.com/calregs/Document/I804973B205E44979A107B334B5ED7E77?viewType=FullText&origi nationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

<sup>&</sup>lt;sup>5</sup> https://www.calpia.ca.gov/workforce-development/career-technical-education-cte/

CALPIA self-evaluation has included a measure of rearrest and recommitment at the county level as part of the assessment.<sup>6</sup>

CALPIA also reports that "to date, the CALPIA CTE program is one of the most effective correctional rehabilitation programs in California, with cumulative recidivism rate of 7.13%" (CALPIA, 2012). According to this self-evaluation, the CALPIA CTE program alone has provided a net savings of 9.5 million dollars and around 10.1 million dollars in "recidivism cost avoidance" from fiscal years 2007-08 through 2010-11 (CALPIA, 2012). A description of the methods used to calculate this number was not provided.

Their evaluation of the three-year return to custody rates of the cohort released from prison in FY 2007-2008 found that: 11.8 percent of CTE program participants (with at least six months of participation) were returned to prison (CALPIA, 2012), compared to 46.8 percent of all CALPIA general participants (CALPIA, 2014), and 63.7 percent of the general CDCR population (CDCR, 2012).<sup>7</sup> It is important to note that only 68 incarcerated individuals were included in the release cohort of the of CTE program in the CALPIA analysis. The rate of return to prison for the CALPIA CTE cohort released in the following year (FY 2008-2009) was slightly higher (17.6 percent) (CALPIA, 2014).<sup>8</sup>

To our knowledge, no recent external evaluations of CALPIA have been conducted. One limitation of the CALPIA self-studies is the lack of a direct comparison group. Without proper controls, findings cannot estimate the selection effects into CALPIA. For example, a California State Audit (2011: 2) suggested that CALPIA inmates have higher education levels and are less likely to have a substance abuse history, thus potentially contributing to the lower recidivism rates that they demonstrate. This research study addresses comparability by contrasting CALPIA participants to a statistically similar comparison group as described in more detail below.<sup>9</sup>

## Research on Prison Industry and Recidivism

Research on inmate employment and behavior generally conclude that inmates who work are less likely to get into trouble, both inside and outside of prison. However, the research on inmate employment includes many different aspects of work. They can include work assignments in prison, vocational education and/or certification, vocational programming or mentorships, prison industries, work release (where inmates are released from prison to work in the community), re-entry work programs (run by parole after release from prison), or job placement assistance. Many reviews and meta-analyses combine

<sup>&</sup>lt;sup>6</sup> Previous CALPIA reports note that future measures of recidivism will include rearrest or reincarceration in the county (CALPIA, 2014; 2015).

<sup>&</sup>lt;sup>7</sup> The presentation of these data suggest that these groups are not mutually exclusive. In other words, the same individuals could be represented in all three groups. For example, the CALPIA CTE group members are also included in the CALPIA general members group and included in the general CDCR release cohort group. The return to custody numbers are taken from various sources and compared together in the CALPIA (2014) report. The methods and definitions used to create the comparison groups is not included in the report.

<sup>&</sup>lt;sup>8</sup> A 2011 audit of CALPIA asserted that the cost-savings and recidivism rate reported by CALPIA was inaccurate. The recidivism rate was higher than the rates presented by CALPIA, and as a result, the estimated cost-savings of the program was inflated (California State Auditor, 2011). The audit also concluded that CALPIA lacked reliable data and sufficient follow-up information on participant success. Until it is definitively known whether CALPIA has since remedied these concerns, results from their self-study should be considered along with the Auditor findings. <sup>9</sup> Unfortunately, data on education and substance abuse contained too many missing values to be used in the statistical match.

these types of programs and find that, in general, working inmates are less likely to recidivate and less likely to misbehave while incarcerated (for a review see Duwe, 2017).

CALPIA, however, is a "prison industry" program (with a component of training and certification). Research studies on prison industry programs, specifically, are not as common as other inmate employment studies. It is even distinct from a prison "work assignment," which is also employment of inmates inside prison but not run through a prison industry. The two major forms of prison industry research are summarized in the two following sections.

### The Prison Industry Enhancement Certification Program

The Prison Industry Enhancement Certification Program (PIECP) was created in 1979 by the Justice Improvement Act. The program intends for private organizations to work with federal and state governments to run prison-based joint ventures. Since then, at least 38 states have participated in the program (Hopper, 2013). From 1979 to 2012, PIECP has provided almost 630 million dollars in wages to inmates, which then benefits victims' programs, room and board, family support, and taxes. A financial analysis suggests that the program effectively reduces the cost of incarceration through these methods, regardless of any change in recidivism (Hopper, 2013). An evaluation of some states found that there was a significant reduction in the odds of recidivism for inmates participating in PIECP. The effect is largest when comparing PIECP inmates to all inmates, but was still significant when comparing PIECP participants to other inmates with work assignments in prison (Hopper, 2013). In a comparison of PIECP inmates matched to inmates with non-PIECP work activities in 46 prisons across five states, Smith and colleagues (2006) found that PIECP participants had better outcomes after release. PIECP participants obtained and retained employment longer, and had higher wages than inmates with other work or programming experience. The PIECP group was also less likely and slower to recidivate (Smith, Bechtel, Patrick, Smith & Wilson-Gentry, 2006).

In California, the PIECP program is Joint Venture. There are major differences between Joint Venture and CALPIA work. First, Joint Venture participants are hired and employed by private companies. The company is responsible for hiring and terminating the inmate employees. Second, inmate employees working for Joint Venture must earn wages that are comparable to non-inmate wages for similar work. A proportion of inmate wages is deducted for taxes, room and board, fines or restitution, and family support. Eligibility for participation in the Joint Venture program rests predominantly with the hiring business. Prison staff screen inmates for safety and security concerns, and inmates are hired after the businesses interview them. The length and tenure of each inmate's employment is determined by the employer. The differences in these PIECP programs and traditional prison industry programs could lead to differing outcomes, thus generalizing to all prison industry programs may not be possible.

### **Prison Industries**

According to the 2005 Census of State and Federal Correctional Facilities, 31 percent of all US state facilities operate a prison industry program (Stephan, 2008). At that time, almost every state had a prison industry operating in at least one of its facilities. The characteristics of these prison programs can vary significantly. Many states run PIECP programs, but some do not. Prison industries can vary in the variety of industries that are available. They can include a certification and training component or not. They can be run in conjunction with outside non-profits and programs or not.

Despite the number of prison industry programs, there are relatively few evaluations of them. The same prison industry program studies are usually included in scholarly reviews or meta-analyses (e.g., Aos, Miller, & Drake, 2006; Bouffard, MacKenzie, & Hickman, 2000; Duwe, 2017; MacKenzie, 2000; Wilson, Gallagher, & MacKenzie, 2000). It is important to note that the Smith et al. (2006) study on PIECP is generally included in these reviews even though, as previously discussed, PIECP can be distinct from other prison industry programs.

The reviews with the most stringent inclusion criteria include the same three studies: 1) Smith et al. (2006) reviewed above, 2) Saylor and Gaes (1996; 1997; 2001) and 3) Maguire, Flanagan, & Thornberry (1988). Saylor and Gaes (1996; 1996; 2001) is an evaluation of 7,000 inmates in the federal prison industries program. They found that prison industry participants demonstrated reductions in recidivism, prison misconduct and increased employment. Later analyses found that the program outcomes on recidivism and misconduct were more pronounced for minority inmates (Saylor & Gaes, 2001). Maguire, Flanagan, & Thornberry (1988) evaluated prison industry data from New York State. They found that after controlling for independent factors, the difference in recidivism between the program and control participants was no longer statistically significant.

Other state-specific evaluations of prison industries have shown mixed results and have varied in methodological rigor. The evaluation of the Washington State Department of Corrections program found that there were no significant differences in in-prison behavior, but program participants had higher post-release employment and lower recidivism than their matched comparison group without the program (Drake, 2003). An assessment of Minnesota's Affordable Homes Program used propensity scores to match the prison work crew with the control group and found that the program participants had higher rates of employment in construction, higher earnings, and program cost savings, but there was no difference in the rates of recidivism (Bohmert & Duwe, 2012). An evaluation of Florida's PRIDE program has shown no direct effect of employment on recidivism (OPPAGA, 2003; Richardson, 2005). The evaluation conducted by the Ohio Department of Rehabilitation and Correction on their Ohio Penal Industries program showed a reduction in recidivism in program participants versus the comparison group (Anderson, 1995). A report released by the Iowa Department of Corrections (Boudouris, 1985) concluded that recidivism rates were lowest for inmates involved in prison industry, and other vocational and educational programming.<sup>10</sup> Day and colleagues (Day et al., 2017) suggest that in order to understand "what works" in prison industry programs, programs need to be designed and delivered based on theories that can be empirically tested.

Evaluations into the effect of prison industry on the recidivism of female incarcerated individuals shows mixed results. Richmond (2014) analyzed the federal prison industries employment on female inmates. After using propensity score matching on program and non-program participants, Richmond found that there was no significant difference in rearrest or recommitment for female program participants. In contrast, O'Brien and Bates' (2005) study on the post-release experiences of incarcerated females found that participation in prison industry programs was one of the significant variables that predicted lower recidivism rates.

There have been three meta-analyses of the prison industry research (e.g., Aos, et al., 2006; Bouffard, et al., 2000; Wilson et al, 2000). All three analyses include Saylor and Gaes (1996) and Maguire and

<sup>&</sup>lt;sup>10</sup> The quality of the methods used in the Ohio (Anderson, 1995) and Iowa (Boudaris, 1985) evaluations could not be assessed because the full report could not be obtained.

colleagues (1988). Each of the three analyses use a total of only four to five studies (most reviewed above) to determine if the studies show effectiveness of prison industry programs as a whole.<sup>11</sup> Wilson, Gallagher and MacKenzie (2000) found the work in the area was inconclusive. The results were trending toward, but did not reach statistically significant difference. Bouffard and colleagues (2000) concluded that the overall quality of studies in the prison industry area was low, and that most studies showed "significant but not substantive reductions" in recidivism (i.e., reductions of 2 to 4 percentage points). Finally, Aos et al. (2006), in the most recent meta-analysis, concluded that there was a 5.9 percent reduction in recidivism overall and an average of 9,439 dollars saved per participant.

In summary, there is some, but not overwhelming evidence, that prison industry programs can reduce recidivism. The lack of evidence seems as much to do with the lack of methodologically rigorous studies as a lack of recent evaluations in the area. What evidence there is suggests that reductions in recidivism are possible, but may be relatively small in magnitude.

Regardless, most work on prison industry emphasize that recidivism should be considered just one aspect of the potential benefit. After all, despite many states having these industries, only a small proportion of inmates participate in them. The average number of prisoners involved has been estimated between 3 and 15 percent (Lawrence, Mears, Dublin, & Travis, 2002). However, in most states, prison industries are self-sufficient enterprises, which means they do not cost the state or federal government any money to run (Lawrence, et al., 2002). They also generate goods and services that can be sold to other agencies at a reduced cost, so the financial benefit, even without calculating the cost of lower recidivism, could still make the enterprise advantageous. Experts also urge critics to consider the skill-building afforded inmates before their release as an important benefit of these programs (Lawrence, et al., 2002).

## The Current Research

The purpose of this study is to investigate whether participation in CALPIA significantly reduces the likelihood of recidivism upon release. As stated previously, prior studies of CALPIA did not conduct direct comparisons of CALPIA participants to a matched comparison group. This study compares CALPIA participants with other CDCR inmates who qualified for CALPIA but were released before participating in the program. These "Waitlist" inmates provide the closest possible match to CALPIA program participants from the CDCR inmate population. Our analyses examine CALPIA participants who had at least 6 months of CALPIA program experience. A propensity score matching protocol is utilized to help ensure that the CALPIA and the Waitlist groups are statistically similar prior to program participation, thus bolstering the confidence that any group differences are due to CALPIA participation and not any other pre-existing characteristic. In addition, we consider individuals who had at least some programming during their prison term, including in education, self-help groups, jobs and cognitive behavioral programming.<sup>12</sup>

<sup>&</sup>lt;sup>11</sup> Methodologically, the quality of results from a meta-analysis depends on the quality of the studies that are used for that analysis. Therefore, the discrepancy of the findings of these three meta-analyses can be attributed to the quality and findings of the studies that were not shared by the three reports.

<sup>&</sup>lt;sup>12</sup> We also conducted analyses comparing CALPIA individuals who had at least one day in CALPIA, contrasted with Waitlist participants. Differences between the two groups were smaller than those reported in this report, although the CALPIA group recidivism rates were still significantly lower than the Waitlist group.

# Methods

## Sample Selection

Individuals in this study were either CALPIA participants or on the CALPIA Waitlist prior to their release from CDCR custody between August 2014 and July 2018.

In total (see Table 1), this study utilizes 8603 CDCR inmates released from custody in the timeframe. Of these inmates, 2,453 participated in CALPIA<sup>13</sup> and 6,150 qualified for CALPIA but never had the opportunity to participate (i.e., "Waitlist" participants). We included individuals who had any CDCR programming data in their records to help control for the effects of programming other than CALPIA.

## Data Collection

Data for this study originate from two main sources. CDCR Office of Research provided the CALPIA sample of those who participated and those on the waitlist, demographic, work/program history, needs assessments and movement data for the entire sample. Most released inmates from California prisons no longer return to prison for a supervision violation, therefore, return to custody is not the only measure of recidivism used. Rearrest and reconviction at the county level are also important measures to include.

Rearrest and reconviction information was obtained through criminal history records provided by the California Department of Justice (DOJ). CDCR provided the CII numbers for the sample to DOJ, who matched participants. DOJ then sent the criminal history records to UCI for analysis.<sup>14</sup> Virtually all (approximately 99.8 percent) study participant data were matched with DOJ records. Return to custody results were based on data provided by CDCR.

## The Comparison Group

Given the specific standards governing the CALPIA application process, individuals accepted into CALPIA are distinct from the general population of inmates at CDCR. Anyone accepted to CALPIA would not be a lifer, should not have active substance abuse problems, and is likely better educated than the general population. These qualities should be true of both active CALPIA incarcerated individuals and the Waitlist individuals. Thus, they provide us comparable groups to test the unique effect of program participation on recidivism. We would expect that active CALPIA participants would be more similar to the Waitlist group than any other potential comparison group. There may still be, however, group differences if the method by which an inmate is chosen from the Waitlist to participate in CALPIA is not random.

The California Code of Regulations (15 CA ADC §8004.1) describes how CALPIA shall fill vacant job/training positions. Positions are filled based on a number of factors, including the incarcerated individual's skill level, behavior in the institution, and formal education and training, among other criteria. Inmates are to have a minimum of two years and a maximum of five years until their earlier possible release date. Educational requirements also include (with specified exception for disabling conditions) that CALPIA inmate workers complete a GED or high school diploma within two years of initial CALPIA assignment. CALPIA performs drug testing in its workplaces to ensure safe and drug-free environments. These criteria

<sup>&</sup>lt;sup>13</sup> This is based on completing 6 months or more in a single PIA program.

<sup>&</sup>lt;sup>14</sup> DOJ policy prevents giving the CII number to outside researchers; the CII was deleted from the data sent to UCI.

indicate the selection process is not random. Unfortunately, data on educational level at hiring, urinalysis, or any reasons for dismissal from the program were not available for analysis in this study.<sup>15</sup>

## Sample Characteristics

Our study was designed to test the effectiveness of CALPIA for those participants who had been in the program for at least six months. Table 1 below presents the characteristics of those individuals contrasted with the individuals in the waitlist control group.

## Observed

Table 1 compares the characteristics of the study sample. In columns 2 and 3 we present the unweighted, or observed percentages. All differences between CALPIA and Waitlist were statistically different at the p<.001 level except for job participation<sup>16</sup>. This indicates that the groups were not well matched on background characteristics and differences in outcomes may be due to their background characteristics, rather than participation in CALPIA. For the observed sample, a majority was male; however, the waitlist had a higher percentage of males than did the CALPIA sample. The CALPIA sample had roughly 30 percent black, Hispanic/Latinx and white participants, respectively. This is in contrast to the Waitlist sample which has a higher percentage of Hispanic/Latinx. CALPIA participants were slightly older than Waitlist participants and had been in prison for a longer period of time than the Waitlist sample. The controlling offense was more likely to be a person offense (homicide, assault) for CALPIA, although their CSRA risk scores were likely to be lower than Waitlist participants. A larger percentage of CALPIA participants were released to parole (rather than PRCS) compared to Waitlist participants. Programming days revealed that CALPIA participants spent more time in educational, self-help and CBT programming than Waitlist participants.

## Weighted – Propensity Score Matching

In order to statistically match the two groups, we used Propensity Score Matching. This technique helps control for the observed differences between the CALPIA and waitlist groups to bring them more in line with each other.

If the CALPIA and Waitlist groups are too distinct prior to their programming exposure, then differences in the rate of recidivism may be attributed to group differences and not participation in CALPIA. The purpose of Propensity Score matching is to minimize the differences between the CALPIA and the Waitlist groups. In this study, this was done methodologically and statistically. Methodologically, we chose a comparison group that had to meet the application requirements of CALPIA. We then use Propensity Score Matching to additionally minimize group differences.

Propensity score matching (PSM) is a technique that aims to make two comparison groups statistically equal across control covariates. PSM has been used in other studies comparing prison work groups to non-prison work groups (e.g., Bohmert & Duwe, 2012; Richmond, 2014; Saylor & Gaes, 1997). Factors that may distinguish the groups and that occur prior to enrollment into CALPIA are used to predict membership in the CALPIA group. This produces a "propensity score." Then, CALPIA and Waitlist members are weighted by their propensity score to achieve balance between the two groups. This

<sup>&</sup>lt;sup>15</sup> For reference, current CALPIA regulations are located at: <u>https://www.calpia.ca.gov/about/regulations/</u>. See CALPIA Regulations (Title 15, Division 8).

<sup>&</sup>lt;sup>16</sup> We did not include education level, military status, and marital status due to high percentages of missing data for these variables.

maximizes similarity of the CALPIA and the Waitlist groups across all of the background measures. A PSM equalizes pre-program differences, and thus, increases confidence that differences in the rates of recidivism between the groups are actually due to participation in the program.<sup>17</sup> Columns 4 and 5 in Table 1 presents the background characteristics weighted. With weighting, there were no significant differences between CALPIA and the Waitlist groups.

<sup>&</sup>lt;sup>17</sup> Depending on the distribution of characteristics in the groups in the sample, it is not always possible to obtain a good match and the results need to be checked for residual bias as in the appendix. Additionally, the groups may differ on unknown or unmeasured characteristics. Hence, random assignment is preferred when it is possible.

Variable	Unw	eighted	Weighted		
	CALPIA (%)	Waitlist (%)	CALPIA (%)	Waitlist (%)	
	(N=2,453)	(N=6,150)	(N=1,485)	(N=1,502.7)	
Sex					
Female	13.0	8.9	14.4	13.6	
Male	87.0	91.1	85.6	86.4	
Ethnicity					
American Indian	1.1	1.3	0.8	0.7	
Asian/Pacific Islander	1.3	1.7	1.0	1.0	
Black	29.5	24.3	29.8	27.8	
Hispanic/Latinx	32.2	41.0	34.4	34.9	
White	31.1	28.6	29.5	31.1	
Other	4.8	3.2	4.4	4.4	
Admission Age					
14-24	28.0	28.3	27.5	26.1	
25-34	34.3	36.5	34.8	35.4	
35-44	22.3	21.0	22.8	23.6	
45-54	12.0	11.2	11.7	11.8	
55+	3.4	3.0	3.2	3.1	
Custody Years					
0-2	24.1	67.5	26.5	25.9	
3-4	23.0	14.4	25.5	25.7	
5-8	19.5	9.0	20.9	21.7	
9-14	12.8	4.5	12.7	13.8	
15-24	11.6	3.1	10.0	8.5	
25-34	7.4	1.2	3.6	3.2	
35+	1.7	0.3	0.8	1.2	
Controlling Offense					
Homicide	16.6	3.7	12.5	11.6	
Assault	24.3	28.8	27.3	27.4	
Violent Property	17.7	11.9	18.8	19.2	
Property	17.9	22.1	20.1	20.4	
Drug	9.7	11.8	11.3	10.9	
Weapons	3.8	10.6	4.1	3.9	
Vehicular Endangerment	2.9	3.7	3.1	4.1	
Other	2.7	4.7	2.8	2.7	
Missing	4.4	2.8	0.0	0.0	

### Table 1. Background Characteristics of CALPIA and Waitlist Participants – Unweighted and Weighted

Variable	Unw	eighted	Weighted	
	CALPIA (%) Waitlist (%)		CALPIA (%)	Waitlist (%)
	(N=2,453)	(N=6,150)	(N=1,485)	(N=1,502.7)
Prior Serious Offense Count				
0	70.3	77.1	68.0	67.8
1	19.3	16.7	21.5	20.6
2	6.3	4.1	6.2	5.6
3+	4.1	2.1	4.3	6.0
Current Serious Offense Flag				
0-2	97.1	98.3	97.0	97.1
3+	2.9	1.7	3.0	3.0
Current Violent Offense Flag				
0-2	94.7	98.2	95.9	95.9
3+	5.3	1.8	4.1	4.1
CSRA Score				
High Violent	12.6	24.0	15.2	16.2
High Property	8.5	12.6	9.4	9.4
High Drug	3.8	6.1	3.6	3.5
Moderate	26.8	31.1	28.2	27.7
Low	48.3	25.9	43.6	43.3
Missing	0.0	0.4	0.00	0.00
Region				
Los Angeles	28.5	26.5	30.0	29.4
Other Southern California	24.1	28.3	24.2	24.8
North Central California	27.4	27.8	27.7	27.7
North Coast California	15.8	14.5	13.7	13.2
Other/Unknown	4.2	2.9	4.4	4.9
Destination				
Discharged	0.4	0.6	0.3	0.4
Post-Release Community Supervision	24.9	49.4	27.6	27.5
Parole	74.7	50.0	72.1	72.1
Programming				
Education Programming (mean days)	220.3	157.0	343.1	381.8
Self-Help Programming (mean days)	113.0	39.5	103.3	106.6
Job Total (mean days)	250.8	253.8	244.8	253.9
Program Total CBT (mean days)	82.3	66.4	71.9	72.8

### **Outcome Measures**

Recidivism, or the likelihood a released inmate will continue criminal behavior, is the outcome of interest in this study. Recidivism is measured in three ways: *rearrest, reconviction and reincarceration*.

*Rearrest.* California Department of Justice (DOJ) criminal history records are used to measure whether a released inmate was rearrested for any felony within three years after being released from CDCR.

*Reconviction.* DOJ data also allows us to measure if inmates were reconvicted of any felony in California during the follow-up period.

*Return to Custody (RTC).* Incarcerated individuals released from prison in California may be released to parole supervision by the State, or they may be released to the counties for supervision by the Sheriff's Department. Regardless of the type of post-release supervision, the vast majority of inmates released from prison are not returned to custody for a supervision violation. "Return to custody" indicates a return to a CDCR prison. This will only occur if a person is convicted of a new crime warranting a prison term.

The observed outcomes (from the unweighted sample) and the propensity score analyses are presented for each measure of recidivism (i.e., rearrest, reconviction and return to prison). The details of each type of analysis are offered in the following sections.

## Overall Results

### Rearrest

Incarcerated individuals in this sample were followed for three years post-release to examine recidivism. Recidivism is defined as one or more arrests for any felony. In this study sample, almost 56 percent of the individuals were rearrested within three years.

### **Observed: Rearrest**

Table 2 presents the unweighted results on the rearrest of individuals in the study—those observed in the raw sample. At each year, the percentage of participants in the CALPIA group were significantly less likely to be arrested. One year after release from prison, 21.1 percent of CALPIA participants had been arrested, compared to almost 40 percent of Waitlist.

Table 2. Percent Rearrest Rate for All CALPIA and Waitlist Participants – Unweighted

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
Rearrest 1 Year	33.7	21.9	38.5	X <sup>2</sup> (1)=215.6***
Rearrest 2 Years	47.8	34.7	53.1	X <sup>2</sup> (1)=238.1***
Rearrest 3 Years	55.3	42.3	60.4	X <sup>2</sup> (1)=194.8***

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

### Propensity Score Match: Rearrest

As noted above, the CALPIA and Waitlist groups were significantly different on background characteristics. The weighted sample, using propensity scores, created more comparable groups. Table 3 below shows the Propensity Score analysis for the difference in arrests. Mirroring the raw observed differences in Table 2, we see that CALPIA participants were significantly less likely to be arrested at one, two and three years post release.

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
Rearrest 1 Year	25.9	22.2	29.5	X <sup>2</sup> (1)=20.8***
Rearrest 2 Years	41.0	36.1	45.8	X <sup>2</sup> (1)=29.3***
Rearrest 3 Years	48.5	44.1	52.9	X <sup>2</sup> (1)=18.9***

\*p<.05, \*\*p<.01, \*\*\*p<.001

## Reconviction

This section examines the rate of reconviction for the study sample. As a point of comparison, the general rate of reconviction for one or more felonies for all CDCR inmates (released in FY 2014-2015) is 46.5 percent (CDCR, 2020). In this study sample, almost 33 percent of all inmates were reconvicted in the three-year period. Table 4 compares all CALPIA participants with all Waitlist participants. The data show that there are statistically significant differences in the rate of reconviction for the two groups in the first, second and third year after release. CALPIA participants are significantly less likely to be convicted than the Waitlist group based on observed outcomes.

### Observed: Reconviction

Table 4. Percent Reconviction Rate for CALPIA and Waitlist Participants – Unweighted

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
Reconvict 1 Year	18.0	8.9	21.7	X <sup>2</sup> (1)=195.0***
Reconvict 2 Years	26.9	15.8	31.4	X <sup>2</sup> (1)=215.8***
Reconvict 3 Years	32.1	20.2	36.8	X <sup>2</sup> (1)=184.6***

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

## Propensity Score Match: Reconviction

In the descriptive analysis of reconviction, we found that for the unweighted CALPIA sample, the Waitlist group was more likely to be convicted. After matching, we again find that CALPIA participants are less likely to be convicted post rerelease than the Waitlist group. In Table 5, in Year 1, 9.0 percent of CALPIA participants are convicted compared to 13.3 percent of the Waitlist. By Year 3, 20.8 percent of the CALPIA participants were convicted compared with 25.8 percent of the Waitlist group.

Table 5. Percent Reconviction	Rate for CALPIA a	nd Waitlist Participants – Bo	ased on Propensity Score Weights
	2	/	

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
Reconvict 1 Year	11.2	9.0	13.3	X <sup>2</sup> (1)=14.0***
Reconvict 2 Years	18.7	16.4	20.8	X <sup>2</sup> (1)=9.6**
Reconvict 3 Years	23.3	20.8	25.8	X <sup>2</sup> (1)=8.5**

\*p<.05, \*\*p<.01, \*\*\*p<.001

## Return to Custody (RTC)

### Observed: RTC

Return to custody rates were significantly lower for CALPIA participants than Waitlist controls at each year after release from prison. By three years after release, 15.3 percent of CALPIA participants had been returned to custody. The rate for the Waitlist group was almost twice as high.

Table 6. Percent Returned to Custody for CALPIA and Waitlist Participants – Unweighted

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
RTC 1 Year	8.0	3.5	9.9	<i>X</i> <sup>2</sup> (1)=95.6***
RTC 2 Years	18.4	10.4	21.6	X <sup>2</sup> (1)=147.0***
RTC 3 Years	24.9	15.3	28.7	X <sup>2</sup> (1)=138.7***

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

## Propensity Score Match: RTC

Once the groups were weighted, the results are still significantly different for CALPIA and Waitlist participants, although the absolute differences are smaller.

Table 7. Percent Returned to Custody for CALPIA and Waitlist Participants – Based on Propensity Score Weights

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
RTC 1 Year	4.7	3.2	6.1	X <sup>2</sup> (1)=14.1***
RTC 2 Years	13.5	10.8	16.1	X <sup>2</sup> (1)=17.7***
RTC 3 Years	18.8	15.4	22.2	X <sup>2</sup> (1)=18.5***

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

## CTE versus Other CALPIA Participant Results

In this section, we present the results of those participants who spent more than 180 days in the CALPIA CTE program contrasted with participants who spent more than 180 days in other types of CALPIA

programs. In this analysis, we don't use the Waitlist control<sup>18</sup>. In total, the sample size for those CALPIA participants who spent at least 180 days in CTE was relatively small. Of the 2,453 participants with more than 180 days of CALPIA, only 267 were in the CTE group.

### Rearrest

### Observed: Rearrest

Table 8 presents the descriptive results on the rearrest of individuals, broken down by CTE and Other CALPIA programs. This table presents the unweighted percentages—those observed in the raw sample. At each year, the percentage of participants in the CTE group were significantly less likely to be arrested. One year after release from prison, 12.7 percent of CTE participants had been arrested, compared to 23 percent of Other CALPIA participants.

#### Table 8. Percent Rearrest Rate for CTE versus Other CALPIA Participants – Unweighted

	TOTAL (%)	CTE (%)	Other CALPIA (%)	Significance
Rearrest 1 Year	21.9	12.7	23.0	X <sup>2</sup> (1)=14.7***
Rearrest 2 Years	34.7	26.6	35.6	X <sup>2</sup> (1)=8.6**
Rearrest 3 Years	42.3	31.4	43.6	X <sup>2</sup> (1)=12.1***

\*p<.05, \*\*p<.01, \*\*\*p<.001

### Propensity Score Match: Rearrest

Table 9 below shows the Propensity Score analysis for the difference in arrests. Although CTE participants continued to have lower arrest rates, the differences were smaller and the rearrest rate differences at two years were not statistically significant due to reduced sample size post-matching.<sup>19</sup>

#### Table 9. Percent Rearrest Rate for CTE versus Other CALPIA Participants – Based on Propensity Score Weights

	TOTAL (%)	CTE (%)	Other CALPIA (%)	Significance
Rearrest 1 Year	16.0	11.4	20.5	X <sup>2</sup> (1)=5.8*
Rearrest 2 Years	30.4	26.0	34.8	<i>X</i> <sup>2</sup> (1)=3.4
Rearrest 3 Years	39.7	31.8	47.1	X <sup>2</sup> (1)=7.6**

\*p<.05, \*\*p<.01, \*\*\*p<.001

<sup>&</sup>lt;sup>18</sup> Changing the groups to match required different propensity score models for the analysis of CTE participation. Due to the different models and missing data, the recidivism rates for the CALPIA sample in these tables differs slightly from the results of the CALPIA versus Waitlist participants.

<sup>&</sup>lt;sup>19</sup> Propensity score matching assigns fractional weights to cases, reducing the effective sample size.

## Reconviction

### Observed: Reconviction

Table 10 compares CTE participants with Other CALPIA program participants. The data show that there are statistically significant differences in the rate of reconviction for the two groups in the first, second and third year after release. CTE participants are significantly less likely to be convicted than the Other CALPIA group based on observed outcomes.

#### Table 10. Percent Reconviction Rate for CTE versus Other CALPIA Participants – Unweighted

	TOTAL (%)	CTE (%)	Other CALPIA (%)	Significance
Reconvict 1 Year	8.9	5.2	9.3	X <sup>2</sup> (1)=4.8*
Reconvict 2 Years	15.8	10.9	16.4	X <sup>2</sup> (1)=5.5*
Reconvict 3 Years	20.2	14.6	20.9	X <sup>2</sup> (1)=4.9*

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

### Propensity Score Match: Reconviction

After matching, we again find that CTE participants are less likely to be convicted post rerelease than the Waitlist group. However, the difference in reconvictions in the first year is not significantly different for the two groups – at two and three years, CTE participants have significantly fewer convictions.

#### Table 11. Percent Reconviction Rate for CTE versus Other CALPIA Participants – Based on Propensity Score Weights

	TOTAL (%)	CTE (%)	Other CALPIA (%)	Significance
Reconvict 1 Year	6.5	4.9	8.1	<i>X</i> <sup>2</sup> (1)=1.6
Reconvict 2 Years	14.0	10.3	17.8	X <sup>2</sup> (1)=4.3*
Reconvict 3 Years	18.6	13.9	23.1	X <sup>2</sup> (1)=4.3*

\*p<.05, \*\*p<.01, \*\*\*p<.001

## Return to Custody (RTC)

#### Observed: RTC

Table 12 presents the unweighted RTC rates for the two groups. Results show that although rates are lower for CTE, they are significant only for two- and three-years post release.

	TOTAL (%)	CTE (%)	Other CALPIA (%)	Significance
RTC 1 Year	3.5	2.3	3.7	<i>X</i> <sup>2</sup> (1)=1.4
RTC 2 Years	10.4	6.4	10.9	X <sup>2</sup> (1)=5.3*
RTC 3 Years	15.3	10.2	15.9	<i>X</i> <sup>2</sup> (1)=4.9*

Table 12. Percent Returned to Custody for CTE versus Other CALPIA Participants – Unweighted

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

### Propensity Score Match: RTC

Table 13 shows the percent of CTE returned to custody based on the propensity score analysis. Although CTE rates are lower than Other CALPIA, the differences are significant only at three years. The difference at two years are not statistically significant due to reduced sample size post-matching.

Table 13. Percent Returned to Custody for CTE versus Other CALPIA Participants – Based on Propensity Score Weights

	TOTAL (%)	CTE (%)	Other CALPIA (%)	Significance
RTC 1 Year	1.7	1.6	1.8	<i>X</i> <sup>2</sup> (1)=.02
RTC 2 Years	7.5	5.4	9.6	<i>X</i> <sup>2</sup> (1)=2.3
RTC 3 Years	14.2	9.5	18.7	<i>X</i> <sup>2</sup> (1)=5.3*

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

## Female CALPIA Versus Waitlist Results

In this section, we present the results for female participants who spent more than 180 days in the CALPIA program contrasted with female participants who were in the Waitlist comparison group. As seen in Table 1, the vast majority of the CALPIA participants were males. Females represented 13 percent of CALPIA participants and just under nine percent of Waitlist controls. Sample sizes for this analysis were 318 female CALPIA participants and 551 waitlist individuals. Propensity score weighting brought the CALPIA and Waitlist groups closer together but differences remained in several background characteristics. Female CALPIA participants were younger at admission, had served longer sentences, more serious current offenses and were more likely to be released to parole than Waitlist individuals. With these differences remaining in background characteristics, we are less confident that our comparisons of the two groups are the results of CALPIA and not remaining group differences.

## Rearrest

### **Observed: Rearrest**

Table 14 presents the descriptive results on the rearrest of individuals, broken down by CALPIA and Waitlist groups. This table presents the unweighted percentages—those observed in the raw sample. At each year, the percentage of participants in the CALPIA group were significantly less likely to be arrested.

One year after release from prison, 15.1 percent of female CALPIA participants had been arrested, compared to 28.6 percent of Waitlist participants.

Table 14. Percent Rearrest Rate for Female CALPIA versus Wai	itlist Participants - Unweighted
--	----------------------------------

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
Rearrest 1 Year	23.6	15.1	28.6	<i>X</i> <sup>2</sup> (1)=20.2***
Rearrest 2 Years	35.6	26.4	40.9	X <sup>2</sup> (1)=18.5***
Rearrest 3 Years	43.1	32.0	49.5	X <sup>2</sup> (1)=21.1***

\*p<.05, \*\*p<.01, \*\*\*p<.001

### Propensity Score Match: Rearrest

Table 15 below shows the Propensity Score analysis for the difference in arrests. Although female CALPIA participants continued to have lower arrest rates, the differences were smaller and the differences were not statistically significant at any year.

Table 15. Percent Rearrest Rate for Female CALPIA versus Waitlist Participants – Based on Propensity Score Weights

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
Rearrest 1 Year	16.3	15.0	17.7	<i>X</i> <sup>2</sup> (1)=0.6
Rearrest 2 Years	28.8	26.6	31.2	<i>X</i> <sup>2</sup> (1)=1.0
Rearrest 3 Years	36.3	32.8	40.2	<i>X</i> <sup>2</sup> (1)=2.0

\*p<.05, \*\*p<.01, \*\*\*p<.001

We looked into how female results lost significance after matching, unlike the overall CALPIA/Waitlist analysis. Statistical significance asks the question, how likely is it that this result could be the result of chance, not a genuine difference. It depends on two factors: the size of the effect, and the size of the sample. The smaller post-match sample makes significance harder to achieve across the board; the sample is cut from 868 to 412.7 (weighting by fractional values results in a fractional total). In addition, matching here consistently reduces the difference between groups in recidivism rates. For all participants, the ratio of Waitlist to CALPIA participants for 1 year arrests declines with matching from 1.8 to 1.3. For Females, the equivalent reduction is close—from a ratio of 1.9 to a ratio of 1.2. Arrests in the second and third years show a similarly low advantage for CALPIA participants after matching. This is sufficient for significance for three year recidivism for all participants where the matched sample size is 2987.7 (Table 3), but not with the reduced female sample.

## Reconviction

## Observed: Reconviction

Table 16 compares female CALPIA participants with Waitlist participants. The data show that there are statistically significant differences in the rate of reconviction for the two groups in the first, second and

third year after release. CALPIA participants are significantly less likely to be convicted than Waitlist group members based on observed outcomes.

Table 16. Percent Reconviction Rate for Female CALPIA versus Waitlist Participants – Unweighted

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
Reconvict 1 Year	11.3	5.0	14.9	X <sup>2</sup> (1)=19.6***
Reconvict 2 Years	18.3	11.0	22.6	<i>X</i> <sup>2</sup> (1)=17.9***
Reconvict 3 Years	22.0	12.8	27.2	X <sup>2</sup> (1)=20.5***

\*p<.05, \*\*p<.01, \*\*\*p<.001

### Propensity Score Match: Reconviction

After matching, we find similar to rearrest, that female CALPIA participants are not significantly different from Waitlist participants on reconviction at one, two or three years after release.

Table 17. Percent Reconviction Rate for Female CALPIA versus Waitlist Participants – Based on Propensity Score Weights

	TOTAL (%)	CALPIA(%)	Waitlist (%)	Significance
Reconvict 1 Year	6.6	5.1	8.3	X <sup>2</sup> (1)=1.6
Reconvict 2 Years	10.9	10.3	11.6	<i>X</i> <sup>2</sup> (1)=0.2
<b>Reconvict 3 Years</b>	14.5	12.3	17.0	<i>X</i> <sup>2</sup> (1)=1.5

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

## Return to Custody (RTC)

### Observed: RTC

Table 18 presents the unweighted RTC rates for the two groups. Results show that observed RTC rates are lower for female CALPIA participants than for Waitlist individuals.

Table 18. Percent Returned to Custody for Female CALPIA versus Waitlist Participants – Unweighted

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
RTC 1 Year	3.2	1.6	4.2	<i>X</i> <sup>2</sup> (1)=4.4*
RTC 2 Years	9.2	6.0	11.1	<i>X</i> <sup>2</sup> (1)=6.3*
RTC 3 Years	13.2	6.9	16.9	<i>X</i> <sup>2</sup> (1)=14.5***

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

### Propensity Score Match: RTC

Table 19 shows the percent of female individuals returned to custody based on the propensity score analysis. Although female CALPIA rates are generally lower than for Waitlist individuals, no differences are significant after propensity score matching.

Table 19. Percent Returned to Custody	for Female CALPIA versus	Waitlist Participants –	Based on Propensity Score Weights

	TOTAL (%)	CALPIA (%)	Waitlist (%)	Significance
RTC 1 Year	1.6	1.4	1.9	X <sup>2</sup> (1)=0.1
RTC 2 Years	6.1	6.1	6.1	X <sup>2</sup> (1)=0.0
RTC 3 Years	9.9	7.1	12.8	<i>X</i> <sup>2</sup> (1)=2.9

\*p<.05, \*\*p<.01, \*\*\*p<.001

# Conclusions

This research explores the impact of participation in CALPIA on the likelihood of future offending. Because of the application and acceptance process of CALPIA, participants are different from the general population of inmates in CDCR. In fact, consistent with the prior self-evaluations conducted by CALPIA, these data show that at each measure of recidivism (i.e., rearrest, reconviction, return to custody) this study sample performs better than the reported rates of the general CDCR inmate population (CDCR, 2020). However, this does not demonstrate a program effect. There is a clear selection effect and this suggests that the application acceptance process used by CALPIA selects inmates who are less likely to recidivate upon release.

The question of this study, in contrast, is whether active participation in CALPIA further reduces the likelihood of recidivism over and above just being selected for the program. To answer this question, we methodologically and statistically balanced the CALPIA participants with the Waitlist group. Results from this study show that based on overall observed and weighted groups, CALPIA performed better than those who were qualified for CALPIA, placed on a waitlist, but did not participate in the program before release to the community. Although we had relatively few CALPIA participants in CTE, our analyses show generally better performance for those in CTE than other CALPIA programs, but many of the differences are small and not statistically significant. We did not find that female participants in CALPIA performed better than the Waitlist group, once the samples were matched.

With any research, there are limitations to the current study. Although Propensity Score Matching was successful in matching the CALPIA and Waitlist groups on background characteristics on which they differed, there may be other variables that we did not include in our analyses, on which the two groups could differ. With any quasi-experimental research design, it is possible that these unmeasured variables are responsible for observed differences between groups. A randomized design is the gold-standard for being able to draw solid inferences from a study design.

Although our analysis focused on outcomes, we offer the following suggestions for future research.

- 1) **Conduct a Full Evaluation of CALPIA.** This study was limited as a recidivism study or outcome evaluation. A true program evaluation would include a process evaluation as well as an outcome evaluation. The purpose of a process evaluation is to understand if CALPIA runs as it was intended to run. A full program evaluation would include the process by which inmates are moved from the Waitlist to active participation and any potential bias that may produce. A full evaluation could include an analysis of why incarcerated individuals are removed from CALPIA and this would help illuminate why some individuals do not complete at least six months of programming. A full evaluation would include the benefits of certifications or any other measure of program "completion."
- Compare CALPIA with Other Available Programming. Our analyses controlled for participation in other types of prison programming, however, we did not do a direct test of CALPIA versus other programming. Future research may be directed at this question.
- 3) Expand the Outcomes of Interest. While one of the missions of CALPIA is to reduce recidivism, Lawrence and colleagues (2002) urge a consideration of other, non-recidivism related, benefits to these types of programs like skill building or employment post-release. Other studies on prison work often look at other outcomes besides recidivism. Most commonly, studies measure employability after release. Some studies have shown that prison work programs do not decrease recidivism, but they do increase the likelihood of future employment and earnings (e.g., Bohmert & Duwe, 2012). Other potential outcomes of interest would be improved self-confidence, work ethic or employment readiness.

CALPIA, like many prison industries, is a business that provides an economic benefit to the state. Researchers have urged that a reduction in recidivism of inmate participants be considered just one potential benefit of the prison industry (Lawrence et al., 2002). The current study, like all research, has its limitations. Understanding more about how the program brings about observed recidivism findings, as well as exploring additional employment outcomes after an individual is released into the community would help determine how during- and post-prison employment are associated with recidivism.

# References

Anderson, S.V. (1995). *Evaluation of the impact of participation in Ohio penal industries on recidivism.* Columbus: Ohio Department of Rehabilitation and Correction.

Aos, S., Miller, M., & Drake, E. (2006). Evidence-based public policy options to reduce future prison construction, criminal justice costs, and crime rates. Olympia: Washington State Institute for Public Policy.

Bohmert, M.N. & Duwe, G. (2002). Minnesota's Affordable Homes Program: Evaluating the effects of a prison work program on recidivism, employment, and cost avoidance. *Criminal Justice Policy Review, 23, 3,* 327-351.

Boudouris, J. (1985). *Recidivism and rehabilitation*. Des Moines, IA: Iowa Department of Corrections.

Bouffard, J.A., MacKenzie, D.L, & Hickman, L.J. (2000). Effectiveness of vocational education and employment programs for adult offenders. *Journal of Offender Rehabilitation*, *31*, *1-2*, 1-41.

California Department of Corrections and Rehabilitation (2019). 2018 recidivism report: An evaluation of offenders released in fiscal year 2013-14. Sacramento, CA: California Department of Corrections and Rehabilitation.

California Department of Corrections and Rehabilitation (2020). Recidivism report for offenders released from the California Department of Corrections and Rehabilitation in fiscal year 2014-15. Sacramento, CA: California Department of Corrections and Rehabilitation.

California Prison Industry Authority (2012). *Career Technical Education (CTE) Programs: Fiscal years 2007-2008 to 2010-2011*. Folsom, CA: California Prison Industry Authority.

California Prison Industry Authority (2013). *Report to the legislature: Fiscal year 2012-2013*. Folsom, CA: California Prison Industry Authority.

California Prison Industry Authority (2014). *Report to the legislature: Fiscal year 2013-2014*. Folsom, CA: California Prison Industry Authority.

California Prison Industry Authority (2016). *Report to the legislature: Fiscal year 2015-2016* Folsom, CA: California Prison Industry Authority.

California Prison Industry Authority (2018). *Report to the legislature: Fiscal year 2016-2017.* Folsom, CA: California Prison Industry Authority.

California State Auditor (2010). *California Prison Industry Authority: It can more effectively meet its goals of maximizing inmate employment, reducing recidivism, and remaining self-sufficient.* Report 2010-118. Sacramento, CA: California State Auditor.

Day, A., Wodak, J., Graffam, J., Baldry, E., & Davey, L. (2017). Prison Industry and Desistance from Crime: An Australian Programme, Psychiatry, Psychology and Law, 24:6, 899-909, DOI: 10.1080/13218719.2017.1327311 Drake, E.K. (2003). *Class I impacts: Work during incarceration and its effects on post-prison employment patterns and recidivism*. Washington State DOC: Division of Planning and Research Section.

Duwe, G. (2017). *The use and impact of correctional programming for inmates on pre- and post-release outcomes.* National Institute of Justice Report. Washington, D.C.: U.S. Department of Justice.

Goldman, G., McWilliams, B., & Pradhan, V. (2002). The Economic Impact of Production in California's Prison Industry. University of California, Berkeley: Department of Agricultural and Resource Economics.

Goldman, G. & Pradhan, V. (2002). The Economic Impact of California's Prison Industries. University of California, Berkeley: Department of Agricultural and Resource Economics.

Harris, T.R. & Goldman, G. (2014). *California Prison Industry Authority's economic impact on California Fiscal Year 2012-2013*. Available at https://www.calpia.ca.gov/news/reports-and-publications/economic-impact-report-2012-13/.

Hopper, J.D. (2013). Benefits of inmate employment programs: Evidence from the Prison Industry Enhancement Certification Program. *Journal of Business & Economics Research*, *11*, *5*, 213-222.

Lawrence, S., Mears, D.P., Dubin, G., & Travis, J. (2002). *The practice and promise of prison programming*. Washington, D.C.: The Urban Institute.

Macguire, K.E., Flanagan, T.J. & Thornberry, T.P. (1988). Prison labor and recidivism. *Journal of Quantitative Criminology*, *4*, *1*, 3-18.

MacKenzie, D.L. (2000). Evidence-based corrections: Identifying what works. *Crime & Delinquency, 46, 4,* 457-471.

Misrahi, J.J. (1996). Factories with fences: An analysis of the Prison Industry Enhancement Certification Program in historical perspective, *American Criminal Law Review*, *33*, 411-436.

Motiuk, L.L. & Belcourt, R.L. (1996). *Prison work programs and post-release outcome: A preliminary investigation.* Research Division Correctional Service of Canada: Ottawa, Ontario.

O'Brien, P. & Bates, R. (2005). Women's post-release experiences in the US: Recidivism and reentry. *International Journal of Prisoner Health, 1, 2-4,* 207-221.

Office of Program Policy Analysis and Government Accountability (2003). *PRIDE benefits the state but needs to improve transparency in operations*. Report NO 03-68. Tallahassee, FL: OPPAGA.

Price, S., Harris, T., & Goldman, G. (2008). The Economic Impact of Production by the Californian Prison Industry Authority on the California Economy. University of Nevada, Reno: Department of Resource Economics: University of Nevada.

Richmond, K.M. (2014). The impact of federal prison industries employment on the recidivism outcomes of female inmates. *Justice Quarterly, 31, 4,* 719-745.

Saylor, W.G. & Gaes, G.G. (1996). PREP: Training inmates through industrial work participation, and vocational and apprenticeship instruction. US Federal Bureau of Prisons.

Saylor, W.G. & Gaes, G.G. (1997). Training inmates through industrial work participation, and vocational and apprenticeship instruction. *Corrections Management Quarterly*, *1*, *2*, 32-43.

Saylor, W.G. & Gaes, G.G. (2001). Vocational training on post-release outcomes for ethnic and racial groups: Research Note. *Corrections Management Quarterly, 5, 4,* 17-24.

Smith, C.J., Bechtel, J., Patrick, A., Smith, R.R., & Wilson-Gentry, L. (2006). Correctional industries preparing inmates for re-entry: Recidivism & post-release employment. Final Report to the United States Department of Justice. Washington, D.C.: U.S. Department of Justice.

Stephan, J.J. (2008). *Census of state and federal correctional facilities, 2005.* Bureau of Justice Statistics Report. Washington, D.C.: U.S. Department of Justice.

Wilson, D.B., Gallagher, C.A., MacKenzie, D.L. (2000). A meta-analysis of corrections-based education, vocation, and work programs for adult offenders. *Journal of Research in Crime and Delinquency*, *37*, *4*, 347-368.

# APPENDIX A

Table 20. Bias Diagnostic for the Total Sample of CALPIA versus Waitlist for Propensity Score Match

	Unmatched								Matche	d		
	CALPIA	Waitlist					CALPIA	Waitlist		-		-
	n=2,453	n=6,150	PIA SD	WL SD	Diff	Bias (%)	n=1,485	n=1,502.72	PIA SD	WL SD	Diff	Bias (%)
Sex – Male	87.0	91.1	0.34	0.28	0.04	12%***	85.6	86.4	0.35	0.34	0.01	2%
Race/Ethnicity – Black	29.5	24.3	0.46	0.43	-0.05	-11%	29.8	27.8	0.46	0.45	-0.02	-4%
Race/Ethnicity – Hispanic/Latinx	32.2	41.0	0.47	0.49	0.09	19%	34.4	34.9	0.48	0.48	0.01	1%
Race/Ethnicity – White	31.1	28.6	0.46	0.45	-0.03	-5%	6.3	6.2	0.24	0.24	0.00	0%
Race/Ethnicity – Other	7.2	6.1	0.26	0.24	-0.01	-4%	29.5	31.1	0.46	0.46	0.02	4%
Age at Admission – 14-24	28.0	28.3	0.45	0.45	0.00	1%	27.5	26.1	0.45	0.44	-0.01	-3%
Age at Admission – 25-34	34.3	36.5	0.47	0.48	0.02	5%	34.7	35.3	0.48	0.48	0.01	1%
Age at Admission – 35-44	22.3	21.0	0.42	0.41	-0.01	-3%	22.8	23.6	0.42	0.42	0.01	2%
Age at Admission – 45-54	12.0	11.2	0.32	0.32	-0.01	-2%	11.6	11.8	0.32	0.32	0.00	1%
Age at Admission – 55+	3.4	3.0	0.18	0.17	0.00	-2%	3.2	3.1	0.18	0.17	0.00	-1%
Years Incarcerated – 0-3	35.3	76.5	0.48	0.42	0.41	86%***	38.7	42.0	0.49	0.49	0.03	7%
Years Incarcerated – 4-7	28.2	13.2	0.45	0.34	-0.15	-33%	31.2	28.2	0.46	0.45	-0.03	-6%
Years Incarcerated – 8-12	12.4	4.8	0.33	0.21	-0.08	-23%	12.0	13.9	0.32	0.35	0.02	6%
Years Incarcerated – 13-19	8.8	2.7	0.28	0.16	-0.06	-22%	8.7	7.2	0.28	0.26	-0.02	-5%
Years Incarcerated – 20+	15.4	2.9	0.36	0.17	-0.13	-35%	9.5	8.7	0.29	0.28	-0.01	-3%
Commit. Offense – Persons	63.7	46.9	0.48	0.50	-0.17	-35%***	59.3	58.3	0.49	0.49	-0.01	-2%
Commit. Offense – Property	17.9	22.1	0.38	0.41	0.04	11%	11.2	10.9	0.32	0.31	0.00	-1%
Commit. Offense – Drug	9.7	11.8	0.30	0.32	0.02	7%	9.4	10.5	0.29	0.31	0.01	4%
Commit. Offense – Other	8.7	19.2	0.28	0.39	0.11	37%	20.1	20.4	0.40	0.40	0.00	1%
Prior Serious Charges – 1+	29.7	22.9	0.46	0.42	-0.07	-15%***	32.0	32.2	0.47	0.47	0.00	0%
Current Serious Charges – 3+	2.9	1.7	0.17	0.13	-0.01	-7%**	3.0	3.0	0.17	0.17	0.00	0%
Current Violent Charges – 3+	5.3	1.8	0.22	0.13	-0.04	-16%***	4.1	4.1	0.20	0.20	0.00	0%

	Unmatched							Matched						
	CALPIA	Waitlist					CALPIA	Waitlist						
	n=2,453	n=6,150	PIA SD	WL SD	Diff	Bias (%)	n=1,485	n=1,502.72	PIA SD	WL SD	Diff	Bias (%)		
CSRA Risk Level – Low	48.3	25.9	0.50	0.44	-0.22	-45%***	43.6	43.3	0.50	0.50	0.00	-1%		
CSRA Risk Level – Medium	26.8	31.1	0.44	0.46	0.04	10%	28.2	27.7	0.45	0.45	-0.01	-1%		
CSRA Risk Level - High Drug	3.8	6.0	0.19	0.24	0.02	12%	3.6	3.5	0.19	0.18	0.00	-1%		
CSRA Risk Level - High Property	8.5	12.6	0.28	0.33	0.04	15%	9.4	9.4	0.29	0.29	0.00	0%		
CSRA Risk Level - High Violent	12.6	24.0	0.33	0.43	0.11	34%	15.2	16.2	0.36	0.37	0.01	3%		
Region - Los Angeles	28.5	26.5	0.45	0.44	-0.02	-4%***	30.0	29.4	0.46	0.46	-0.01	-1%		
Region - North Central	27.4	27.8	0.45	0.45	0.00	1%	27.7	27.7	0.45	0.45	0.00	0%		
Region - North Coastal	15.8	14.5	0.36	0.35	-0.01	-4%	13.7	13.2	0.34	0.34	0.00	-1%		
Region - Other Southern CA	4.2	2.9	0.20	0.17	-0.01	-6%	4.4	4.9	0.21	0.22	0.01	2%		
Destination – Discharge	24.1	28.3	0.43	0.45	0.04	10%	24.2	24.8	0.43	0.43	0.01	1%		
Destination – PRCS	0.4	0.6	0.06	0.08	0.00	3%***	0.3	0.4	0.05	0.06	0.00	2%		
Destination – Parole	24.9	49.4	0.43	0.50	0.25	57%	27.6	27.5	0.45	0.45	0.00	0%		
Days in Cog/Behav – None	74.7	50.0	0.43	0.50	-0.25	-57%	72.1	72.1	0.45	0.45	0.00	0%		
Days in Cog/Behav - 1 <sup>st</sup> Quintile	65.7	72.6	0.47	0.45	0.07	15%***	69.7	69.9	0.46	0.46	0.00	0%		
Days in Cog/Behav - 2 <sup>nd</sup> Quintile	6.3	5.4	0.24	0.23	-0.01	-4%	5.5	5.5	0.23	0.23	0.00	0%		
Days in Cog/Behav - 3 <sup>rd</sup> Quintile	7.2	5.4	0.26	0.23	-0.02	-7%	6.5	6.5	0.25	0.25	0.00	0%		
Days in Cog/Behav - 4 <sup>th</sup> Quintile	7.5	5.4	0.26	0.23	-0.02	-8%	7.0	7.2	0.26	0.26	0.00	1%		
Days in Cog/Behav - 5 <sup>th</sup> Quintile	6.4	5.6	0.24	0.23	-0.01	-3%	5.5	5.3	0.23	0.22	0.00	-1%		
Days in Education - 1 <sup>st</sup> Quintile	6.9	5.6	0.25	0.23	-0.01	-5%	5.9	5.6	0.24	0.23	0.00	-1%		
Days in Education - 2 <sup>nd</sup> Quintile	14.6	21.3	0.35	0.41	0.07	19%***	14.6	13.7	0.35	0.34	-0.01	-3%		
Days in Education - 3 <sup>rd</sup> Quintile	15.0	19.8	0.36	0.40	0.05	13%	14.9	13.5	0.36	0.34	-0.01	-4%		
Days in Education - 4 <sup>th</sup> Quintile	18.7	19.7	0.39	0.40	0.01	3%	18.9	19.0	0.39	0.39	0.00	0%		
Days in Education - 5 <sup>th</sup> Quintile	24.4	19.1	0.43	0.39	-0.05	-12%	24.9	25.0	0.43	0.43	0.00	0%		
Days in Jobs – None	27.3	20.1	0.45	0.40	-0.07	-16%	26.7	28.8	0.44	0.45	0.02	5%		
Days in Jobs - 1 <sup>st</sup> Quintile	35.8	16.5	0.48	0.37	-0.19	-40%***	39.1	40.5	0.49	0.49	0.01	3%		
Days in Jobs - 2 <sup>nd</sup> Quintile	9.5	17.2	0.29	0.38	0.08	26%	8.1	8.3	0.27	0.28	0.00	1%		
Days in Jobs - 3 <sup>rd</sup> Quintile	10.6	18.9	0.31	0.39	0.08	27%	9.5	8.6	0.29	0.28	-0.01	-3%		

	-		Unmat	ched		Matched						
	CALPIA	Waitlist					CALPIA	Waitlist				
	n=2,453	n=6,150	PIA SD	WL SD	Diff	Bias (%)	n=1,485	n=1,502.72	PIA SD	WL SD	Diff	Bias (%)
Days in Jobs - 4 <sup>th</sup> Quintile	11.4	17.3	0.32	0.38	0.06	19%	10.4	10.0	0.31	0.30	0.00	-1%
Days in Jobs - 5 <sup>th</sup> Quintile	15.7	15.0	0.36	0.36	-0.01	-2%	16.2	15.8	0.37	0.36	0.00	-1%
Days in Self-Help – None	17.0	15.3	0.38	0.36	-0.02	-5%	16.6	16.8	0.37	0.37	0.00	1%
Days in Self-Help - 1 <sup>st</sup> Quintile	73.7	85.1	0.44	0.36	0.11	26%***	75.1	74.2	0.43	0.44	-0.01	-2%
Days in Self-Help - 2 <sup>nd</sup> Quintile	3.6	3.2	0.19	0.18	0.00	-2%	3.5	3.6	0.18	0.19	0.00	1%
Days in Self-Help - 3 <sup>rd</sup> Quintile	4.4	3.3	0.21	0.18	-0.01	-5%	4.0	3.8	0.20	0.19	0.00	-1%
Days in Self-Help - 4 <sup>th</sup> Quintile	4.8	3.2	0.21	0.18	-0.02	-7%	4.9	5.4	0.22	0.23	0.01	2%
Days in Self-Help - 5 <sup>th</sup> Quintile	5.4	2.9	0.23	0.17	-0.03	-11%	4.8	5.0	0.21	0.22	0.00	1%

\*p<.05, \*\*p<.01, \*\*\*p<.001; from Chi Square for the table of control variable by study group. Some variable categories were collapsed for a more compact presentation.

Note: Although Table 1 in the text shows the means of program days, the propensity score analysis did not use continuous variables: quintiles of days for these measures were used.