

# **The Impacts of College- in-Prison Participation on Safety and Employment in New York State:**

## **An Analysis of College Students Funded by the Criminal Justice Investment Initiative**

## Overview

This study is a midterm evaluation report of the College-in-Prison Reentry Initiative (CIP), a program to expand access to academic college education in prison throughout New York State. CIP is funded by the Manhattan District Attorney’s Criminal Justice Investment Initiative (CJII), a strategic plan for reinvesting \$250 million in criminal asset forfeiture into programs that promote public safety. Seven institutions of higher education received support under this initiative, including Bard College, Cornell University, Medaille College, Mercy College, Mohawk Valley Community College, New York University, and the State University of New York (SUNY) Jefferson. CJII also funded two entities as technical assistance providers: the John Jay College Institute for Justice and Opportunity and SUNY. This study covers the period from the start of the program in September 2017 until the Vera Institute of Justice (Vera) acquired data for these analyses in September 2021. A final evaluation report will cover the period between the start of the program through June 2023.

The significant benefits of postsecondary education for the criminal legal system, public safety, and for people who are incarcerated—as well as their families and communities—have been thoroughly demonstrated in a large and growing body of research. Decision-makers who have influence over funding for and policy governing higher education in prisons have been the primary audience of this research. This report similarly addresses these key stakeholders by focusing on the outcomes of behavior while incarcerated and further criminal legal system involvement, employment, and income after release. This study improves on and updates existing literature by measuring recidivism in a way that has implications for public safety; focuses exclusively on one type of education in prison—namely academic college education designed to lead to a credential (associate’s or bachelor’s degrees); and examines the impacts of education on several outcomes that are rarely studied, including in-facility behavior and post-release income.

This study examined the effect of any participation in academic college education during incarceration on in-facility behavior, recidivism, employment, and income. Researchers at Vera used several proxies to measure these outcomes. Researchers measured in-facility behavior using counts of in-facility disciplinary incidents (called “misconducts”); recidivism using reconviction for any new offense; employment using formal employment; and measured income as wages from formal employment. Vera researchers used propensity score matching—a statistical approach that creates a matched comparison group that looks similar to the treatment group in important ways—combined with regression analysis.

The study found a strong, significant, and consistent effect of college participation on reducing new convictions following release. Participation in this form of postsecondary education reduced reconviction by at least 66 percent. This effect is larger than has been observed for postsecondary education in prison previously. Likely due to CIP program eligibility requirements, Vera was not able to find meaningful or statistically significant effects of college participation on misconducts at any level of severity or at any time period following college enrollment. Vera found mixed (and likely spurious) effects of college participation on formal employment and wages, with lower employment among students compared to nonstudents in the six months following release and no difference between six and 12 months after release, yet similar wages for students and nonstudents in the six months after release and lower wages among students six to 12 months after release. These mixed and spurious effects are likely due to researchers being unable to access data on

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pre-incarceration wages and employment, which prevented matching between students and nonstudents on their pre-incarceration histories of labor market participation.

The final report will replicate, refine, and extend the analyses of in-facility behavior and post-release recidivism, employment, and wages. This follow-up analysis will use additional variables, an extended time frame to follow students who enrolled early on in CIP and matched nonstudents, and an expanded sample to include people who started or became eligible to start college education funded by CJII between September 2021 and June 2023, when CIP ended.

Vera also conducted a cost analysis of these seven college-in-prison programs in New York State to describe the Manhattan District Attorney's Office's investment in college education and to understand the resources colleges expended to provide college education in prison. Researchers calculated the costs reimbursed by CJII, as well as two measures of the overall cost: the average cost per student and the costs of adding an additional group of 10 or 20 students to an existing college program. CJII did not cover the overall cost of programs, by and large. Vera divided education providers into two types: those that were able to provide reentry services and incarceration-specific supports in addition to education and those that focused on providing instruction and student services, such as academic and career counseling. Adding an additional group of 10 or 20 students to those colleges that provided both education and reentry services would cost colleges approximately \$10,500 per additional student, while adding an additional group of students to colleges that focused on education would cost approximately \$3,800 per additional student. The cost analysis implies that while CIP—funded through CJII—was successful in supporting a scale-up of college-in-prison programming, colleges, nonetheless, had to use additional funding sources or in-kind donations of time and materials to fund education programs and to provide reentry services. This indicates single, time-limited grants—such as those available through CJII—are useful as a component of blended or braided funding models but colleges cannot depend on them as a single source of funding in perpetuity. The final evaluation report will expand this cost analysis to a benefit-cost analysis, which will evaluate the return on investment of these monetary and resource outlays in terms of avoided incarceration, averted criminal victimization, and increased labor force participation and improved income.

This research indicates that academic college programs are highly effective at reducing future convictions among participating students. Yet, interest in college in prison among prospective students far outstrips the ability of institutions of higher education to provide that programming, due in no small part to resource constraints. In such a context, funding through initiatives such as CJII and through state and federal programs not only supports the aspirations of people who are incarcerated but also promotes public safety. Further implications, limitations, and additional research are discussed.

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# Introduction

Postsecondary education (PSE) in prisons encompasses a variety of forms, including career and technical education, vocational training, and academic programs leading to a postsecondary certificate or an associate's, bachelor's, or even higher degree. Research on the effects of PSE in prison indicates it has positive effects for students who are incarcerated, their families and communities, public safety, and safety inside prisons. Education, in addition to providing information, concepts, and skills to students, also improves self-esteem, self-efficacy, internal locus of control, the ability to cope effectively with change and stress, and the ability to be resilient against hardship. Education also promotes improved communication, planning, and forethought—all of which are associated with improved well-being, including better physical and mental health.<sup>1</sup> People who participate in PSE in prison describe the experience as transformative, pushing them to develop new identities, perspectives, and goals and to focus on self-reflection and improvement.<sup>2</sup> PSE provides students with knowledge, skills, and connections they can use to benefit their children and families, effectively multiplying the impact of a single college degree long past enrollment.<sup>3</sup> PSE is also becoming increasingly essential for employment, with 70 percent of all jobs in 2027 forecasted to

require education and training beyond high school.<sup>4</sup> Further, people of color particularly stand to benefit from this avenue for upward mobility, as they are overrepresented among people in prison and underrepresented among people in college.<sup>5</sup>

**A meta-analysis found that correctional education for incarcerated individuals reduces recidivism by 28 percent. For those pursuing postsecondary education, recidivism is reduced by 48 percent.**

As incarcerated people achieve higher levels of education, their likelihood of further involvement with the criminal legal system decreases. Incarcerated people who participate in PSE programs have 48 percent lower odds of returning to prison than those who do not.<sup>6</sup> These reductions in future incarceration have benefits not only for formerly incarcerated students and for public safety, but also for taxpayers, with every dollar invested in prison-based education yielding more than four dollars in taxpayer savings from reduced incarceration costs nationally.<sup>7</sup> Finally, prisons with PSE programs have fewer violent incidents than prisons without them, creating safer working conditions for staff and safer living environments for incarcerated people.<sup>8</sup>

Among people who are incarcerated, most have educational aspirations and are interested in educational programming during their incarceration (70 percent); most are interested specifically in PSE (between 50 and 70 percent); and most (64 percent) are academically eligible to participate in PSE.<sup>9</sup> Yet, only a tiny fraction of people in prison complete a credential while incarcerated (9 percent).<sup>10</sup> This gap between aspirations for PSE in prison and participation is driven largely by a lack of capacity due to limited funding. Pell Grants served as the main source of funding for PSE in prison programs since their advent in the 1970s until the 1994 Crime Bill made incarcerated people ineligible.<sup>11</sup> Echoing this national reduction in funding, New York State also removed people in prison from eligibility for the Tuition Assistance Program (TAP) the same year, which had been funding 23 college programs for around 3,500 students across 45 prisons in New York.<sup>12</sup> The losses of these funding sources led the number of college-in-prison programs nationally to plummet from 772 in the early 1990s to just eight in the late 1990s.<sup>13</sup> In New York, some institutions of higher education were able to secure resources from private foundations, allowing for some return of capacity, but it was not sufficient to replace TAP and Pell funding: today, only a third of people in New York prisons who apply for college are admitted, even among schools without competitive admissions, and a major reason colleges give is a lack of funding.<sup>14</sup>

There is a high demand for education among people who are incarcerated and high potential benefits to criminal legal systems, public safety, and government coffers. Yet, there has been limited capacity to meet those needs. The Criminal Justice Investment Initiative (CJII) established by the Manhattan District Attorney's Office (DANY) funded an expansion of PSE to people incarcerated in facilities operated by the New York State Department of Corrections and Community Supervision (DOCCS) by increasing the number of programs and the capacity of existing programs.

In this report, Vera describes the methods and results of an impact evaluation of participation in academic associate's and bachelor's degree programs offered by the seven colleges that participate in the College-in-Prison Reentry Initiative (CIP) program, focusing on the effects on in-facility behavior and on further criminal legal system contacts (recidivism), employment, and income following release. Vera also presents a cost analysis for the expansion of existing programs.

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## **What we know: The effects of postsecondary education in prison**

A large and growing body of research has demonstrated the significant benefits of PSE for the criminal legal system; public safety; and people who are incarcerated, their families, and their communities. The best summary of evidence to address a particular question is a meta-analysis—a critical review and pooling of multiple different studies. When done properly, a meta-analysis carefully assesses the quality of the evidence generated from the studies it reviews, including only high-quality studies in the resulting summary. Although there have been four meta-analyses to date of the impacts of education in prison on outcomes, the first three did not or did not fully assess the quality of the evidence of the papers they summarized, and all studies faced challenges separating out the effects of academic college programs from other forms of education, including secondary and vocational programming. The most recent meta-analysis, by Robert Bozick, Jennifer Steele, Lois Davis, and Susan Turner in 2018, pooled results from high-quality studies of the effects of education in prison on recidivism and employment status, examining 57 studies from 1980 to 2017.<sup>15</sup> The authors found that participation in correctional education designed to lead to a credential—including adult basic education; secondary education (high school degree or equivalency); and postsecondary education, both academic and vocational—led to 28 percent lower odds of people being reincarcerated within a year compared to those who did not participate in education.<sup>16</sup> Students who participated specifically in postsecondary education had 48 percent lower odds compared to nonstudents.<sup>17</sup> However, in reviewing all the literature on the topic to identify high-quality studies for inclusion, the authors concluded that much of the research on the impacts of education in prison has been of poor quality. Since this meta-analysis, there have been few new individual studies using a high-quality design, but those that exist have confirmed these findings: college in prison leads to large and significant reductions in subsequent contacts with the criminal legal system.<sup>18</sup>

Bozick and his co-authors also found 27 percent higher odds of obtaining employment following release among those who participated in any level of education program in prison compared to those who did not, though this was not statistically significant and did not separate out the effect of postsecondary education specifically on employment status following release.<sup>19</sup> However, the authors were not able to find a statistically significant effect for education in any form on employment and did not include studies that examined the effect of education in prison on in-facility behavior or wages as there were not a sufficient number of studies to review in order to pool together their effects.<sup>20</sup> The few studies that have investigated



the effect of postsecondary education in prison on wages using a high-quality design found that it does increase total income among those who are able to secure employment, with those earning a postsecondary credential while incarcerated earning approximately \$800 to \$3,000 more per year than those who did not.<sup>21</sup>

Few studies have used a high-quality design to evaluate the effect of education in prison on in-facility behavior, measured through misconducts—sanctions applied for prohibited behavior—and only one has examined the effect of PSE specifically.<sup>22</sup> Studies that examined the number, severity, and nature of behavior underlying misconducts have found meaningful and statistically significant reductions of 5 to 9 percent on disciplinary infractions in prison among students compared to nonstudents.<sup>23</sup> Other studies using less rigorous designs or examining other forms of education have come to similar conclusions that education reduces in-facility misconducts.<sup>24</sup>

## What this study adds

In this study, Vera researchers provide more recent evidence to the field and improve on the existing literature in several ways. First, while the studies in the most recently conducted meta-analysis used rigorous research designs to estimate the effects of education in prison, the criminal legal system outcomes evaluated included rearrest and reincarceration for any reason, including for technical violations. As discussed in “New criminal conviction” on page 11, these definitions lack a public safety implication and in the case of a technical violation are not applicable for the entire sample. Vera researchers therefore use a definition of recidivism that focuses only on a new conviction that followed release from prison.

Second, as most correctional education focuses on adult basic education and secondary education leading to a high school degree or equivalency (HSD/HSE), most evaluations have focused on the effects of these types of programs. The fact that a person may participate in multiple types of educational programming while incarcerated makes it challenging to isolate the effects of each type of education or to focus just on college-in-prison programs.<sup>25</sup> This study focuses specifically on the impacts of participation in academic college education programs designed to lead to a credential—either an associate of arts (AA), associate of applied science (AAS), bachelor of arts (BA), or bachelor of science (BS) degree—to isolate the effects of those credentials compared to people with completed secondary education, either a high school degree or high school equivalency such as a General Education Development. Programs that offer coursework but no pathway to a credential do not qualify for funding from CJII and are not considered in this study.

Third, in this report, Vera researchers explore the outcomes of employment, income, and in-facility behavior, which are infrequently studied in the literature. The lack of published studies may be due to few analyses being conducted or due to studies that do not find a significant result going unpublished (commonly called “publication bias”). Finally, Vera used a high-quality design to promote the internal validity of the study. (See “Propensity score matching” on page 13.)

The benefits often investigated include reductions in prohibited behavior or violence in correctional facilities; reductions in criminal legal system contacts, commonly termed “recidivism”; increased employment and income; reduced net public expenditure; and improved community safety and well-being for the people, families, and communities most affected by the criminal legal system.<sup>26</sup> Decision-makers who have influence over funding for and policy governing higher education in prisons have been the primary audience for this body of research. In this report, Vera researchers similarly address these key stakeholders by focusing on the effects of education on behavior in prison, recidivism, employment, and income among people currently and formerly incarcerated. Notably, when examining a relationship between education and incarceration, Vera researchers focused on whether access to education reduces the risk of further criminal legal system involvement, rather than how lack of access to education or punitive practices during schooling can increase the risk of a first involvement in the criminal legal system.<sup>27</sup>



## About this project

### The Criminal Justice Investment Initiative

The College-in-Prison Reentry Initiative (CIP) is a part of the Criminal Justice Investment Initiative (CJII), a strategic plan by the Manhattan District Attorney's Office for investing in public safety.<sup>1</sup> CJII aims to reinvest \$250 million in criminal asset forfeiture, including through the expansion of college education in prison throughout New York State.<sup>1</sup>

Although Bureau of Justice Statistics surveys of correctional facilities estimate that almost half of all correctional facilities in the United States offer at least some college courses, this does not mean that there is an open desk for every person confined in those facilities. While correctional facilities that host college programs hold almost 60 percent of people who are incarcerated, this does not indicate that 60 percent of people who are incarcerated have access to college education.<sup>1</sup> One key feature of CIP is the support to build capacity for existing college programs to enable them to serve additional people in correctional facilities where college programming already operates, in addition to the initiation of new college programs.<sup>1</sup>

People who are incarcerated in New York State Department of Corrections and Community Supervision facilities are eligible for college education funding through CJII based on time to release, educational attainment, and history of in-facility sanctions. Specifically, people in prison were eligible if they were between one-and-a-half and five-and-a-half years from release at the time of initial enrollment, if they had previously obtained a high school diploma or equivalency but did not already hold a higher degree, and if they did not have a Tier II misconduct (intermediate-level rule violation) in the past six months or a Tier III misconduct (most severe level rule violation) in the past 12 months.<sup>1</sup> Additionally, people in prison were eligible for CJII-funded college education if they were incarcerated at a facility where one of the participating colleges offered education.<sup>1</sup>

### Participating college providers

CJII funding is available to seven colleges following competitive solicitation and to the subset of students in those programs who met CIP's eligibility criteria. There are seven colleges and universities that participate in CIP. **Bard College**, through the Bard Prison Initiative, offers an associate of arts (AA), a bachelor of Arts (BA), and a public health (PH) specialization to students across six prisons, including facilities designated for men and facilities for women.<sup>1</sup> Through the initiative, Bard offers programs at Coxsackie, Eastern New York, Fishkill, Green Haven, Taconic, and Woodbourne Correctional Facilities. Taconic Correctional Facility is a medium security prison for women; Woodbourne and Fishkill are medium security prisons for men; and Green Haven, Eastern New York, and Coxsackie are maximum security prisons for men. **Cornell University's** Prison Education Program teaches classes toward an AA degree at Auburn, Elmira, and Five Points Correctional Facilities, maximum security prisons for men, and at Cayuga Correctional Facility, a medium security facility for men. Although Cornell contributes instruction and program coordination, degrees are awarded by Cayuga Community College and Corning Community College—two community colleges that are part of the State University of New York (SUNY) system. **Medaille College** offers an AA to women incarcerated at Albion Correctional Facility, a medium security prison.<sup>1</sup> **Mercy College** offers a bachelor of science (BS) degree to students incarcerated at Sing Sing Correctional Facility, a maximum security prison for men. While pursuing a BS, students at Sing Sing also complete an associate of science (AS) degree in liberal arts and sciences. **Mohawk Valley Community College** offers, through its College in Prison Program, AS and associate of applied science degrees to students at Marcy Correctional Facility, a medium security facility for men. The **New York University** Prison Education Project offers an AA degree to currently incarcerated students at Wallkill Correctional Facility, a medium security prison for men. **SUNY Jefferson** offers students an AA program at Cape Vincent, Gouverneur, and Watertown Correctional Facilities, all of which are or were medium security facilities for men.<sup>1</sup>

CJII also funded two organizations to provide technical assistance: the John Jay College Institute for Justice & Opportunity (formerly the Prison Reentry Institute) and the State University of New York.

## Methods: Data and Analyses

Vera researchers conducted an impact evaluation examining four outcomes of interest. Vera was interested in behavior while incarcerated, new criminal behavior following release, post-release employment, and post-release total income. Researchers used several measures to operationalize these outcomes:

- **misconducts** filed against people who are incarcerated, as a measure of in-facility behavior;
- **new criminal convictions** following release, as a measure of new criminal behavior;
- post-release **formal employment**, as a measure of being employed; and
- **wages** reported quarterly to unemployment insurance systems, as a measure of total income.

The definitions of these outcomes have important implications for policymakers and future research. Vera's methodological choices about how to define the outcomes were based on available data from three different sources: existing research on higher education, labor markets, and the criminal legal system; the context of corrections in New York State; and Vera's evaluation objectives. Vera researchers first describe how they operationalized their definitions. Next, they describe the data analysis methods used to control for potential biases in understanding the relationships between participation in college education in prison and the four outcomes.

### Defining college education in prison and its outcomes

The seven college providers, the New York State Department of Corrections and Community Supervision, the New York State Division of Criminal Justice Services (DCJS), and the New York State Department of Labor (DOL) provided data to Vera on students as well as a selection of comparable nonstudents. Colleges provided data to DOCCS defining who was a CJII-funded student and DOCCS determined which nonstudents would have been eligible for CJII funding had they participated in college. DOCCS provided information about the incarceration during which students participated in education funded by CJII or during which nonstudents would have been eligible to participate in education funded by CJII. As people may have been incarcerated more than once, this incarceration is termed the *index incarceration*. DOCCS provided data on all nonstudents eligible for CJII funding at the same facilities where CJII-funded students were housed. There were approximately twice as many eligible nonstudents as CJII-funded students, resulting in data on two nonstudents available for matching to each CJII-funded student. DOL provided information on employment and wages and DCJS provided arrest, court processing, and disposition histories for each CJII-funded student, defined by colleges, and each eligible nonstudent, defined by DOCCS using the same criteria.

Vera examined the effect of participation in college education with reentry support on in-facility misconducts, new criminal convictions, having formal employment post-release, and reported wages. The sections that follow describe how the researchers defined these using available data.

### The intervention: Participation in CJII-funded college education in prison

The intervention for analysis was any program *participation*, rather than a measure of level or length of engagement with education or completion. This was done as too few students had completed the program by the time of analysis to assess the differential effects of completion on the outcomes of interest and because the sample size was too low to conduct separate analyses of the outcomes of interest comparing students with different levels or lengths of engagement with college. For this reason, students with any participation in college were compared against nonstudents with no college participation.

## **In-facility misconducts**

The New York Code defines all behavior that is prohibited by people who are incarcerated in correctional facilities and describes the levels of severity possible for a sanction for each type of infraction.<sup>28</sup> In New York State, there are three severity levels for rule violations, labeled Tiers I, II, and III, with Tier III being the most severe. A single *incident* may involve multiple rule *violations*, with the entire incident classified according to the highest severity rule violation involved. Misconducts may be filed for violent or non-violent infractions across tiers. Across Tiers II and III, there are a subset of incidents that DOCCS defines as particularly severe according to the nature of the rule violations. Misconduct charges are reviewed through a disciplinary hearing led by corrections staff who determine whether the charges are considered substantiated.<sup>29</sup>

Vera examined whether participation in college reduced the number of misconduct incidents substantiated by DOCCS staff. Researchers evaluated whether college participation influenced numbers of Tier II, Tier III, and high-severity misconduct incidents separately, as well as total misconduct incidents across Tiers II and III (inclusive of high-severity incidents).

Although Vera used misconducts as a measure for in-facility behavior, misconducts are not necessarily an independent measure of behavior within the facility but rather are the product of interactions between people who are incarcerated and correctional staff and may be influenced by the subjectivity of those facility staff, either at the point of charge or at substantiation.<sup>30</sup> As this is the case, it could be that regardless of underlying in-facility behavior, students may receive more or fewer misconducts than nonstudents due to their status as a student. For instance, it could be that resentment of incarcerated people accessing free college may lead to additional misconducts applied to students, or, alternatively, that a wish to not interfere with an incarcerated person's aspirations for higher education may lead to in-facility behavior being excused rather than a misconduct being applied. However, whether allegations were differentially applied on the basis of a person's participation in education cannot be known with existing data. Thus, Vera's findings should be interpreted as correct only assuming that corrections staff charge and substantiate misconducts unrelated to whether a person who is incarcerated is participating in higher education and that substantiated misconduct charges represent behavior.

## **New criminal conviction**

Vera researchers measured new criminal behavior as criminal incidents that subsequently led to a new conviction following release from incarceration. A conviction is the disposition of a proceeding by which an accusation of criminal behavior is legally substantiated. Researchers chose conviction over other commonly used measures of recidivism, such as arrest or incarceration for any reason, as neither arrest nor incarceration has public safety implications: an arrest is evidence of suspicion or accusation alone, while incarceration may be due to technical violations, which do not necessarily involve the commission of new criminal behavior. (See Box 2, "Why not measure recidivism as arrest or incarceration?" on page 12 for further discussion.)

Investigating the effect of education on recidivism—whether defined as rearrest, reconviction, or reincarceration—involves using measures that are the product of interactions between people and the criminal legal system.<sup>31</sup> However, contact with the criminal legal system is not an unbiased measure of behavior.<sup>32</sup> These measures may include mistaken or wrongful arrest, conviction, or incarceration and may exclude criminal incidents that went unreported or unsolved. However, there is an even larger problem to the use of criminal legal system contact as measures of criminal behavior: what behavior is considered a crime and the criminal legal system response to that behavior are policy decisions, and mass incarceration and criminalization are largely policy choices rather than public safety responses.<sup>33</sup> However, this study lacks a better measure for new criminal behavior than a conviction or a better data source than criminal legal system data and presents these as limitations.

## Why not measure recidivism as arrest or incarceration?

### Technical violations

Technical violations are violations of a person's conditions of supervised release or parole that do not involve committing a new crime or would not lead to incarceration if the person were not under community supervision. Depending on the jurisdiction, technical violations may be for rule breaking that ranges from unauthorized travel and absconding from parole to missing curfew; alcohol use; failing a drug program; or failure to pay fines, fees, or restitution. The use of incarceration as a sanction for technical violations has not been shown to improve public safety. Rather, it imposes large costs on taxpayers and potentially disrupts the efforts of people released from incarceration to rebuild their lives and livelihoods after their release from incarceration.<sup>1</sup>

Vera researchers excluded technical violations from the definition of recidivism when evaluating a relationship between the expansion of PSE in prison and recidivism. Any relationship between the expansion of PSE in prison and a reduction in incarceration due to technical violations is not relevant, since committing technical violations does not have a public safety implication—though incarceration for a technical violation has an enormous effect on people who are returned to prison, their families, and their communities. The use of incarceration in response to technical violations is largely a policy choice, one that New York State, among many other jurisdictions, has decided to reduce through legislative reform.<sup>1</sup> Therefore, Vera researchers focused on only a relationship between the expansion of PSE in prison and a reduction in incarceration due to new convictions alone.

### Arrest

Arrest is also commonly used as an outcome of interest in evaluations of interventions with people in prison. However, even excluding arrests for technical violations—per the norms of the criminal legal system in which people are innocent until proven guilty—arrests are only evidence of suspicion of criminal behavior and cannot be taken as evidence of criminal conduct. The U.S. Supreme Court has noted this multiple times and forms the basis for regulation by the U.S. Department of Housing and Urban Development and the Equal Employment Opportunity Commission, which do not allow arrest alone to serve as a barrier to public housing or employment.<sup>1</sup>

## Formal employment and reported wages

Vera measured employment as formal employment status and income as wages earned from formal employment. The data source for both formal employment and earned wages is wage record data, part of unemployment insurance data from DOL. Employers covered by unemployment insurance in New York must submit wage information for each of their current employees on a quarterly basis to the state's Department of Taxation and Finance, which in turn submits this quarterly wage data to DOL. Wage record data, though a part of the unemployment insurance data, describes people who are currently *employed*, which is very different from unemployment insurance filings, which describe people who are currently *unemployed* and seeking insurance benefits.<sup>34</sup>

People may not have records in the wage record data for several reasons. First, they may be *unemployed*, meaning they are not working but seeking work. Second, they may be *jobless*, meaning they are not working and are also not seeking work, possibly due to disability, family obligations, or pursuit of education full time. Third, they may be working, but in a position that was *ineligible for unemployment insurance*, which includes people who are informally employed or working under the table, self-employed, classified as an independent contractor, or working in agriculture, for example. Fourth, they may be *living in institutions* such as correctional facilities, mental health care facilities, or nursing homes.<sup>35</sup> People who do have records in the wage record data were currently employed in that quarter by a formal employer in an industry and job category that qualifies them for unemployment insurance.

Vera researchers defined people as being employed in a quarter if they were not currently incarcerated for at least a portion of that quarter and if they earned any wages in that quarter. For people who were released from incarceration but did not have any wages listed for a quarter, Vera researchers cannot distinguish among people who may be unemployed, jobless, working in positions that are ineligible for unemployment insurance, or living in an institution (other than a state correctional facility). Therefore, this study is necessarily comparing people who have formal employment that qualifies for unemployment insurance to all of the other categories, lumping together those who may be unemployed, jobless, employed but ineligible for unemployment insurance, and living in certain types of institutions. This is a limitation of using unemployment insurance data to define employment and wages.

Additional data sources would be needed to determine which people may be working but absent from unemployment insurance data. Without access to Internal Revenue Service data or survey data, Vera researchers cannot identify who is working under the table, self-employed as an entrepreneur, employed in agriculture, or acting as an independent subcontractor to properly label them as employed. Vera notes that about half of students and nonstudents who reentered from prison were from New York City or the immediate surroundings and so are highly unlikely to be employed in agriculture post-release. Vera also notes that people who work in the so-called gig economy for companies such as Uber, Lyft, or DoorDash, among other companies, are classified as independent contractors and are therefore not eligible for unemployment insurance. However, a review of the employment policies of the major gig economy companies indicated that these companies were highly unlikely to employ people who had conviction and incarceration histories.<sup>36</sup>

Vera researchers assigned a wage of zero for that quarter to those people without wage data if they were living in the community during any part of that quarter. Since Vera wished to evaluate whether having employment, a necessary precondition for having wages, was an outcome of college education, excluding people who did not have employment from the wage analysis would bias the estimate.<sup>37</sup>

## **Making fair comparisons between students and nonstudents**

### **Propensity score matching**

To understand the impact of access to a college education on the people in the program, Vera researchers needed to know what would have happened to these people if they had *not* participated in the program. In social science research, researchers often approximate this by making comparisons between people who do and do not participate in a program, in this case, between the students and people who did not participate in the program, whom the researchers called nonstudents. Ideally, researchers need these comparisons to be between groups that are otherwise as similar as possible to guard against attributing outcomes to the effects of education that may be due to the characteristics of people who are eligible for or interested in participating in education. In a fair comparison of students and nonstudents, the only difference between the two is that students participated in college education in prison while nonstudents did not. Thus, any differences in outcomes down the line can be attributed solely to that program. One study of the impacts of college in prison on criminal legal system outcomes found that people who chose or were able to access education differed in their demographics, employment and conviction histories, and sentence lengths from people who did not choose or have the ability to access education. This indicates a need for research and statistical methods that can account for such “selection” into college education to correctly attribute effects solely to the program.<sup>38</sup>

The best way to create the fair comparisons needed to estimate causal effects is to perform a randomized experiment. However, this was not done in this study due to the ethical impact of withholding from a comparison group an intervention that has established positive benefits, aside from those to be evaluated within this study.<sup>39</sup>



Vera researchers instead aimed to create a fairer comparison across groups using a statistical technique called *propensity score matching*, commonly used in research in the criminal legal system.<sup>40</sup> The idea behind propensity score matching is to construct a comparison group of nonstudents who look as similar as possible to students in CIP (the “treatment group”) based on all of their observed characteristics, described further in “Accounting for differences between students and nonstudents: Matching variable choices” on page 14. (For further detail about propensity score matching see Appendix B: Propensity score matching on page 39.<sup>41</sup>)

### **Accounting for differences between students and nonstudents: Matching variable choices**

In propensity score matching, matching variables are included if they may influence the treatment (or independent variable) or any of the outcomes and if they are not themselves a consequence of the treatment variable. In this study, the researchers selected matching variables based on whether, in existing literature or empirically in the sample, they are associated with participation in college education in prison or influenced the outcome measures of interest.

Vera researchers matched students and nonstudents on the following variables:

- **demographics**, including race and ethnicity category, age at admission to prison for the current incarceration, and gender;
- **conviction history**, including age at first conviction, number of previous convictions, severity of most severe prior conviction, and severity of the conviction associated with the current incarceration, including whether it was classified as a violent offense;
- **correctional characteristics**, including the person’s security classification at the time they became eligible for college education, sentence length, the number of misconducts in each of the tiers (II, III, and high-severity) in the year prior to beginning or becoming eligible for college education, geographical region for reentry, and the timing during a quarter when the person was released (if released); and
- **education characteristics**, including the person’s highest level of education at the time they became eligible for education in prison and age at the start of education or eligibility for college education.

Race, age, and gender are highly predictive of incarceration in state prison systems, both nationally and in New York State, and younger Black men are the most overrepresented group in the prison population relative to their presence in the United States population.<sup>42</sup> Race is also predictive of employment and wages, particularly for people with a conviction history, in that people who identify or are identified as Black receive fewer offers for interviews and employment than people who identify or are identified as white.<sup>43</sup> Race is predictive of participation in higher education both in prisons and outside of prison contexts: people of color are generally less likely to attend college education in both settings relative to white people in the same context.<sup>44</sup> Age is predictive of participation in education in prison: older people who are incarcerated are more likely to participate.<sup>45</sup> Younger age is also predictive of higher numbers of misconducts, particularly at the beginning of a period of incarceration, leading Vera researchers to match not only on age at the start of education but also on age at the start of the index incarceration.<sup>46</sup> Gender is also predictive of participation in higher education: women are more likely to participate outside of prisons and, in this evaluation, people incarcerated in facilities for women are less likely to participate in CJII-funded postsecondary education.<sup>47</sup> In the latter case, this likely has to do with the fact that fewer CJII-funded programs were offered at correctional facilities for women than for men.<sup>48</sup>

There is extensive literature describing the relationship between conviction history and future criminal legal system involvement, with the number and severity of previous convictions associated with future contact.<sup>49</sup>

Vera researchers' choices of conviction history matching variables, described earlier in this section in the bulleted list, were driven partly by the literature and partly by what was empirically associated with Vera's outcomes in the matched sample. Since people who are slightly older may have had more time in which to have experienced multiple convictions, in order to isolate the relationships among age, education participation, misconducts, and conviction history, Vera also controlled for age at first conviction.

Vera used the security classification of students and nonstudents as a matching variable, as this may influence the filing of misconducts for prohibited behavior.<sup>50</sup> The researchers defined sentence length, which may influence future criminal legal system contact, as a categorical variable giving the range between the aggregate minimum and maximum sentences for the offense.<sup>51</sup> The researchers did not use the actual time served as a matching variable as it could be an outcome of participation in college education. If college participation leads to fewer misconducts this could affect the actual time served, as the record of in-facility sanctions affects the earning or losing of "good time" off of one's sentence. (See "In-facility misconducts" on page 11.) The researchers included the timing during the quarter when the person was released (see Appendix B: Propensity score matching on page 39), as it may influence the outcomes of employment and wages, which were measured quarterly.

Across the United States, including in New York State, many reentry services are offered locally, with reentry councils or task forces and wraparound services organized at the county or local jurisdictional level.<sup>52</sup> As the availability of these services and supports are intended to influence a person's success in the areas of employment and future criminal legal system involvement, Vera sought to match on their availability by matching on location of reentry. Further, as policing and prosecutorial choices are also variable by geography, the criminal legal system jurisdiction to which the person returns may influence whether criminalized behavior results in a new conviction.<sup>53</sup> Finally, the local labor market may influence the availability of positions and wages offered. However, as county of reentry was not available, Vera researchers sought to match on county of conviction and assumed that people would return to the same county. Unfortunately, Vera researchers were only able to match on region of reentry due to a lack of suitable nonstudents for matching within each county, limiting the ability to avoid mismatches between students and nonstudents across areas with different police and court jurisdictions, different service availability, and different employment opportunities.<sup>54</sup>

Part of the methodology in propensity score matching involves matching on measured outcomes in the time period prior to the intervention. In this case, Vera researchers matched on the number of prior convictions in part to meet this requirement, as well as on the number of misconducts in each of the tiers under study in the six months prior to beginning college education or becoming eligible for college education. Vera also matched on the level of education of the students and nonstudents prior to start or eligibility to start college education to ensure comparability among those who were similarly eligible for CJII funding. However, Vera researchers were not able to gain data on employment and wages prior to the index incarceration, which has implications for the internal validity of the present study. (See "College education through CIP had mixed and contradictory effects on formal employment and wages" on page 24.)

## **The importance of timing for making fair comparisons, measuring outcomes, and considering context**

### **Making fair comparisons**

Timing is important in the present study for three reasons. First, in order to make fair comparisons between students and nonstudents, nonstudents had to resemble students in multiple ways, including the timing during their incarceration that they became eligible to participate in college education. Researchers considered nonstudents to be eligible for comparison not only if they met the same academic and behavioral history requirements as students but also if they had a similar time to release during the CIP period, a similar



age at incarceration, and a similar time from prison admission to eligibility. (For further discussion, see “Accounting for differences between students and nonstudents: Matching variable choices” on page 14.)

### Measuring outcomes

Second, when evaluating whether an intervention influences an outcome of interest, it is a necessary but not sufficient condition that the intervention happens before the outcome. Vera researchers therefore defined a “start date” for students and a “virtual start date” for nonstudents in order to determine when to begin measuring in-facility outcomes, which included Tier II, Tier III, high-severity, and all misconducts. In order to promote comparability between students and nonstudents, the start date and virtual start date must be defined the same way. For both students and nonstudents, researchers defined this date as the date the person became eligible for college education funded through CJII, including academic, behavioral, and time-to-release criteria. However, there were students who started college before they became eligible for CJII funding. Since the intervention under evaluation is college participation, rather than college funded through a particular funding stream, these students were excluded from the analytical sample. (See “Sample reduction: Missing, unavailable, or incorrect data” on page 17 for further information.) Therefore, for students included in the analytical sample, the date they became eligible for CJII funding is also their date of enrollment in college. Researchers assessed the numbers of Tier II, Tier III, high-severity, and all misconducts in the six, 12, and 24 months following the start of college education for students compared to nonstudents in the same time periods following their eligibility to start college education. Students and nonstudents who remained incarcerated for at least six, 12, and 24 months following their start date or virtual start date were included in the three time periods for analyses, respectively.

Researchers measured recidivism within six months, 12 months, or at any point in time following the date when each person was released from incarceration. When examining recidivism that occurred within six and 12 months of release, Vera researchers included only those people who had been released for at least six or at least 12 months, respectively. Vera included all people released during the study period in the third analysis, examining recidivism that took place at any point following release.<sup>55</sup> Vera defined recidivism as the date of the *incident* that subsequently led to a conviction. While the incident that led to a conviction had to take place within six or 12 months for the first two analyses respectively, the timing of the *conviction* was not relevant for the first two analyses. Convictions represent the disposition of legal proceedings, and the length of time a court process takes is not relevant to a definition of recidivism. The fact of a conviction was relevant only because it was used to define the outcome of recidivism: Vera excluded arrests that did not lead to new conviction during the period under study, following the study’s definition of recidivism.

Researchers measured formal employment and wages beginning in the quarter that the person was released from incarceration. Since wage record data is provided only in quarterly increments, information on the date within the quarter that employment began was not available. Students and nonstudents who were still incarcerated could not be included in analyses of any post-release outcomes, including new convictions, employment, and wages. (For further discussion, see Appendix C: Sample sizes for each analysis on page 41.)

### Considering context

Finally, the calendar time when the intervention was implemented and outcomes were measured is important to assess whether any other factors taking place at the same time could have influenced the study conclusions. CIP began in September 2017 and continued through June 2023. Vera received misconduct data up to September 30, 2021, new conviction data up to September 17, 2021, and data on employment and wages up to the first quarter of 2021, which ended on March 31, 2021. The most important context during this time was the COVID-19 pandemic, the impact of which is discussed further in “Mitigating limitations for the forthcoming final report” on page 26.

## Regression analysis with matched sample

Regression analysis is a statistical technique that allows researchers to estimate the difference between groups who participate or not in an intervention—in this case participation in college education—with respect to outcomes of interest, while accounting or controlling for other factors that may influence that outcome. Regression analysis is often combined with propensity score matching to improve the robustness of the estimate.<sup>56</sup> If researchers are able to appropriately control for all the important differences between the groups (characteristics that predict both participation in college education and subsequent outcomes) then these estimates can be interpreted causally.<sup>57</sup>

To examine the effect of college education in prison on misconducts and on reported wages, Vera researchers used linear regression on the matched sample. For formal employment status and for an incident within six months and 12 months of release that led to a new conviction, Vera used logistic regression on the matched sample. For recidivism at any point following release, Vera used survival analysis on the matched sample to estimate the impact of the program on the time until an incident that leads to a new conviction occurs. More details are provided in each of the subsections that follow.

Appendix B: Propensity score matching on page 39, Appendix D: Regression analysis on page 44, and Appendix E: Survival analysis on page 46 provide further detail on statistical methods.

## Sample reduction: Missing, unavailable, or incorrect data

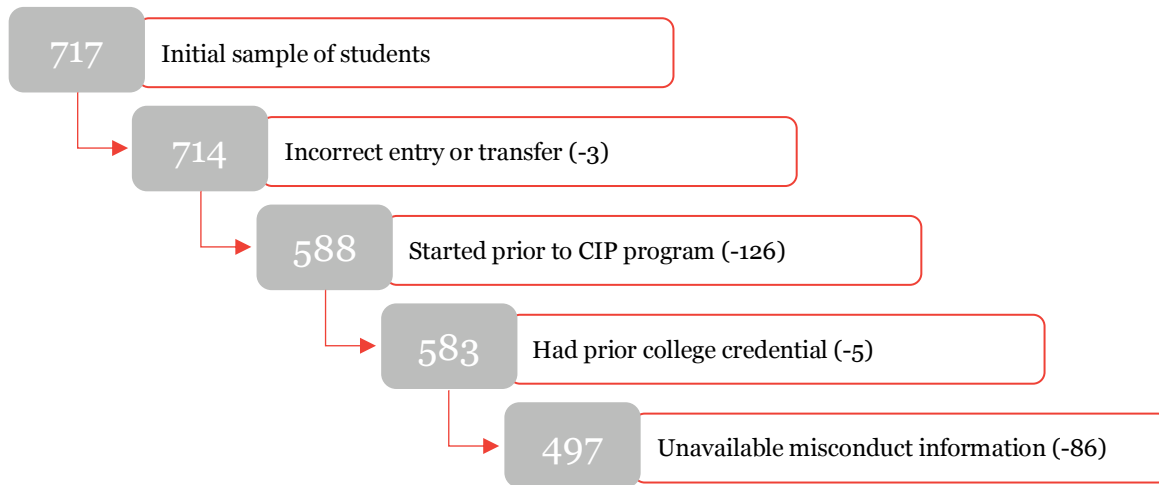
Though the initial intervention sample included records on 717 students, researchers ultimately deemed many of these to be unusable in the study due to missing or unavailable data or due to being mistakenly included in data transfers despite not meeting CIP eligibility requirements.

After removing three people who were manually identified as incorrect data entries, Vera researchers then removed 126 students who began college courses prior to the start of CIP, as data was available on these students' misconducts before they obtained CJII funding but not before they started college.<sup>58</sup> This reduced the student sample to 588. The sample was further reduced to 583 observations after researchers removed those who had already achieved a four-year college degree before their latest enrollment in college in prison.<sup>59</sup>

Records of misconducts prior to the determined CIP start date are recorded in either six-, 12-, or 24-month increments. In cases when a student had been incarcerated for less than six months prior to starting education, there was no record of prior misconducts provided even if the student had acquired a misconduct sanction. Due to this unavailable information, the number of students viable for analysis further decreased to 497 compared to the original 717 records provided.<sup>60</sup> (See Figure 1 on page 18 **Error! Reference source not found.**) This sample of 497 students was divided into a “released” group of 258 students who had been released before September 30, 2021, and an “unreleased” group of 239 students who had not been released as of that date. Students were matched with nonstudents who had also been released or remained unreleased, respectively. (For further detail, see Appendix C: Sample sizes for each analysis on page 41.)

**Figure 1**

**Sample reduction due to missing or incorrect data**



# Findings from the Impact Evaluation

## Characteristics of students and matched nonstudents

### Demographics

When evaluating the similarities between the student sample and the matched comparison group, Vera researchers expect to see similar representation across the different demographic variables. The tables in this section describe the students and matched nonstudents who were included in the analysis.<sup>61</sup> The number of students and matched nonstudents are reported for each categorical variable, while means and other summary measures are given for continuous variables.

More than 80 percent of students and nonstudents were housed in facilities designated for men, reflecting that most people who are incarcerated in New York State are men. (See Table 1.**Error! Reference source not found.**)<sup>62</sup> Close to half of the people in the study were Black, with white and Hispanic/Latino students the next most common. Students and nonstudents were approximately 31 years of age at the start of their index incarceration and between 36 and 38 years on average at the start of their education or eligibility for education. (See Table 1 and Table 5.) Region of conviction was evenly split between Upstate New York and New York City and its suburban counties.

**Table 1**

### Demographics of students and matched nonstudents

	Students	Matched nonstudents
<b>Gender designation of facility</b>		
Men	405 (81.5%)	265 (85.2%)
Women	92 (18.5%)	46 (14.8%)
<b>Race and ethnicity</b>		
White	148 (29.8%)	99 (31.8%)
Black	240 (48.3%)	152 (48.9%)
Latino	100 (20.1%)	55 (17.7%)
Native American	2 (0.4%)	0 (0.0%)
Asian	1 (0.2%)	0 (0.0%)
Other	6 (1.2%)	5 (1.6%)
<b>Average age at admission for index incarceration</b>		
	30.81 years	31.71 years
<b>Region of conviction and (assumed) reentry<sup>63</sup></b>		
New York City	189 (38%)	115 (37%)
Suburban New York City	54 (10.9%)	36 (11.6%)
Upstate New York	254 (51.1%)	160 (51.4%)

### Criminal legal system: Conviction history, current conviction, corrections characteristics

People in this study had received between zero and 55 prior convictions, with a mean between two and three prior convictions, wherein the first conviction occurred during their mid-20s. (See Table 2.) Around 90 percent of people in the study had a prior conviction that was a Class C felony or more severe. For the conviction associated with the index incarceration, a little more than 10 percent of the students and nonstudents in the study were convicted of a Class A felony and around 65 percent were incarcerated for

either a Class B or a Class C felony, with close to 70 percent of these convictions classified as violent felony offenses. (See Table 3.) About 68 percent of students and nonstudents were serving a sentence of at least six years. (See Table 4.) Reflecting where colleges offered education funded in part by CJII, around 95 percent of students held a medium or minimum security classification at enrollment. In the year prior to starting or becoming eligible for college education, students and nonstudents averaged less than one misconduct per year, with misconducts classified as Tier II being the most common.

**Table 2**

**Criminal legal system history**

	Students	Matched nonstudents
<b>Number of previous convictions</b>		
Minimum # of convictions	0	0
Mean # of convictions	2.90	2.81
Median # of convictions	2	2
Maximum # of convictions	33	55
Standard deviation	8.91	9.10
<b>Average age at first conviction</b>	24.6 years	25.1 years
<b>Highest prior conviction class</b>		
Class A felony	70 (14.1%)	39 (12.5%)
Class B felony	228 (45.9%)	153 (49.2%)
Class C felony	143 (28.8%)	86 (27.7%)
Class D felony	47 (9.5%)	28 (9.0%)
Class E felony	6 (1.2%)	4 (1.3%)
Class A misdemeanor	3 (0.6%)	1 (0.3%)

**Table 3**

**Conviction associated with index incarceration (top line offense)**

	Students	Matched nonstudents
<b>Index incarceration conviction class</b>		
Class A felony	61 (12.3%)	36 (11.6%)
Class B felony	188 (37.8%)	125 (40.2%)
Class C felony	136 (27.4%)	76 (24.4%)
Class D felony	76 (15.3%)	52 (16.7%)
Class E felony	36 (7.2%)	22 (7.1%)
<b>Index incarceration classified as violent felony offense or not</b>		
Nonviolent	150 (30.2%)	104 (33.4%)
Violent	347 (69.8%)	207 (66.6%)

**Table 4****Index incarceration**

	Students	Matched nonstudents
<b>Index incarceration minimum time to serve</b>		
12–35 months	18 (3.6%)	6 (1.9%)
36–47 months	48 (9.7%)	40 (12.9%)
48–71 months	95 (19.1%)	54 (17.4%)
72–119 months	182 (36.6%)	103 (33.1%)
120 months or more	154 (31.0%)	108 (34.7%)
<b>DOCCS security classification at start of education or eligibility</b>		
Maximum A	14 (2.8%)	14 (4.5%)
Maximum B	5 (1.0%)	2 (0.6%)
Medium A	218 (43.9%)	154 (49.5%)
Medium B	153 (30.8%)	88 (28.3%)
Minimum	107 (21.5%)	53 (17.0%)
<b>Average number of misconducts in year prior to start of education or eligibility</b>		
Total	0.456	0.518
Tier II	0.364	0.437
Tier III	0.092	0.080
High-severity	0.096	0.074

**Education: Credentials and completions**

The people in this study started their education in CIP or became eligible for CIP around six to eight years into their incarceration, on average, though the time between start of incarceration and start date was highly variable. (See Table 5.) More than 90 percent of the same group had a high school degree or equivalency, though around 6 percent of students had previously achieved an associate’s degree at the same institution before advancing to their current bachelor’s degree program.

**Table 5****Start of education or start of eligibility for CIP**

	Students	Matched nonstudents
<b>Average age at start of education or eligibility</b>	36.54 years	38.04 years
<b>Years from prison admission to start of education or eligibility</b>		
Average	5.72 years	6.36 years
Standard deviation	6.33 years	6.96 years
<b>Highest prior completed degree at start of education or eligibility</b>		
High school equivalency	328 (66.0%)	221 (71.1%)
High school diploma	126 (25.4%)	69 (22.2%)
One-year certificate	10 (2.0%)	3 (1.0%)
Associate’s degree (for bachelor’s students)	33 (6.6%)	18 (5.8%)

## Impacts of CJII-funded college in prison: students compared to nonstudents

As discussed, Vera researchers matched nonstudents with students on a range of variables and then performed regression analyses. The *treatment effect estimate* describes the ratio or the difference in the outcome between the groups of students and comparable nonstudents. (For further detail on regression analyses used to obtain these estimates, estimate interpretations, and a discussion of p-values and statistical significance, see Appendix D: Regression analysis on page 44.)

### College education through CIP did not affect substantiated misconducts filings

Vera did not find statistically significant differences in counts of misconducts between students and nonstudents at any time point following the start of education or within any tier of severity examined. (See Table 6.) Over each measured time frame, treatment effect estimates for total, Tier II, and Tier III misconducts were for differences of less than one-tenth of a misconduct and estimates for high-severity misconducts were less than half of a misconduct. There was no statistical significance for any of these estimates.

**Table 6**

#### Treatment effect estimates of college participation on misconducts

Outcome	Treatment effect estimate	P-value	Number of matched pairs
<b>Total</b>			
Six months	-0.06	0.636	491
One year	-0.09	0.361	472
Two years	-0.03	0.682	308
<b>Tier II</b>			
Six months	-0.05	0.744	491
One year	-0.08	0.450	472
Two years	-0.07	0.563	308
<b>Tier III</b>			
Six months	0.05	0.834	491
One year	-0.01	0.945	472
Two years	0.03	0.845	308
<b>High-severity, across tiers</b>			
Six months	0.44	0.133	491
One year	0.12	0.606	472
Two years	0.47	0.065	308

This lack of a statistically significant effect is contrary to most of the limited existing literature on the effect of education on misconducts.<sup>64</sup> There are several potential reasons why Vera may not have detected an effect in the present study. First, the students and the nonstudents whom DOCCS offered as potential comparisons had to meet the educational and correctional eligibility criteria for participation in CIP to be included in the present study. People in prison are eligible to participate in CIP if they have not had a Tier II misconduct in the past six months or a Tier III misconduct in the past 12 months. It may be that due to the eligibility rules for participation that students and nonstudents eligible for CIP already had so few misconducts that there was limited scope for further reductions in either group. Other studies of misconducts were conducted in other contexts in which eligibility for PSE does not depend as much on the absence of a history of sanctions.



**It may be that due to the eligibility rules for participation that students and nonstudents already had so few misconducts that there was limited scope for further reductions in either group.**

It may also be that Vera's time frame for looking at the effect of college education in prison on misconducts was not correct. Vera researchers examined the effect of college education on misconducts in the six months, one year, and two years following start of education or eligibility for education. As mentioned, Vera researchers were not able to include students who had started their education prior to the receipt of funding from CJII as Vera did not have information on misconducts for these students prior to starting their education. Vera thus necessarily excluded students who had had a lengthy engagement with college in prison. It may be that it takes more than two years of engagement with college education to realize benefits of participation in college in prison on reducing misconducts. Vera intends to adjust the data requests for information on misconducts to test this hypothesis in the final report.

Another possibility is that unmeasured factors may be related to both misconducts and participation in education and obscuring a real underlying association. In this study, Vera researchers have attempted to control for pre-incarceration factors, such as conviction history, age, and gender, that may contribute to misconducts in prison.<sup>65</sup> However, Vera was not able to control for other pre-incarceration factors that have been found in the literature to contribute to misconducts, such as marital status and family structure, mental health needs, a history of physical abuse, antisocial attitudes and beliefs, religiosity, socioeconomic disadvantage and exposure to geographically concentrated poverty, and other factors that, if present, would still allow a person to remain eligible for college education but might influence misconducts.<sup>66</sup> Vera researchers also have not been able to control for factors that may be related to misconducts, including characteristics of the prison management environment, such as prison size, and the proportion of people incarcerated under age 25, as Vera did not have access to information about the facilities where nonstudents were incarcerated.<sup>67</sup> Vera also did not have access to other programs that students and nonstudents may be participating in, such as work assignments, other programming, or health and mental health service engagement, which may influence in-facility behavior and are commonly used as controls in the literature.<sup>68</sup> If other literature on the subject is correct and education does help to lower misconducts, Vera may have, by chance, mismatched students with controls who, unobserved to researchers and unmeasured in the data, were less likely to have characteristics or be exposed to environments that influence misconducts. While prior misconducts, assigned security class, and time since admission may, as proxies, capture some of this information, they may do so imperfectly.

Finally, it is also important to emphasize that misconducts are not an independent measure of an incarcerated person's behavior in prison.<sup>69</sup> In one study of the experiences of students attending college while incarcerated, a common theme reported was harassment, resentment, and jealousy from both people who were incarcerated and not attending college as well as corrections staff.<sup>70</sup> Students reported that some corrections staff expressed and acted on their belief that people who are incarcerated do not deserve to attend college, which disrupted students' access to education and study time. The students were unable to report such behavior. Some corrections staff also expressed directly to the study authors their resentment and beliefs that incarcerated people are undeserving, particularly for college education that was free to students.<sup>71</sup> This study noted that such behavior is contrary to DOCCS policies and goals and represented an opportunity for additional training and oversight. If college education

**Misconducts are not an independent measure of an incarcerated person's behavior in**

lowered student violations of facility rules but increased the misuse of misconduct filings against students, these opposing forces may have canceled each other out.

**College education through CIP substantially reduced reconviction**

**Participation in academic college education in prison reduced the risk of reconviction following release by at least 66 percent.**

Consistent with other literature that has examined the effect of education on recidivism, however defined, Vera researchers found that participation in college education while incarcerated reduced reconviction for a new offense, though Vera researchers detected a much stronger effect than prior studies.<sup>72</sup> Vera’s study found that participation in college in prison reduced the risk of reconviction by 66 to 67 percent (a relative risk of 0.33 and 0.34). (See Table 7.) The impact of participation in college education was found to reduce reconviction in all three of the analyses (six months, 12 months, and at any point following release). The consistency of estimated treatment effects gives Vera confidence in the validity of this finding. Notably, when behaviors that led to a new conviction occurred within the sample, they generally occurred within six months of release,

which may explain why effects were remarkably similar when examining outcomes over different follow-up time periods. This may indicate, as suggested by other research, that new convictions following release from incarceration are more likely to happen sooner rather than later.<sup>73</sup> However, this could also be due to the fact that Vera did not consider arrests and prosecutions that may have led (or may still lead) to a conviction following the receipt of data for the present analysis. It will be interesting to observe whether this finding holds true when researchers conduct similar analyses with longer follow-up time in Vera’s final report. (For further discussion of the effects of college education on conviction, see “Implications of the Findings for College in Prison” on page 35.)

**Table 7**

**Treatment effect estimates of college participation on reconviction**

Outcome <sup>74</sup>	Treatment effect estimate (risk or hazard ratio)	P-value	Number of matched pairs
Within six months	0.34*	0.0454	207
Within 12 months	0.33*	0.0496	160
At any point following release	0.34*	0.0417	258

\* Denotes statistical significance at the p < 0.05 level.

**College education through CIP had mixed and contradictory effects on formal employment and wages**

Vera’s analyses estimated that students had a 30 percent lower probability of obtaining employment within the first two quarters following release (risk ratio of 0.70), but researchers were not able to detect a statistically significant difference between students and nonstudents obtaining employment in four quarters following release from incarceration. (See Table 8.) Conversely, Vera found that there was not any statistically significant difference in wages between students and nonstudents in the first two quarters following release, while over the first four quarters, wages were almost \$3,900 less in total among students as compared to nonstudents. (See Table 9.) In other words, the existing analyses suggest that students are less likely than nonstudents to have formal employment in the approximately six months following release but do not have lower wages during that time. However, the analyses also indicate that while students are just as likely as nonstudents to have formal employment in the year following release, they earn substantially

less in formal wages during that period. As discussed in the introduction, the literature on the effect of college education on employment and wages is similarly mixed, though not as contradictory.

**Table 8**

**Treatment effect estimates of college participation on having formal employment**

Outcome	Treatment effect estimate (risk ratio)	P-value	Number of matched pairs
Within two quarters	0.70**	0.009	160
Within four quarters	0.67	0.181	116

\*\* Denotes statistical significance at the  $p < 0.01$  level.

**Table 9**

**Treatment effect estimates of college participation on total reported wages**

Outcome	Treatment effect estimate	P-value	Number of matched pairs
Within two quarters	\$-777.53	0.229	160
Within four quarters	\$-3892.17**	0.009	116

\*\* Denotes statistical significance at the  $p < 0.01$  level.

One potential reason why students were less likely to be employed soon after release could be because they were focused on completing education. Students who did not complete their education while incarcerated may have deferred seeking employment in order to first complete their credential. Wage record data does not indicate why a person does not have a record of formal employment, and a person’s absence from this dataset may indicate that they are jobless (not working and not seeking work due to a focus on school, family responsibilities, or other matters). However, Vera researchers lacked data to compare education participation rates between students and nonstudents. While colleges maintained records of whether students participated in education at the same college following release, there was no similar source of data for whether nonstudents were participating in college following release.<sup>75</sup>

Another possibility is related to the nature of the data Vera received on employment. As discussed, using the

**The observed results might be influenced by the lack of pre-incarceration employment and wage data, potentially leading to poor matching between students and nonstudents and biasing the study’s results**

data that was obtained from DOL, Vera researchers were not able to differentiate among people who were unemployed, people who were jobless, and people who were employed in a field that was not covered by unemployment insurance, including those who were self-employed. (See “Formal employment and reported wages” on page 12.) It is possible that students were more likely than nonstudents to be self-employed. One study found that a main motivation for enrolling in PSE is the desire for entrepreneurship.<sup>76</sup> If people who are self-employed do not list themselves as employees of their own enterprise, they will be indistinguishable in the data from people who are unemployed, leading us to underestimate their employment relative to nonstudents.

Finally, due to the lack of available data from DOL on pre-incarceration wages and employment status for Vera’s sample, the observed result may stem from nonstudents being poor matches for students. For example, Vera may have inadvertently selected nonstudents who had more

extensive work histories than students, and this may have given nonstudents the same advantage in seeking employment as education did for students, leaving no difference between the two groups. It is possible that people who did not have prior histories of employment were motivated to join college education programs in order to better position themselves to gain employment following release, leading to people without prior histories of employment being overrepresented in the student group. Without pre-incarceration employment status, Vera cannot assess this hypothesis or improve its matching algorithm. Vera aims to obtain this information from DOL prior to the final report.

## **Mitigating limitations for the forthcoming final report**

In the previous sections, Vera discussed several of the limitations of data available from its data sharing partners (DOCCS, DOL, DCJS, and college providers) and the impact these limitations may have had on the study. Researchers aim to alleviate some of these limitations by acquiring additional data and information in advance of the final report.

First, Vera will receive information on new students and newly eligible nonstudents who have enrolled or become eligible following receipt of the first tranche of data. Researchers will also have the opportunity to follow the people in the analytical sample for the present study over a longer period of time. Vera researchers also hope to have access to more than two options for nonstudents to match against each student to improve the matching procedure and help researchers to achieve better balance between groups. Vera will not have data on additional factors such as the extent of family support or obligations that may motivate people to participate in college and to avoid new criminal convictions.<sup>77</sup> Further, researchers do not intend to change the measures for the outcomes of interest, and so in the final report, Vera will face the same limitations of using new convictions as a measure for recidivism, formal employment and wages as measures for employment and income, and misconducts as a measure for in-facility behavior.

Second, researchers will receive new variables in new time periods from both DOCCS and DOL. Vera plans to obtain more detailed information on both misconducts and counts of misconducts that take place in different time periods for the final report. Researchers aim to obtain counts of misconducts by whether or not the misconduct was filed in response to a violent incident in order to evaluate whether college might specifically affect violent or nonviolent misconducts. Researchers also intend to obtain more detailed information about the timing of incidents that led to misconducts in order to evaluate misconducts where the incident occurred after a time lag following student enrollment or nonstudent eligibility for enrollment, so as to potentially allow college in prison time to have an effect on behavior. However, Vera will not be able to control for other factors, such as additional demographics, family and personal history, socioeconomic status, psychological characteristics, participation in other prison programming, or facility characteristics that may influence misconducts.

Next, Vera will obtain data on pre-incarceration wages and formal employment status, which could help researchers to achieve better balance between students and nonstudents on their work histories and to avoid biases between students and nonstudents in qualifications for employment following release that are not related to educational participation or attainment.

However, in the final report, researchers will remain unable to distinguish whether people who do not appear in the wage record data are unemployed, jobless, self-employed, working in a position that does not qualify for unemployment, or in certain types of institutions. Researchers theorized that students may be more likely than nonstudents to be jobless while they pursue completion of their education following release and may be more likely than nonstudents to be self-employed entrepreneurs. However, Vera will not be able to evaluate these hypotheses with the available sources of data.

In addition to these data-related limitations, Vera researchers also investigated whether and to what extent the context of the COVID-19 pandemic may have influenced the results. According to Vera’s analysis, the COVID-19 pandemic had a minimal impact on the criminal legal system outcomes of interest, namely misconducts and new convictions. There were limited changes in parole in 2020 that might have influenced which individuals were released on parole in response to the pandemic, which could have influenced new convictions.<sup>78</sup> Further, there is no evidence of changes in the rate of substantiated misconducts over time, either overall or in any tier, during the height of pandemic, such as might have resulted from fewer movements of incarcerated people during quarantine-related lockdowns. While people released during the pandemic would have faced a job market with fewer jobs available, there is no reason to suppose that students and nonstudents would have faced different job market conditions on the basis of their participation or not in college while incarcerated. However, in New York State and nationally, COVID-19 severely affected college programming beginning in the spring 2020 semester, which was during the third year of CIP. During the height of pandemic-related restrictions, multiple colleges in New York and nationally had to either temporarily suspend teaching, change their mode of instruction, or change their academic calendar.<sup>79</sup> This makes the success of college programs in reducing recidivism, despite these severe interruptions, even more remarkable.

**COVID-19 severely affected college programming, which makes their success in reducing recidivism—despite severe interruptions—even more remarkable.**

# The Costs of Providing College in Prison

As students who are incarcerated regain eligibility for major funding streams, such as New York’s Tuition Assistance Program (TAP) and the federal Pell Grant program, Vera expects additional students to be able to participate in college during a period of incarceration.<sup>80</sup> Understanding the full costs, regardless of funding source, is important to project what this expected scale-up may cost from the colleges’ perspective. Calculating total costs is also the first step in Vera’s forthcoming benefit-cost analysis, in which researchers will aim to understand the return on investment in college-in-prison programs with respect to benefits to the students themselves, to taxpayers, and to potential victims and survivors of crime.

The following section describes the costs of providing college-in-prison programming related to the delivery of instruction, academic services and supports, and reentry services and incarceration-specific supports, if provided. In the context of this project, these costs were funded through CJII, through other public or private funding streams, or through nonmonetary in-kind donations of materials or services.

Vera first provides a descriptive analysis of how colleges used DANY’s investment in higher education before analyzing the overall costs associated with delivering college education in correctional facilities in New York, including both CJII and non-CJII reimbursed costs. The primary objectives of the current cost analysis are to

- describe how colleges used DANY’s investment in college-in-prison programs and
- calculate overall cost metrics of college-in-prison programs participating in CIP.

## Cost analysis methods

### Concepts and definitions

Costs associated with delivering education in prison may be categorized as either direct or indirect. *Direct* costs, that is, monetary costs that may appear in a budget or financial assessment, are spent directly on implementation. These may include the costs of books, equipment, technology, transportation, and salaries and fringe benefits for faculty and staff. *Indirect* costs refer to in-kind costs, which are priced at the opportunity cost of time or next best use of a resource. These may include donated time or tuition discounts, which are absorbed by the college provider. This is in contrast to how indirect costs are used when discussing grant budgets, which capture the expenses associated with doing business but are not associated with a particular program or activity. For clarity, in-kind costs will be termed “indirect costs,” while the costs of doing business will be termed “overhead.”

This report presents costs that colleges incurred, including those that were and those that were not funded through CJII. It should be noted that DOCCS almost certainly incurred both direct and indirect costs that are not accounted for in this analysis. Direct costs may include equipment, materials, and a DOCCS education director at each prison and one at the central office. These DOCCS education directors may dedicate a portion of their time to college in prison but also to GED programs and other initiatives. Indirect costs could have included, for example, prison staff who may need to spend part of their day in a way that they otherwise would not, such as accompanying students to class or conducting media review of educational materials. In general, DOCCS’s support is in-kind in the form of classroom space and staffing support, and no or only minimal hiring has taken place at DOCCS as a result of the college-in-prison programs. As there is no monetary opportunity cost for in-kind donations of space and lacking a reliable method to account for any staff time dedicated to college in prison, Vera does not include DOCCS direct or indirect costs in the total spending or cost per student here.

There are various ways that costs may be summarized and described. The *average* cost is the total cost of the program divided by the number of students. These total costs include both *fixed* costs, or those that do



not vary by the number of students in the program, and *variable costs*, which change depending on the number of students served. The *marginal cost* is the cost of adding one additional student to a program, which may include the costs of an additional desk and chair, an additional set of books and equipment for classes, and additional tuition discounting. The *step-fixed cost* is the cost associated with enrolling an additional group of students, as opposed to a single student, in an existing program. Step-fixed costs are appropriately calculated in contexts where some costs do not vary until certain thresholds of people served are passed. This could include, for example, paying an additional faculty member to teach a new class or section. Vera researchers calculated the *average cost per student* of implementing college-in-prison programs that CJII reimbursed and both the average cost per student and the step-fixed cost incorporating both CJII-reimbursed and unreimbursed direct costs. Researchers calculated *step-fixed marginal costs* to better reflect what the scale-up of college-in-prison education in New York may look like, as fixed costs do not vary with the addition of a single student, and education programs do not grow a single student at a time, but in groups of students at a time.

When calculating a step-fixed marginal cost, the researchers defined the size of a group variably by context and the nature of the costs. Using available data from colleges, the researchers defined a group as either 10 or 20 students, depending on the college and on how many students the college enrollment changed by from year to year. The researchers determined the step-fixed cost empirically from the differences in costs across enrollment sizes. Since average cost and step-fixed marginal costs are calculated by dividing by the number of students, Vera researchers included both students who were and students who were not eligible for CJII funding to accurately calculate per-student metrics. Failing to include these non-CJII students could lead to overinflating these statistics.

While Vera's impact evaluation only considered students funded under CIP, to estimate its impact on the outcomes of interest the cost analysis incorporates costs incurred for both students who were and students who were not funded through CJII. This was done as there are fixed and step-fixed costs associated with education programming, and failure to include costs associated with non-CIP students would misrepresent costs per student.

This report presents costs rounded to the nearest whole dollar to avoid giving a false impression of the precision of these estimates.

## **College cost data sources**

### **Costs covered by CJII**

All seven of the providers were able to share budgeted information for costs to be reimbursed for years one (2017 to 2018) to six (2022 to 2023) of the initiative. Vera received information on both projected budgets and actual direct costs reimbursed through CJII. For Vera's analysis, researchers reviewed budgeted costs but only analyzed data on actual reimbursed costs. Vera presents one representative year, the financial aid year from July 1, 2019 to June 30, 2020. This year was chosen as it excluded the earliest years of the initiative and their associated start-up costs and the instability associated with new programs, while avoiding later years in which education-in-prison programs felt the full brunt of the COVID-19 pandemic.

### **Overall costs, regardless of funding source**

To understand costs not covered by CJII, Vera submitted to each provider a budget worksheet to complete, requesting supplementary budget information separating costs for students who did and students who did not participate in funding from CJII, as well as costs that were and costs that were not reimbursed under CJII. Five colleges provided Vera with this supplementary budget information, which provided data about all students and cost categories, not only those students whose education was funded in part by CJII or the costs reimbursed through CJII. This was done for two reasons: first, step-fixed costs increase with the addition of a group of students, whether or not those students are funded under CJII; and second, the



benefits associated with academic college education participation may be due, in part, to services and supports that CJII does not reimburse. Failing to account for these costs may overestimate the benefits relative to costs in Vera’s forthcoming benefit-cost analysis.

Unfortunately, for the two providers that did not provide supplementary budget information, Vera does not have a consistent way of assessing how much of the total spending these CJII-reimbursed costs represent. As a result, the CJII reimbursement data provides insight into the reimbursement process but reveals little about overall spending on college in prison or a full per-student cost.

### **Classification of colleges by types of overall costs**

Vera calculated per-student average and step-fixed costs—regardless of funding source—and presents this analysis by two categories of colleges: those that focus on providing education and those that provide reentry services and incarceration-specific supports. Of course, all colleges provided education including instruction, student services, and academic supports. A subset of colleges participating in CIP additionally provided students who were incarcerated reentry services and support specific to their status as people who are incarcerated or leaving incarceration and which would not be relevant to students on main campuses who were not formerly incarcerated. These included, for example, reentry services and material support, staff time and materials needed to implement a graduation ceremony in a prison, and books and technology specific to the prison environment.

Vera defined “education” and “education plus reentry services” colleges by whether the colleges provided these reentry services and incarceration-specific supports. Membership in either of the two categories was not associated with whether the college had competitive or noncompetitive admissions or whether the college was public or private. Providing these reentry services and incarceration-specific supports is not a requirement for colleges under CJII. Indeed, CJII did not provide reimbursement for these reentry services and incarceration-specific supports. Thus, colleges that provided these additional services and supports were those that were able to either obtain supplementary funding, engage in partnerships with service providers, or recruit volunteers and solicit in-kind donations.

Vera classified colleges as either education or education plus reentry services using the supplementary budget information they provided through the provider budget worksheet. Vera received only CJII-reimbursed costs from two providers, so researchers were only able to calculate reliable overall cost metrics for five colleges. Two of the five colleges for which Vera researchers received complete data represented education colleges and three of the five represented education plus reentry services colleges. Researchers did not have a way to classify the two colleges that did not provide supplementary budget information.

**Colleges that provided reentry services and incarceration-specific supports were those that were able to either obtain supplementary funding, engage in partnerships with service providers, or recruit volunteers and solicit in-kind donations**

## **Cost analysis findings**

### **How colleges used CJII funding**

Vera presents the average cost per student reimbursed by CJII for all seven colleges together. It did not make sense to present data on costs reimbursed by CJII separately by college classification as an education or education plus reentry services provider, since CJII did not reimburse for any additional services.

Additionally, as two colleges did not provide supplementary budget information, there was no method to classify them. Vera’s analysis of CJII-reimbursed costs therefore includes all seven colleges and is not disaggregated, while the analysis of the overall costs of running college-in-prison programs—presented in the following section—is disaggregated by these two types of colleges.

**Cost per student decreased as the size of the student body grew, suggesting that larger programs were able to take advantage of economies of scale.**

CIP is structured for CJII to reimburse for the costs associated with serving eligible students. Providers are required to match this funding.<sup>81</sup> Each of the providers submits budget reports and is reimbursed for eligible costs of providing college in prison.

Existing college programs and new college programs used CJII funding for a wide variety of different types of costs, including partial coverage of salaries for instructors; salary support for program administration; fringe benefits; paying for travel costs to correctional facilities; renting or purchasing equipment, books, and supplies; and paying tuition and fees. No college received reimbursement for all of these categories. Each college structured its budget differently, making different choices about how to use the one-time, time-limited grant

funding from CJII. It is possible that these budgeting choices depended on whether the college was starting a new education program or expanding an existing one, or on what other budget items could be covered by other sources of funding.

**Table 10**

**Average per-student CJII-reimbursed costs for Year 3 (2019–2020) for seven college providers\***

Cost type	Average per student
Faculty	\$1,603
Administration	\$1,174
Fringe	\$337
Travel/Transportation	\$179
Equipment	\$44
Miscellaneous	\$12
Other overhead costs	\$266
Tuition discounting	\$2,187
<b>Overall costs per student reimbursed by CJII</b>	<b>\$2,840</b>

\* This table provides the average cost reimbursed by CJII for each type of expenditure among the subset of the seven college providers that incurred that cost type. Since not all providers had costs for each spending category, the rows do not sum to the overall cost.

The average per-student reimbursed costs during the study year (July 2019 to June 2020) ranged from just less than \$1,300 per student to more than \$4,500 per student. This variability in costs was unrelated to whether the college had competitive or noncompetitive admissions or whether the college was public or private. Rather, cost per student decreased as the size of the student body grew, suggesting that larger programs were able to take advantage of economies of scale. Overall, during the study year, CJII reimbursed colleges \$2,840 per student, for a total CJII investment of \$968,000 during the period across the seven providers. Table 10 presents the average cost reimbursed by CJII for each type of expenditure among the

subset of the seven college providers who incurred that cost type. Since not all providers had costs for each spending category, the rows do not sum to the overall cost. This was done to avoid giving a falsely low impression of the cost of each budget item, as would happen were Vera researchers to include zero costs in the average. However, again, these represent the costs reimbursed through CJII, with the total cost of running a college-in-prison program being substantially more, particularly for those colleges that provided additional services and supports to students.

**Overall costs for “education” versus “education plus reentry services” colleges**

As mentioned in the previous section, a portion of direct costs for tuition, equipment, supplies, and staff time was reimbursed to college providers under CJII. Among colleges that reported direct costs not reimbursed by CJII, these were funded through other sources. Some of these direct costs not reimbursed by CJII were associated with providing supports to students specific to their incarceration and reentry services for students when they leave prison. These incarceration-specific supports and reentry services included the provision of public transportation passes, assistance with food and clothing, case management services, the provision of tablets or laptops during or after incarceration, and direct costs associated with organizing graduation ceremonies in a prison. These direct costs were largely funded through private donations and grants. Among the colleges that described indirect costs, these included donated staff time to assist with reentry; donated time from students on main campuses who assist students in prison with accessing library resources; instructors using personal resources to travel regularly to prisons; staff time donated to organize graduation ceremonies; and other donations of time, expertise, and material resources.

At education plus reentry services colleges, the average cost of running programs, including all direct and indirect costs, such as faculty, staff, equipment, supplies, reentry services, tuition discounting, and donations of time and resources for incarcerated students, was \$30,459 per student. (See Table 11.) Education colleges—those that did not provide incarceration-specific supports or reentry services, due either to a preference to focus on education or to being unable to either source funding for or to absorb the associated costs—cost an average of \$4,301 per student to run, covering direct and indirect costs including personnel, material, and in-kind donations for students.

At education plus reentry services colleges, CJII reimbursed \$3,451 per student and colleges funded slightly more than \$27,000 per student through other sources. At education colleges, CJII reimbursed \$2,659 and colleges sourced \$1,642 per student, including for cost categories and students not eligible for CJII reimbursement. The CJII initiative reimbursement per student varies due to differences in the number of students per year and the choice of costs to have reimbursed and does not include the matched funding provided by colleges, which is required for program participation.

**Table 11**

**Overall costs per student of running a college-in-prison program by provider type (among five college providers)**

Cost metric*	Education plus reentry services	Education
Average cost per student	\$30,459	\$4,301
Average cost per student, CJII contribution	\$3,451	\$2,659
Average cost per student, other sources	\$27,009	\$1,642
Step-fixed cost per additional student	\$10,464	\$3,799

\* These overall costs include both direct and indirect costs and, among the direct costs, those that were and those that were not reimbursed through CJII.

The step-fixed cost per student—the cost of adding an additional student when considering costs that vary both per single student and per group of students—was just more than \$10,000 at additional service colleges and approximately \$3,800 at education colleges. At both types of college, the cost per student to expand programs is lower than the current cost per student; as these programs expand, the cost per student should be expected to reduce further, due to efficiency gains from larger programs. However, at both types of school, the cost of adding additional students exceeds the cost per student reimbursed by CJII. This indicates that while CIP was successful in supporting a scale-up of college-in-prison programming, it was not wholly responsible, as part of the cost and resource needs for further scale-up came from other sources. Colleges are either finding other sources of funding or making up for services and materials provided through in-kind donations. Through informal conversations, several program leads at education plus reentry services colleges described volunteers, including faculty, staff, and students on main campuses, who donate resources, time, and expertise to support incarcerated students, and that they regularly solicit other sources of funding to supplement CJII funding, including government grants and private donations. This indicates single, time-limited grants—such as those available through CJII—are useful as a component of blended or braided funding models, but cannot be depended on as a single source of funding.

**The cost per student to expand programs is lower than the current cost per student; as these programs expand, the cost per student should be expected to reduce further, due to efficiency gains from larger programs.**

The higher average and step-fixed costs per student at education plus reentry services colleges compared to education colleges are due to two major drivers: higher overall costs per student in cost types common to both types of colleges and in costs associated with those additional services and supports that are unique to education plus reentry services colleges. (See Table 12.) In particular, education plus reentry services colleges have higher average tuition or tuition discounting compared to education colleges. Notably, additional services and supports cost, on average, almost \$4,000 per student, making up more than one-eighth of the total costs at education plus reentry services colleges.

**Table 12**

**Overall costs per student of running a college-in-prison program by cost type (among five college providers)**

Cost type*	Education plus reentry services	Education
Personnel	\$4,713	\$2,079
Tuition or tuition discounting	\$20,207	\$1,894
Other non-personnel	\$830	\$373
Additional services and supports	\$3,993	-
Indirect (in-kind) costs	\$283	\$21

\* These overall costs include both direct and indirect costs and, among the direct costs, those that were and those that were not reimbursed through CJII.

The cost of these additional services and supports at the education plus reentry services colleges is almost the same as the overall cost per student at the education colleges. Program leads at several of the education colleges informally expressed a wish to Vera researchers for more resources to provide more services and supports to their students in the form of academic and career advising, academic supports, and reentry services, and they identified a lack of resources as the barrier. Both education plus reentry

services and education college representatives reported having to constantly make difficult choices when providing services and supports for their students.

Not all colleges provide incarceration-specific support and reentry services, due either to choosing to focus on instruction, academic supports, and student supports, or to not being able to source the resources to provide additional services and supports specific to the contexts of incarceration and reentry. Vera's forthcoming cost-benefit analysis will assess the extent to which the additional costs associated with providing incarceration-specific supports and reentry services may result in additional benefits in terms of averted convictions and incarcerations and gains in employment and wages. Colleges will need to find other sources of funding for reentry services, as neither TAP nor Pell will cover services for students over and above those directly incurred for education and do not cover costs for reentry services and supports.

## Implications of the Findings for College in Prison

The most important finding from this study was that participation in academic college education reduced recidivism following release by at least 66 percent. However, in New York, Vera did not find that college in prison had an effect on in-facility behavior following enrollment (given program eligibility requirements specific to infractions) and had variable effects on employment and income, with students showing lower employment and income than nonstudents in different time periods (possibly due to data limitations).

As discussed earlier, the demand for PSE among people in prison far outstrips supply, and a major cause has been serious and ongoing resource constraints.

Both the average cost and the step-fixed costs per student at education and education plus reentry services colleges exceeded the reimbursement per student provided by CJII, indicating that such single, time-limited grants are useful sources of supplemental funding but are not useful as single or main components of a funding strategy. However, the allowable grant amounts for Pell and TAP substantially exceed CJII reimbursement payments per student (a maximum of \$6,895 annually for Pell and potentially up to \$5,665 a year for TAP, depending on the income and family structure of the student).<sup>82</sup> Pell and TAP annual awards exceed per-student costs at education colleges, suggesting that these costs per student would be considered reasonable by both federal and state governments. When comparing the costs of education at either type of college to the costs of someone being incarcerated, the amounts are a worthy investment.<sup>83</sup>

**When comparing the costs of education to the costs of someone being incarcerated, the amounts are a worthy investment.**

For colleges developing a funding strategy, there are several issues with programs relying solely on government funding. First, neither TAP nor Pell fund any of the additional services provided by colleges that were able to expand the content of their programming.<sup>84</sup> These additional services and supports were funded through other sources or were provided through donations of time and resources; Vera's forthcoming cost-benefit analysis may indicate the extent to which these additional services are responsible for the impact of college education on criminal legal system and employment outcomes. Second, the average and

**Single, time-limited grants—such as those provided through CJII—are useful sources of supplemental funding but are not useful as single or main components of a funding strategy.**

step-fixed costs found by this analysis depend on programs' ability to take advantage of economies of scale. Newer, initially small programs may see their cost per student exceed what was found in this analysis. Third, college reliance on public funding excludes incarcerated people who do not qualify due to loan default, inability to access necessary paperwork, or noncitizen status. A final issue is the profound insecurity that faculty and staff in the field of college in prison express about relying on government funding sources. Several program leads at both education and education plus reentry services colleges expressed deep concerns about college-in-prison programming becoming dependent on government funding, since the withdrawal of that funding in the 1990s decimated the entire field.<sup>85</sup>

As the loss of public funding nearly eliminated college-in-prison programs, stakeholders in the field of postsecondary education in prison should expect the restoration of funding for students in prison through TAP in New York State and Pell Grants nationally to lead to a substantial rebound in postsecondary



educational opportunities for people in prison. They should further expect such educational opportunities, particularly academic college education, to contribute to large and significant reductions in recidivism. However, as noted, many of the services and supports that some colleges provide are not covered by these funding streams; as this research could not parse the effect of education from the effect of these services on recidivism reduction, policymakers should continue to invest in reentry services and ensure that college-in-prison providers are involved in those service plans.

**College in prison may affect students by creating and deepening a sense of community, commitment to social and familial obligations, motivation and aspirations for oneself in the future, self-reflection, and empathy.**

The previous sections discussed the issues with data availability that may have influenced Vera's findings with regard to misconducts, employment, and wages. However, if these issues did not affect the findings, then this study indicates that gaining employment and increased wages are not the mechanisms or pathways by which college education in prison leads to fewer new convictions following release. Similarly, literature has indicated that a higher number and severity of institutional misconducts are associated with higher levels of post-release criminal legal system involvement for formerly incarcerated adults.<sup>86</sup> This study did not find a difference between students and nonstudents in the number of misconducts of different levels of severity. If this result is correct and not due to incomplete data or measurement or faults in analytical design, it may indicate that the differences in

reconviction between students and nonstudents was not associated with differences in behavior or sanctions for behavior during incarceration.

For a potential explanation of how college in prison may have affected reconviction, stakeholders can turn to the literature on the psychological and social impacts of education. As mentioned, education has numerous positive effects on students, through improving perceptions of one's own agency, reducing depression and anxiety, increasing self-esteem and resiliency, and improving communication and planning skills.<sup>87</sup> Other literature has suggested that college in prison may affect students by creating and deepening a sense of community, commitment to social and familial obligations, motivation and aspirations for oneself in the future, self-reflection, and empathy.<sup>88</sup> All of these factors may motivate and support people in efforts to avoid future criminal legal system involvement, independent of material factors like access to employment, which may also reduce future system involvement. This suggests that college in and of itself, whether or not it leads to employment or reduces behavioral issues during incarceration, leads to fewer new convictions following release.



# Appendices

## Appendix A: Data sources

### **New York State Department of Corrections and Community Supervision**

Data from the New York State Department of Corrections and Community Supervision (DOCCS) included demographic, criminal legal system, and education information for each person in the dataset. Demographics included race and ethnicity, gender, and date of birth. Criminal legal system information included the most severe commitment offense (for example, the top charge), county of indictment, minimum and maximum sentences for the index incarceration, prison admission date, and expected or actual release date (as of the date of DOCCS data receipt, September 30, 2021). Educational information on eligibility and attainment was available for both students and nonstudents, while information on participation was, naturally, only defined for students. For all participants, DOCCS provided the date when each person became eligible for Criminal Justice Investment Initiative (CJII) funding. Eligibility was defined the same for students and nonstudents in terms of time to release (between one-and-a-half and five-and-a-half years from release), educational attainment (having a secondary but not more than a secondary education credential, unless they were continuing from an associate's degree to a bachelor's degree at the same institution), and having no disqualifying misconducts. DOCCS also provided the level of education at the time when each student or nonstudent became eligible for CJII funding. For students, DOCCS provided the date when they enrolled in college, which may have been before, after, or at the start of eligibility. Vera researchers used the dates provided by DOCCS to generate other variables such as age at time of admission, time from admission date to program eligibility, and age at time of College-in-Prison Reentry Initiative (CIP) eligibility.

The data also included the number of misconducts filed against each person in the six months, one year, and two years prior to their start of eligibility for CJII funding and the number of misconducts filed against that person in the six months, one year, and two years after becoming eligible for CJII funding. Vera researchers used the date of eligibility rather than the date when people started education, since the start of education could not be defined for nonstudents. (See “In-facility misconducts” on page 11.)

Data from DOCCS was also available up to the end of September 2021, including students who had participated under the CJII initiative that began in the fall of 2017. This data, as mentioned, included misconducts filed for up to two years prior to eligibility for CJII funding, dating back to 2015.

### **New York State Division of Criminal Justice Services**

The New York State Division of Criminal Justice Services (DCJS) included a complete arrest, prosecutorial, and court processing history for each student and nonstudent in the dataset. These included details about charges including county, region, date, and nature of the crime for which the person was arrested. Finally, it included information about the disposition, including the top charge, the severity of the charges (misdemeanor or felony class), the date of disposition, whether the person was found or pled guilty, and the minimum and maximum prison or jail sentence.

Matching DCJS and DOCCS data allowed Vera researchers to classify the information in the DCJS data as being related to, before, or after the index incarceration. Vera then determined the number of convictions each person had prior to the index incarceration admission, age at first conviction, the misdemeanor or felony class of their most severe prior conviction, time from arrest to conviction for the index incarceration, whether or not the crime related to the index incarceration admission was a violent felony offense, and the felony class of the index incarceration. Vera researchers also used this dataset to determine if a person had a new conviction subsequent to their release from the index incarceration, using the release date provided in the DOCCS data. (See “New criminal conviction” on page 11.) Incarcerations in the DOCCS data that did

not have a corresponding conviction in the DCJS data were assumed to be for technical violations. (See Box 2, “Why not measure recidivism as arrest or incarceration?” on page 12.)

Data was available from DCJS from the start of each person’s record with the criminal legal system in New York up to the middle of September 2021; the earliest contact with the criminal legal system among the group of students and nonstudents dated back to 1965. DCJS data on convictions may be available only after a delay, indicating that convictions that occurred closer to the date when data was shared are likely to be omitted from this dataset. If more students than nonstudents were released closer to the data sharing date, the reduction in new convictions among students that Vera observed might be an artifact of this delay. However, the distributions of release dates of students compared to nonstudents who were living in the community were equivalent, which argues against any introduction of bias due to this delay.

Of note is that Vera only received data on state felony convictions within New York State and did not receive data on federal convictions, local misdemeanor convictions, or convictions that took place out of state. However, since researchers used logistic regression to estimate a ratio of student state convictions to nonstudent state convictions, unless either students or nonstudents were more likely to have federal, local misdemeanor, or out-of-state convictions, this should not affect researchers’ measure of effect.

### **New York State Department of Labor**

The New York State Department of Labor (DOL) provided data from unemployment insurance filings. This data included the total wages earned on a quarterly basis by the type of industry in which the person was employed for each position that qualified for unemployment insurance. Wages for multiple employers in the same industry in the same quarter were collapsed together, and total quarterly wages in different industries could indicate working multiple jobs simultaneously or could indicate a change in jobs across industries. People who did not appear in this dataset could have been not currently working for wages or working in a position that did not qualify for unemployment insurance. People who work in agriculture, who are self-employed, or who are classified as independent contractors do not generally qualify for unemployment insurance, though during the COVID-19 pandemic up until September 2021 these rules were altered to allow some of these types of workers to qualify.

As the nature of employment was not of interest, wages across all industries were summed together within each quarter for each person. Data from DOL was available from the first quarter of 2017 (January 1, 2017 to March 31, 2017) to the first quarter of 2021 (January 1, 2021 to March 31, 2021).

### **College providers**

The seven college providers (Bard, Cornell, Medaille, Mercy, Mohawk Valley Community College, New York University, and State University of New York Jefferson) submitted data on student demographics, program start and end dates, completion status, whether the student had been released or was currently incarcerated, reasons for program exit if not currently a student, program(s) of study, semester and cumulative grade point averages, semester and cumulative credits attempted and completed, prison in which the student was housed, and whether the student had academic plans following release if their release date was imminent. Of note, information about correctional facilities where students and nonstudents were incarcerated was not available from DOCCS.

College providers also gave detailed information on the direct costs of their programs, including costs for staff, materials and equipment, travel/transportation, and tuition discounting (if tuition covered by CJII did not cover all costs), as well as estimated indirect costs the college provided in the form of donated staff and main campus student time. For a few colleges, indirect cost estimates were not available and direct costs were reported through their grant budget filings.

## Appendix B: Propensity score matching

The *propensity score* formally represents the probability that a given person received the treatment—in this case, college in prison—based on the information in their measured attributes. It acts as a one-number summary of these characteristics and thus allows for a simple matching algorithm. Each student is simply matched to the nonstudent with the closest propensity score. Comparison group members not chosen as matches are discarded from the analysis. This matching process works to create closer balance or similarity in average characteristics between the student and nonstudent groups. If researchers can create groups that are as similar as possible in all observed characteristics, the hope is that the only difference between them is the fact that one group received the treatment (participated in CIP) and the other did not, and thus any differences in outcomes can be attributed to receiving the schooling.

In Vera’s study, researchers allowed nonstudents to be selected as matches for students more than once, called *propensity score matching with replacement*. This was done because there were not enough nonstudents with a high enough propensity to participate in education to have a unique nonstudent matched with each student, possibly due to having data on only two nonstudents for every student from which to match. (See “Appendix C: Sample sizes for each analysis” on page 41 for the numbers of unique individuals in each sample.) Matching with replacement is performed when there is not a large pool of comparison subjects from which to pull in order to create better balance between the groups of students and matched nonstudents, yielding a more accurate estimate of the effect of education on Vera’s outcomes of interest.

It is worth noting that even if a close balance is achieved between the students and nonstudents, differences may remain across the groups with respect to *unobserved* covariates. For instance, measures of cognition, which Vera researchers are not able to obtain, are related to educational aspiration and may also predict the outcomes. Vera’s hope is that researchers on this study have measured a sufficient number of attributes of the sample that any remaining differences on unobserved variables will be small and induce only a small amount of bias.

Researchers estimated propensity scores using a logistic regression in which the response variable was the binary indicator for student versus nonstudent and the predictors were all the measured characteristics for the people in Vera’s sample. Estimated propensity scores can be used in conjunction with a wide variety of matching and weighting methods. Vera used one-to-one matching with replacement due to the sample size.

Vera researchers assessed balance between groups for each covariate differently depending on whether the covariate was binary/categorical or continuous. For binary or categorical variables, researchers simply compared the difference in the percentage falling in each category across groups (student versus nonstudent). For continuous variables, Vera compared the difference in mean values across groups (student versus nonstudent) and then scaled that difference by the standard deviation of the variable in the treatment group; this is often referred to as the *standardized difference in means*.

### Matching with groups

Vera performed the matching slightly differently across two different samples: (1) those who were released from prison by the time the outcomes were measured (released) and (2) those who were still incarcerated (not released). Vera needed to treat these samples differently for two reasons. First, some of the outcomes (recidivism, employment, and wages) are only measured on the released sample. Second, additional variables for matching became available for the released sample. In particular, Vera found it extremely useful to match on a variable representing how many days remained after release until the end of the quarter. This was important because the outcomes related to employment and wages measure the amount of activity in a quarter, so this helped to balance the time available to gain employment or earn wages. While normally researchers would not want to condition on a post-treatment variable, there is no reason to expect that the time of release within a given quarter of a calendar year would be related to participation in college education or to the outcomes measured prior to release, namely misconducts during incarceration.<sup>89</sup>

Moreover, Vera researchers graphically examined the relationship between participating in college in prison and timing during the quarter of release and performed statistical tests of association and found no evidence to support a strong association.<sup>90</sup> Therefore, it seems reasonable that the advantages of controlling for it by including it in the matching process and subsequent regression outweigh any potential downsides.<sup>91</sup>

## **Appendix C: Sample sizes for each analysis**

The following sections explain the sample parameters for both the student population and the matched comparison group population. Figures 2 and 3 provide the sample sizes.

### **Pre-release outcomes: misconducts**

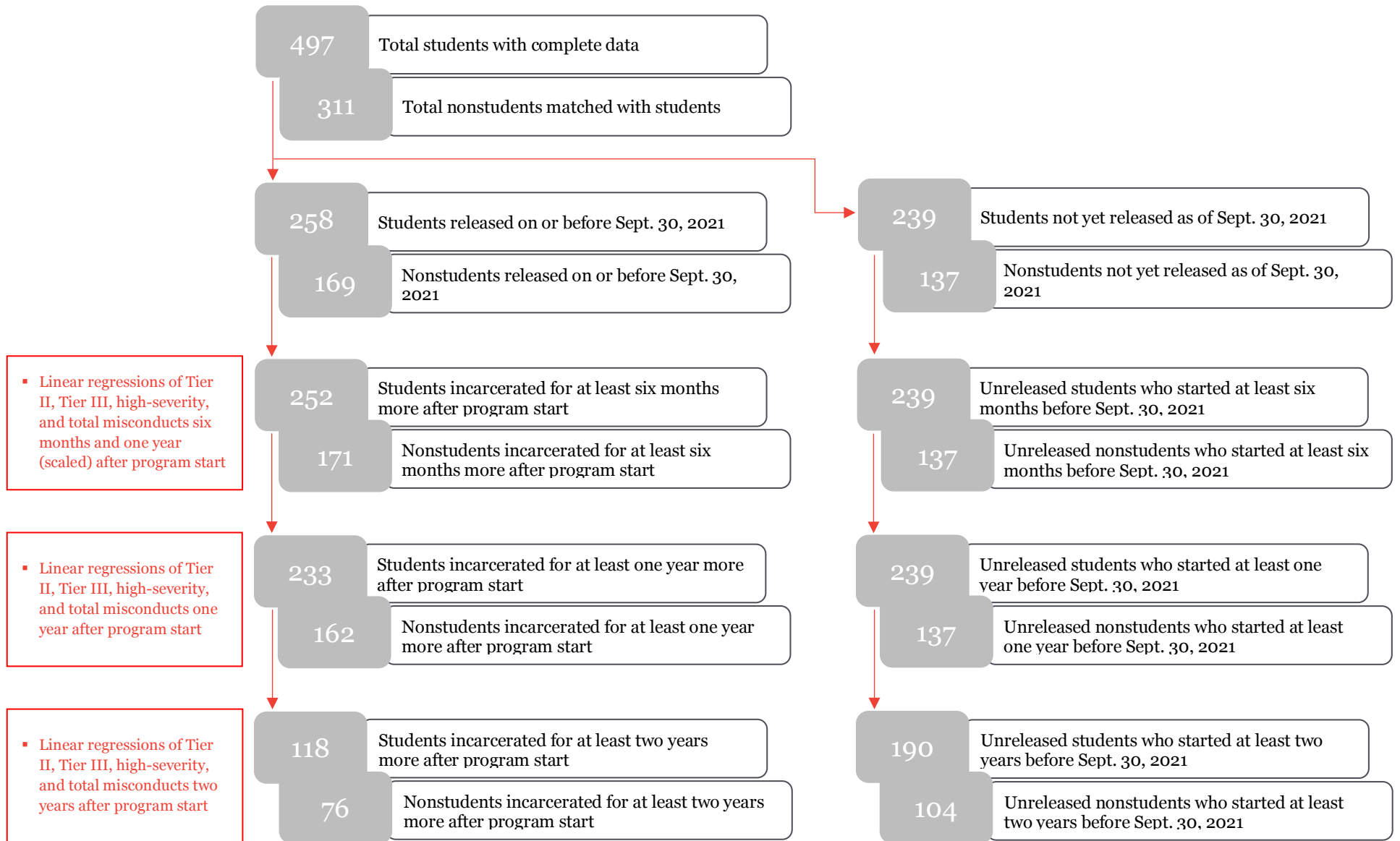
The availability of misconduct information for a person depends on when a student or nonstudent began the program or became eligible for the program, their “start date” or “virtual start date.” Vera received the data on September 30, 2021. Researchers excluded people whose start dates were less than six months before data receipt from the analyses on misconducts. Researchers included people whose start date was at least six months prior to data receipt in the six-month analysis. For those whose start date was at least a year prior, researchers included them in the six-month and one-year analyses and included those whose start date was at least two years prior in all analyses. (See Figure 2 on page 42.)

### **Post-release outcomes: conviction, employment, and wages**

The availability of post-release outcome information for a person depends on how long the person had been released before data collection. The datasets Vera received from DOCCS had current information as of September 30, 2021, while data from DCJS was current up to September 17, 2021; therefore, when analyzing incidents that led to a new conviction occurring within six months of release the researchers limited the sample to those who had been released on March 17, 2021, or prior. Similarly, the most recent information in the DOL data contained wages for up to quarter one of 2021, so when analyzing formal employment or wages within two quarters of release the researchers limited the sample to those who had been released on or before September 30, 2020. (See Figure 3 on page 43.)

**Figure 2**

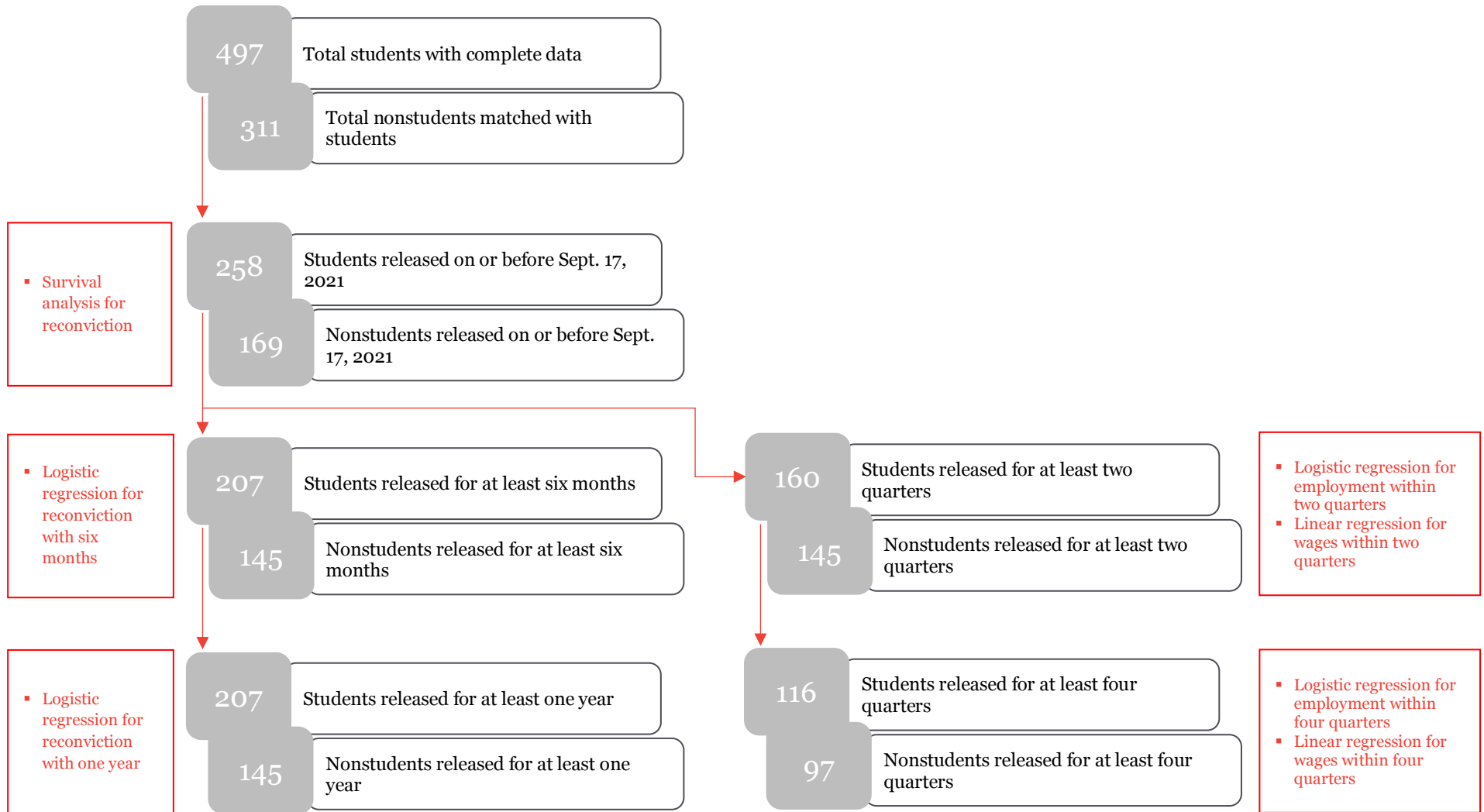
**Sample for 12 different analyses of pre-release outcomes: Tier II, Tier III, high-severity, and total misconducts**





**Figure 3**

**Sample sizes for six different analyses of post-release outcomes: Reconviction, employment, and wages**



## Appendix D: Regression analysis

After the matching was performed, Vera researchers were left with a reduced sample that should more closely resemble the type of sample that might have been created by a randomized experiment. To estimate the effect of participating in college education on outcomes for the students, researchers could just look at a difference in mean outcomes between the students and the matched nonstudents. However, researchers can get more precise estimates by instead running an appropriate regression of the outcome in question on the treatment indicator (student or nonstudent) and all the identified covariates.<sup>92</sup> If Vera's assumptions hold (that is, if researchers have appropriately adjusted for all relevant covariates), the resulting estimate will represent the effect of participation in college in prison on the chosen outcomes.

Coefficients estimated through regression analysis are interpreted differently based on the type of regression and the parameterization of the outcome variable. Vera used linear regression to estimate the treatment effect of college in prison on misconducts among students funded under CJII. For misconducts, the treatment effect estimates summarize the differences between students and nonstudents in the average number of misconducts in the six months, one year, and two years, overall and within each tier, following the start date for education. A negative treatment estimate effect indicates that in the observed data students had lower average misconducts than nonstudents, and a positive treatment estimate effect indicates that students had higher average misconducts than nonstudents.

Vera researchers used logistic regression to obtain an estimate of the treatment effect of college in prison participation on reconviction within six months and one year following release from incarceration. Logistic regression gives the ratio of the odds of reconviction among students to the odds of reconviction among the group of matched nonstudents. Vera converted this odds ratio to a risk ratio using a simple formula and reported the risk ratio, the ratio of probability of reconviction among students, to the probability of reconviction among matched nonstudents.

Vera researchers used survival analysis to estimate the treatment effect of college in prison on reconviction at any point following release. Survival analysis gives a treatment effect estimate called a hazard ratio, which may be interpreted also as a ratio of probabilities of students versus nonstudents having a reconviction. Estimates above a value of one indicate that students have a higher probability of reconviction as compared to matched nonstudents, estimates at a value of one indicate equal probability, and estimates below one indicate that students have a lower probability of reconviction compared to nonstudents in the analysis.

Vera also used logistic regression to estimate the effect of postsecondary education in prison on obtaining employment within two and four quarters of release and also converted the resulting estimated odds ratio to a risk ratio. Vera's treatment effect estimate gives the relative probability of students obtaining formal employment versus nonstudents in the relevant time periods. Estimates above one indicate a higher probability, estimates below one indicate a lower probability, and estimates equal to one indicate equal probability of students obtaining employment compared to nonstudents.

Researchers used linear regression to estimate the treatment effect of college education on wages, assigning a wage of zero in any quarter in which a person did not have employment. Treatment effect estimates above zero would indicate higher estimated wages among students as compared to matched nonstudents, while treatment effect estimates below zero would indicate lower wages among students compared to matched nonstudents.

These analyses detect if the students and nonstudents in Vera's sample had different outcomes. The *p-values* that Vera reports with these statistical analyses describe how compatible the data are with a hypothesis that the two groups are, in fact, equivalent. Lower *p-values* indicate a lower probability that the

data is compatible with the two groups being equal on the outcomes, providing an indication that there is a difference between students and nonstudents. It should be noted that a higher *p-value* does not indicate

that students and nonstudents are the same on the outcomes, but rather indicates that researchers could not find evidence of a difference. A commonly used threshold for p-values is 0.05, with p-values lower than 0.05 indicating reasonable evidence that two groups, in this case students and nonstudents, are different on the outcomes evaluated. This is called *statistical significance*.

## Appendix E: Survival analysis

CIP began midyear 2017 with eligibility criteria that people have at least one-and-a-half years remaining on their sentence. Seventy-five percent of students and nonstudents were released after July 2019, leaving only 26 months for new behavior to result in a new conviction. With shorter periods of time to follow a person after release from incarceration, there are fewer events and smaller sample sizes.

One way Vera researchers addressed these challenges was to use a method called survival analysis, which is a useful tool when there may be fewer instances of an event, and people are followed for variable lengths of time. Survival analysis involves comparing the times to new convictions between students and nonstudents, allowing Vera researchers to look at new convictions among all students and nonstudents released, while still presenting a relative risk of reconviction comparing students and nonstudents.

Vera compared the days between release from incarceration to the date of the incident that led to a conviction rather than the days from release to the date of disposition. The time it takes for a court process to conclude can vary depending on the jurisdiction and whether the person went through a trial or reached a plea agreement. Incorporating that time may bias the estimate of effect in an unpredictable direction, but it is also not relevant for understanding the effect of college education on public safety. People did not have multiple convictions during the period of follow-up, so there was no need to use survival analysis methods that account for recurrent events.

Follow-up time for people who did not ultimately have a new criminal conviction ended either on the date of incarceration for a technical violation, which would remove the person from being at risk for involvement in an incident that could lead to a new conviction, or on the date of receipt of data from DOCCS and DCJS. Follow-up in survival analysis should also cease if a person passes away. However, as the data was de-identified, researchers were unable to connect it to the National Death Index to assess whether a person had died between release from incarceration and when Vera received the data. Participants should also be removed from the survival analysis at any point at which they could not be detected to have the outcome, which might occur if a person left the state of New York. Vera was unable to detect whether a person left the state of New York from the data provided. Both of these remain limitations of this study.

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## About this report

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- <sup>30</sup> This report uses the plural “misconducts” in favor of the singular “misconduct” to refer to counts of substantiated disciplinary incidents—a measure for our outcome of interest—regarding in-facility behavior by people who are incarcerated. Misconduct, singular, does not imply a count measure and, as it is a common word in English, using this term may lead to confusion between our outcome and its measure.
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- <sup>32</sup> *Measurement Problems in Criminal Justice Research*, edited by John V. Pepper and Carol V. Petrie (Washington, DC: National Research Council, National Academies Press, 2003), <https://nap.nationalacademies.org/catalog/10581/measurement-problems-in-criminal-justice-research-workshop-summary>.
- <sup>33</sup> Jacob Kang-Brown, Oliver Hinds, Jasmine Heiss, and Olive Lu, *The New Dynamics of Mass Incarceration* (New York: Vera Institute of Justice, 2018), 8, <https://perma.cc/948V-WEQ8>. See also Sandhya Dirks, “Stories about Crime are Rife with Misinformation and Racism, Critics Say,” National Public Radio, November 8, 2022, <https://www.npr.org/2022/11/08/1134550280/stories-about-crime-are-rife-with-misinformation-and-racism-critics-say>.
- <sup>34</sup> New York State Department of Labor, *Unemployment Insurance Data Sharing Data Elements* (New York: Department of Labor, 2021), <https://perma.cc/GH7W-SJJR>.
- <sup>35</sup> U.S. Bureau of Labor Statistics, *How the Government Measures Unemployment* (Washington, DC: U.S. Bureau of Labor Statistics, 2014), 4, [https://www.bls.gov/cps/cps\\_htgm.pdf](https://www.bls.gov/cps/cps_htgm.pdf).
- <sup>36</sup> Mia Armstrong, “Workers with Criminal Records Struggle to Find a Place in the Gig Economy,” Slate, December 7, 2018, <https://slate.com/technology/2018/12/uber-lyft-criminal-background-checks-gig-economy.html>.
- <sup>37</sup> On a technical note, this is an analytical error called *conditioning on a post-treatment variable*.
- <sup>38</sup> Ryang Hui Kim and David Clark, “The Effect of Prison-based College Education Programs on Recidivism: Propensity Score Matching Approach,” *Journal of Criminal Justice* 41, no. 3 (2013), 196–204, 197, <https://doi.org/10.1016/j.icrimjus.2013.03.001>.
- <sup>39</sup> Vera researchers did not approach either college or corrections partners to gauge interest in performing a randomized experiment. It is not known whether there would have been interest or whether these research partners may have had security, ethical, or resource concerns about doing so.
- <sup>40</sup> Jason E. Piccone, “Improving the Quality of Evaluation Research in Corrections: The Use of Propensity Score Matching,” *Journal of Correctional Education* 66, no. 3 (2015), 28–46, <https://www.jstor.org/stable/26508010>.
- <sup>41</sup> Winterfield, Coggeshall, Burke-Storer, et al., *Effects of Postsecondary Correctional Education*, 2009, 32–34.
- <sup>42</sup> Christian Henrichson, Eital Schattner-Elmaleh, Jacob Kang-Brown, et al., *Incarceration Trends in New York* (New York: Vera Institute of Justice, 2019), <https://perma.cc/F8HF-RE5F>.
- <sup>43</sup> Devah Pager, “The Mark of a Criminal Record,” *American Journal of Sociology* 108, no. 5 (2003), 937–975, 959, <https://doi.org/10.1086/374403>; Marianne Bertrand and Sendhil Mullainathan, “Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination,” *American Economic Review* 94, no. 4 (2004), 991–1013, 1000, <https://www.aeaweb.org/articles?id=10.1257/0002828042002561>.
- <sup>44</sup> Irwin, De La Rosa, Wang, et al., *Condition of Education*, 2022; Kelsie Chesnut, Niloufer Taber, and Jasmine Quintana, *Second Chance Pell: Five Years of Expanding Higher Education Programs in Prisons, 2016–2021* (New York: Vera Institute of Justice, 2022), 4, <https://perma.cc/3GTM-BXLH>.
- <sup>45</sup> Rampey, Keiper, Mohadjer, et al., *Highlights from the U.S. PIAAC Survey*, 2016, 25.
- <sup>46</sup> Colby L. Valentine, Daniel P. Mears, and William D. Bales, “Unpacking the Relationship between Age and Prison Misconduct,” *Journal of Criminal Justice* 43, no. 5 (2015), 418–427, 422, <https://doi.org/10.1016/j.icrimjus.2015.05.001>; Benjamin Steiner, H. Daniel Butler, and Jared M. Ellison, “Causes and Correlates of Prison Inmate Misconduct: A Systematic Review of the Evidence,” *Journal of Criminal Justice* 42, no. 6 (2014), 462–470, 466, <https://doi.org/10.1016/j.icrimjus.2014.08.001>.
- <sup>47</sup> Notably, college programming is offered in all facilities designated for women in New York State. However, for reasons that were not clear, there was a gender imbalance in the students who participated in CJII funding, and thus who were included within the analytical sample. This may potentially be due to which facilities and providers participated in the College-in-Prison Reentry Initiative (CIP). Irwin, De La Rosa, Wang, et al., *Condition of Education*, 2022; Chesnut, Taber, and Quintana, *Second Chance Pell: Five Years of Expanding*, 2022.
- <sup>48</sup> Chesnut, Taber, and Quintana, *Second Chance Pell: Five Years of Expanding*, 2022.

- 49 Steurer, Smith, and Tracy, *OCE/CEA Three State Recidivism Study*, 2001, 18; Megan C. Kurlychek, Shawn D. Bushway, and Robert Brame, “Long-Term Crime Desistance and Recidivism Patterns—Evidence from the Essex County Convicted Felon Study,” *Criminology* 50, no. 1 (2012), 71–103, 73–76, <https://doi.org/10.1111/j.1745-9125.2011.00259.x>; William Rhodes, Gerald Gaes, Jeremy Luallen, et al., “Following Incarceration, Most Released Offenders Never Return to Prison,” *Crime and Delinquency* 62, no. 8 (2016), 1003–1025, <https://doi.org/10.1177/0011128714549655>.
- 50 Steiner, Butler, and Ellison, “Causes and Correlates,” 2014, 466.
- 51 Elizabeth Berger and Kent Scheidegger, “Sentence Length and Recidivism: A Review of the Research,” *Federal Sentencing Reporter* 35, no. 1 (2022), <https://dx.doi.org/10.2139/ssrn.3848025>.
- 52 New York State Division of Criminal Justice Services (DCJS), “County Re-Entry Task Force Initiative,” database (Albany, NY: DCJS), [https://www.criminaljustice.ny.gov/crimnet/ojsa/initiatives/offender\\_reentry.htm](https://www.criminaljustice.ny.gov/crimnet/ojsa/initiatives/offender_reentry.htm).
- 53 Jeffrey S. Nowacki, “Organizational-Level Police Discretion: An Application for Police Use of Lethal Force,” *Crime and Delinquency* 61, no. 5 (2015), 643–668, 646, <https://doi.org/10.1177/0011128711421857>; Brent D. Mast, Bruce L. Benson, and David W. Rasmussen, “Entrepreneurial Police and Drug Enforcement Policy,” *Public Choice* 104, no. 3/4 (2000), 285–308, 303, <https://www.jstor.org/stable/30026428>; Bruce Frederick and Don Stemen, *The Anatomy of Discretion: An Analysis of Prosecutorial Decision Making—Technical Report* (New York: Vera Institute of Justice, 2012), <https://www.ojp.gov/pdffiles1/nij/grants/240334.pdf>.
- 54 Researchers grouped students according to three regions: Upstate New York, New York City, and suburban New York City, following the classification system DCJS uses.
- 55 Researchers conducted these analyses only among people who had been released from incarceration for at least six or 12 months prior to Vera’s receipt of data from the New York State Department of Corrections and Community Supervision (DOCCS) and DCJS in September 2021. DCJS data, which was used to assess reconviction, was current as of September 17, 2021. Specifically, to understand the effect of college education on new convictions within six months, researchers looked only at people who had been released prior to March 17, 2021, and to understand effects on new convictions within 12 months, researchers looked only at people who had been released prior to September 17, 2020.
- 56 Donald B. Rubin, “Using Multivariate Matched Sampling and Regression Adjustment to Control Bias in Observational Studies,” *Journal of the American Statistical Association* 74, no. 366 (1979), 318–328, <https://doi.org/10.2307/2286330>; Donald B. Rubin, “The Use of Matched Sampling and Regression Adjustment to Remove Bias in Observational Studies,” *Biometrics* 29, no. 1 (1973), 185–203, <https://doi.org/10.2307/2529685>.
- 57 Unfortunately, it is fundamentally unknowable in any research, including experimental research, whether researchers have been actually able to control for all important differences. This is sometimes called “philosophical bias.”
- 58 Education providers submitted records to DOCCS to match within their databases; however, DOCCS could not find a matching New York State identifying number for three students.
- 59 DOCCS included these five people in the dataset due to a miscommunication between Vera and DOCCS about the scope of the requested sample. People who had already achieved a college degree prior to participation in CJII-funded postsecondary education were excluded since the intervention under evaluation was college participation, rather than college participation through a particular funding stream.
- 60 The reduction in sample size may present a limitation to the power of this study to detect small effect sizes. However, in addition, due to the lack of appropriate data, Vera had to exclude two important groups of students: those who had a long engagement with college (that is, lasting longer than five-and-a-half years, per CIP eligibility criteria) and whose pre-college (but not pre-CIP) records of misconducts were missing; and those who started college soon after their admission to the index incarceration and who had no time to establish a record of misconducts provided in six-month increments. The effects in this study should be interpreted therefore as the impact of participation in college in prison on people who started college at least six months into their sentence between 2017 and 2021.
- 61 In Vera’s matching diagnostics, researchers used the standardized mean bias to assess for balance across matching characteristics between students and nonstudents, as described further in Appendix C: Propensity score matching. Descriptive statistics are presented here for ease of understanding.
- 62 Henrichson, Schattner-Elmaleh, Kang-Brown, et al., *Incarceration Trends*, 2019.
- 63 DCJS classifies regions as follows: New York City comprises Bronx, Kings, New York, Queens, and Richmond counties. Suburban New York counties include Nassau, Suffolk, Rockland, and Westchester counties. All other counties are considered to be in Upstate New York.
- 64 Pompoco, Wooldredge, Lugo, et al., “Reducing Inmate Misconduct,” 2017, 540–543; Lahm, “Educational Participation and Inmate Misconduct,” 2009, 46–47; Duwe, Hallett, Hays, et al., “Bible College Participation,” 2015, 384–386.
- 65 Steiner, Butler, and Ellison, “Causes and Correlates,” 2014, 463.
- 66 Ibid, 465–466.
- 67 Ibid, 466–467.
- 68 Pompoco, Wooldredge, Lugo, et al., “Reducing Inmate Misconduct,” 2017, 521, 541; Clark and Rydberg, “Effect of Institutional Educational Programming,” 2016, 325–326; Duwe and Clark, “Prison-Based Educational Programming,” 2014, 456–459; Steiner, Butler, and Ellison, “Causes and Correlates,” 2014, 466.

- <sup>69</sup> Clark and Rydberg, “Effect of Institutional Educational Programming,” 2016, 338–339; Steiner, Butler, and Ellison, “Causes and Correlates,” 2014, 467–468; Scarlet Kim, Taylor Pendergrass, and Helen Zelon, *Boxed In: The True Cost of Extreme Isolation in New York’s Prisons* (New York: New York Civil Liberties Union, 2012), 34–42, <https://perma.cc/8AU8-84CM>; Benjamin Steiner and John Wooldredge, “Comparing Self-Report to Official Measures of Inmate Misconduct,” *Justice Quarterly* 31, no. 6 (2014), 1074–1101, 1095–1098, <https://doi.org/10.1080/07418825.2012.723031>.
- <sup>70</sup> Prisoner Reentry Institute, *Mapping the Landscape*, 2019, 46. The Prisoner Reentry Institute was renamed the John Jay College Institute for Justice & Opportunity in 2020; since this name change occurred after the publication of this report, we use the name of the institute at the time of publication. John Jay College Institute for Justice and Opportunity, “Mission and History,” <https://perma.cc/J8Z4-TRC3>.
- <sup>71</sup> Ibid.
- <sup>72</sup> Bozick, Steele, Davis, and Turner, “Providing Inmates with Education,” 2018, 389–428, 407–408; Denney and Tynes, “College in Prison and Policy Implications,” 2021, 21–22.
- <sup>73</sup> Shawn D. Bushway, Brian G. Vegetabile, Nidhi Kalra, et al., *Resetting Recidivism Risk Prediction* (Santa Monica, CA: RAND Corporation, 2022), 2, <https://doi.org/10.7249/RBA1360-1>; Matthew R. Durose and Leonardo Antenangeli, *Special Report: Recidivism of Prisoners Released in 34 States in 2012: A 5-year Follow-up Period (2012–2017)* (Washington, DC: Bureau of Justice Statistics, 2021), 17, <https://perma.cc/A47M-T5GF>.
- <sup>74</sup> Logistic regression was used to assess the outcome within six months and 12 months, and survival analysis was used to assess the outcome at any time point following release. Hazard ratios, the estimands resulting from survival analysis, may be interpreted as a relative risk.
- <sup>75</sup> In order to evaluate whether students were deferring employment in favor of education participation, Vera researchers would need to know the post-release education participation rates among students and nonstudents to establish that students participated in post-release education at higher rates than nonstudents. Colleges were able to provide information on student enrollment post-release but not on nonstudent post-release enrollment. Parole records provided information on both student and nonstudent post-release enrollment records. In other words, both colleges and parole had information on students’ post-release college participation, but only parole had information on nonstudents’ post-release college participation. However, parole records and college records about students proved to be inconsistent. Vera researchers assume that since the mission of colleges is to provide education, which is not the core mission of parole services, that college data on educational enrollment would be more likely to be correct. Vera researchers therefore did not have confidence in parole records indicating whether nonstudents were engaged in education following release and were unable to establish that students participated in education at higher rates than nonstudents post-release.
- <sup>76</sup> Winterfield, Coggeshall, Burke-Storer, et al., *Effects of Postsecondary Correctional Education*, 2009, 5.
- <sup>77</sup> Steurer, Smith, and Tracy, *OCE/CEA Three State Recidivism Study*, 2001, 17, 37.
- <sup>78</sup> Benjamin Heller, Cherrell Green, Shirin Purkayastha, et al., *Toward a Fairer Parole Process: Examining Parole Denials in New York State* (New York: Vera Institute of Justice, 2021), 1, <https://www.vera.org/downloads/publications/toward-a-fairer-parole-process-report.pdf>.
- <sup>79</sup> Chesnut, Taber, and Quintana, *Second Chance Pell: Five Years of Expanding*, 2022.
- <sup>80</sup> The Consolidated Appropriations Act, 2021 formally reestablished eligibility for the federal Pell Grant program for incarcerated Americans, and in April 2022, Bill S975/ A2870 in New York State repealed the ban on New York State Tuition Assistance Program (TAP) funding for people incarcerated in New York. Currently and formerly incarcerated people have been recognized for their leadership in advocating for the restoration of Pell Grant eligibility. Amy Solomon, opening remarks, “Pell Reinstatement 2023: Preparing for Implementation” (webinar, Vera Institute of Justice, April 5, 2023), <https://nationalreentryresourcecenter.org/events/pell-reinstatement-2023-preparing-implementation>.
- <sup>81</sup> The grant is structured as a public/private partnership. Colleges’ match funding could consist of in-kind costs and existing program funding.
- <sup>82</sup> New York State Higher Education Services Corporation (HESC), “The New York State Tuition Assistance Program (TAP),” 2023, <https://perma.cc/J56M-XSNE>; Letter from Richard Cordray, Chief Operating Officer, Federal Student Aid to colleagues re: “Revised 2022–2023 Federal Pell Grant Payment and Disbursement Schedules,” March 24, 2022, <https://perma.cc/464M-F4FR>.
- <sup>83</sup> Oakford, Brumfield, Goldvale, et al., *Investing in Futures*, 2019, 3.
- <sup>84</sup> TAP pays for tuition only, not other items that can go into a student’s cost of attendance. Second Chance Pell grants fund tuition, fees, books, and supplies as part of the cost of attendance for students in prison. Pell grants, following implementation of the FAFSA Simplification Act will also pay for certification exams as well if that applies to a students’ course of study. See U.S. Department of Education, “Prison Education Programs Questions and Answers,” Section: PEP General Questions (PEP): PEP-A3, <https://perma.cc/N3R6-HCWY>. See HESC, “The New York State Tuition Assistance Program (TAP),” Section: Eligibility, <https://www.hesc.ny.gov/pay-for-college/apply-for-financial-aid/nys-tap.html>.
- <sup>85</sup> Robinson and English, *Second Chance Pell Pilot*, 2017, 2.
- <sup>86</sup> Joshua C. Cochran, Daniel P. Mears, William D. Bales, and Eric A. Stewart, “Does Inmate Behavior Affect Post-Release Offending? Investigating the Misconduct-Recidivism Relationship among Youth and Adults,” *Justice Quarterly* 31, no. 6 (2014), 1044–1073, 1058–1059, <https://doi.org/10.1080/07418825.2012.736526>.
- <sup>87</sup> Arsandaux, Galéra, and Salamon, “Self-esteem and Psychosocial Outcomes,” 2021, 108; Hammond, “Impacts of Lifelong Learning,” 2004, 551–568; Schuller, Preston, Hammond, et al., *Benefits of Learning*, 2004, 47–66; Winterfield, Coggeshall,

Burke-Storer, et al., *Effects of Postsecondary Correctional Education*, 2009, 6; Erisman and Contardo, *Learning to Reduce Recidivism*, 2005, 7; Prisoner Reentry Institute, *Mapping the Landscape*, 2019, 41.

<sup>88</sup> Prisoner Reentry Institute, *Mapping the Landscape*, 2019, 43.

<sup>89</sup> Propensity score matching is intended to reduce dissimilarities in an analytical sample between those who do and those who do not receive a treatment. Including in that matching procedure or attempting to control in subsequent regression analyses any variables that occur as a result of that treatment would reintroduce dissimilarities between those two groups, undoing the purpose of the matching and reducing the validity of the resulting analyses.

<sup>90</sup> In a regression model on the matched data using days to the end of the quarter from release as the outcome and whether or not the person was a student as the covariate, the effect was insignificant ( $p$ -value = 0.105). There was no evidence after graphical and statistical analysis that being a student influenced the timing during a quarter when the person was released.

<sup>91</sup> Paul R. Rosenbaum, "The Consequences of Adjustment for a Concomitant Variable that Has Been Affected by the Treatment," *Journal of the Royal Statistical Society. Series A (General)* 147, no. 5 (1984), 656–666, 665, <https://doi.org/10.2307/2981697>.

<sup>92</sup> Rubin, "Multivariate Matched Sampling," 1979, 318–328; Rubin, "Matched Sampling and Regression Adjustment," 1973, 185–203.