

Final Project Report

Apprenticeship Experience of Justice-Involved Individuals in Arkansas: Barriers to Success

Authors

Team Lead: Ekaterina Levitskaya, Coleridge Initiative
Eric Gaither, Arkansas Department of Corrections, Arkansas
Robert Hilderbrand, Arkansas Division of Information Systems, Arkansas
Veronika Gudipati, Arkansas Division of Information Systems, Arkansas
Mason Campbell, Arkansas Division of Higher Education, Arkansas
Blake Cannon, Arkansas Division of Higher Education, Arkansas

Introduction

Correctional stakeholders' interest in apprenticeships and employment of justice-involved individuals is for the sake of reducing recidivism by addressing a criminogenic need to help reduce the likelihood of someone reoffending (Andrews & Bonta, 2010; Carter & Sankovitz, 2014).

It is true that once justice-involved individuals are in the community, it can be quite difficult for them to find employment (Baker, 2015; Vallas & Dietrich, 2014). This is only exacerbated for certain populations, such as black individuals are less likely to receive call backs for employment than white individuals, even more so for those with a criminal record (Pager, 2003; Pager & Western, 2009). Justice-involved women are also more likely to work for lower wages, and to be a single parent, placing a greater financial strain on them (Bloom et al., 2003).

However, employment and education have had mixed results in reducing recidivism because it isn't just about having a job. Studies have shown that it depends on how well a job can meet the needs of the individual, both economically and socially (Andrews & Bonta, 2010; Visser et al., 2008). There are also other needs and barriers which can prevent justice-involved individuals from finding or maintaining employment, such as housing and health care. The social stigma that comes with a criminal label can also make reentry efforts much more difficult, which has a more detrimental impact on racial minorities.

Apprenticeships, in conjunction with other programs and services, can help address these needs. Though there are several limitations. On the job training is difficult in prisons, finishing an apprenticeship is dependent on the individual staying in a specific location, which can be interrupted by transfers or early releases (McGrew & Hanks, 2017). Also, work in prisons is mostly for the sake of supporting the facility, such as kitchen workers and cleaners (McGrew & Hanks, 2017). Skills should be relevant and in demand to the job market. Between 2000 and 2016, 25% STEM and about 7% of non-STEM programs were in prisons, about 100,000 apprentices.

RAPIDS prison apprenticeship data 2000-2016 (Hecker and Kuehn, 2019):

- Majority white and men
- Average age (37)
- 80% either have a GED or a high school diploma
- Average time in program was half
- Average starting and exit wage were about \$16 lower
- Completion rate is about 5% higher

Research question

The research question matured significantly since the Team 3 interim presentation. Originally, the team hoped to utilize additional Arkansas data, which would allow us to speak specifically to recidivism rates and earning trends. Without those data, the team refocused the question on program completion and market success of justice involved individuals. It is important to keep in mind the goal of apprenticeships for the justice-involved is to offer training and work experience that will continue to be valuable to individuals upon their release, and one of the fortunate results of the maturation of the team's research question is that it speaks to a broader and perhaps more complex question that allowed the researchers to speak to the types of experiences by justice involved individuals. A number of barriers to success were evident in the data including typically low level of education attainment, narrow choices of occupations, and almost non-existent wages. The research question is:

Do apprenticeship programs help justice-involved individuals achieve success in the free-world labor market in Arkansas?

Data

Registered Apprenticeship Partners Information Database System (RAPIDS) consists of public data from the U.S. Department of Labor at the individual level data from 48 states. These data are available for public use, as all personally identifiable information has been removed, and the files and data dictionary can be downloaded from the US Department of Labor.

In looking at the data that was available in RAPIDS on apprenticeships for justice-involved individuals in Arkansas, we observed that the data was very inconsistent in numbers in these apprenticeship programs for years greater than 2007. We also noticed that there were only males in the justice-involved apprenticeship population. This led us to use a population that consisted of the start years of 1997 to 2007 and gender of male. To make sure we were pulling out only Arkansas apprenticeship programs, we used the progstate variable and set it to 'AR'. We then created our justice-involved group by setting the inmateind variable to 1 giving us a group of 1970 apprentices. Our free-world population was 13,827 apprentices, and we had 4,092 apprentices that had a null value for inmateind.

The goal of this project was to look at if apprenticeship programs could help justice-involved individuals achieve success. This was based on looking at wage during the apprenticeship programs, occupational average salaries in the free-world marketplace, categorizing the occupations within STEM or High Demand categories and completion rates of the apprenticeship programs.

An analysis was done on the differences between justice-involved and free-world individuals. The project looked at aspects of both starting and exiting wages during the apprenticeship programs

Key Findings

Looking at the RAPIDS data, we found that Arkansas ranked 11th in reported number of justice-involved apprentices. There were only 2 prison units reported in this data (Cummins and Pine Bluff (a re-entry program)). We also found that Arkansas ranked 8th when looking at the number of justice-involved individuals in apprenticeship programs over the total justice involved individuals, and ranked 4th in percentage of total justice-involved individuals out of their total population.

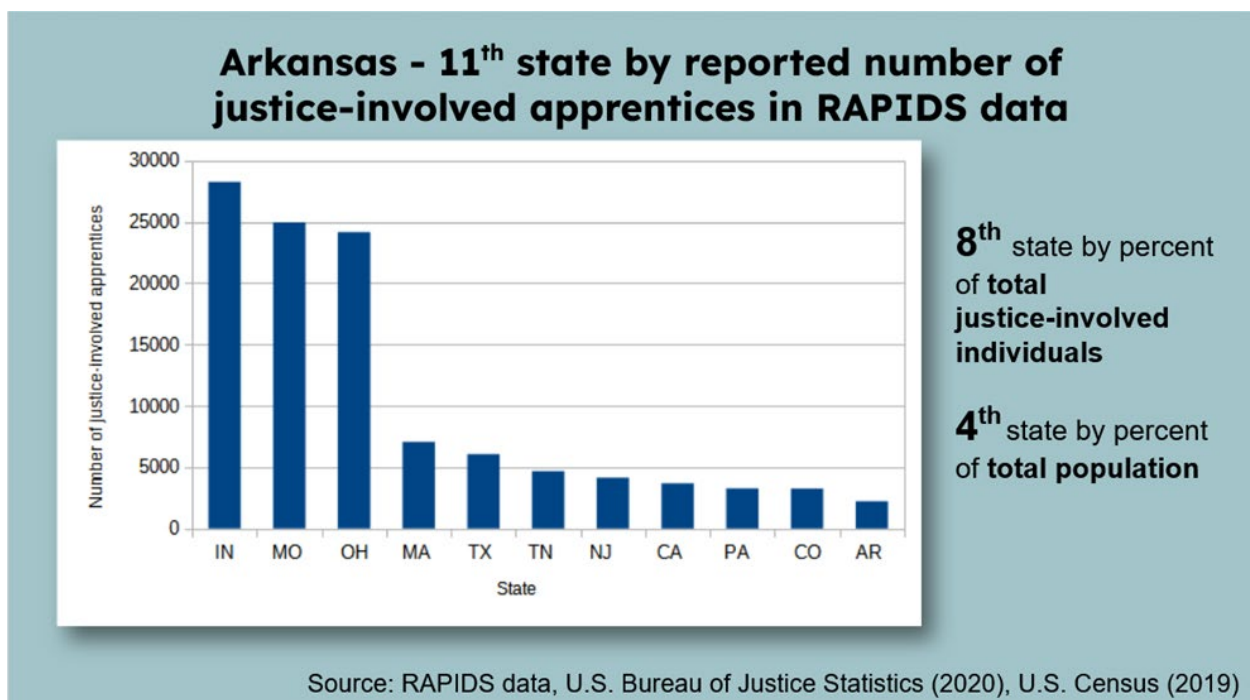
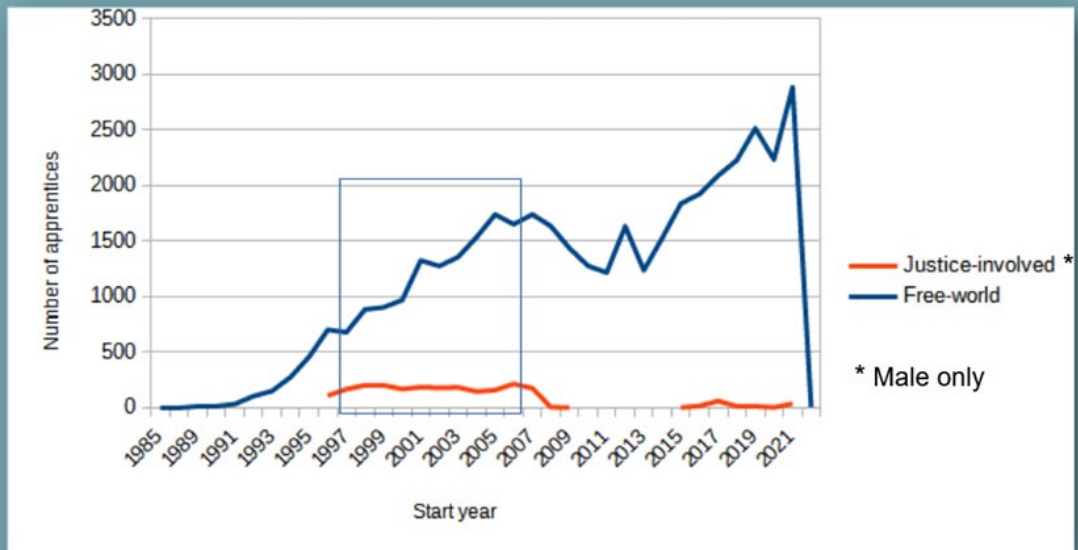


Figure 1. Arkansas - 11th state by reported number of justice-involved apprentices in RAPIDS data.

When looking at individuals in apprenticeship programs, we noticed some inconsistencies in data reported for justice-involved individuals after 2008. The numbers would drop off to single digits then go up and down. We also noticed there were only males in the justice-involved group. To help create a better comparison group, we decided to only include years 1997 to 2007 and only males for both of our cohorts.

Reporting of Arkansas data is not consistent over time

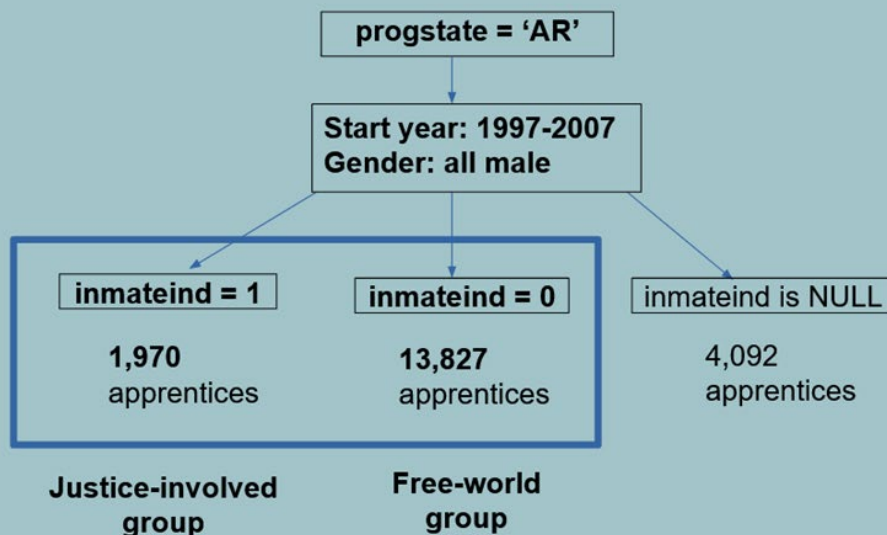


Source: RAPIDS data

Figure 2. Reporting of Arkansas data is not consistent over time.

To construct our two cohorts, we first found only Arkansas apprenticeships using the progstate variable. We narrowed down our groups by start year of 1997 to 2007 and found only males. To distinguish the justice-involved individuals from the free-world individuals, we used the inmateind variable. Our justice-involved cohort consisted of 1,970 apprentices and our free-world cohort consisted of 13,827 apprentices. There were 4,092 apprentices that were left out because the inmateind variable was NULL.

Construction of comparison groups: free-world and justice-involved



Source: RAPIDS data

Figure 3. Construction of comparison groups: free-world and justice-involved

Figure 4 shows the characteristics of male registered apprentices in free-world and justice-involved individuals between 1997 and 2007. In contrast to apprentices who are not in jail, those who are in prison are more likely to be black and less likely to be white, reflecting long-standing imbalances in the criminal justice system at every level. Hispanic apprentices in prison are about as likely as apprentices outside of prison.

The data considered for analysis does not have individuals with disability both in free-world and justice-involved individuals. The free-world apprentices constitute 6.41% of veterans while the justice-involved individuals constitute 1.11% of veterans.

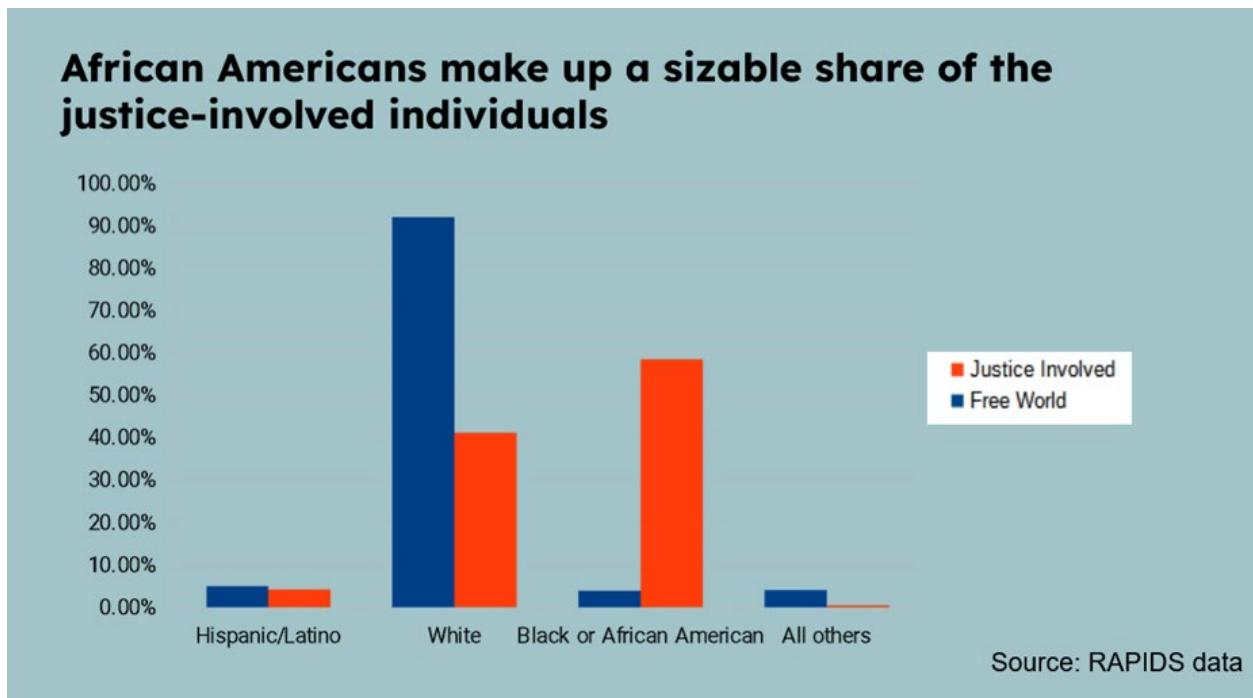
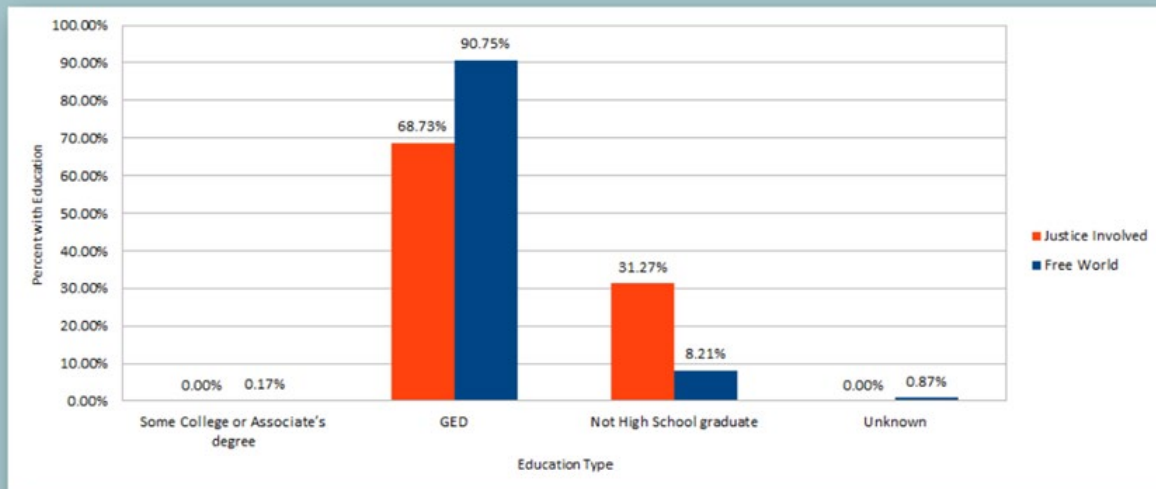


Figure 4. African Americans make up a sizable share of justice-involved individuals.

We found that justice-involved apprentices had a lower overall educational attainment (Figure 5). They had both a lower percentage of GED attained and a higher percentage of not receiving any high school graduation status. Another interesting observation was that there were very few individuals that attained any college or more education. A possible reason for this could be the data was older and was not reported that way in prior years.

Justice-Involved Individuals Have Lower Educational Attainment

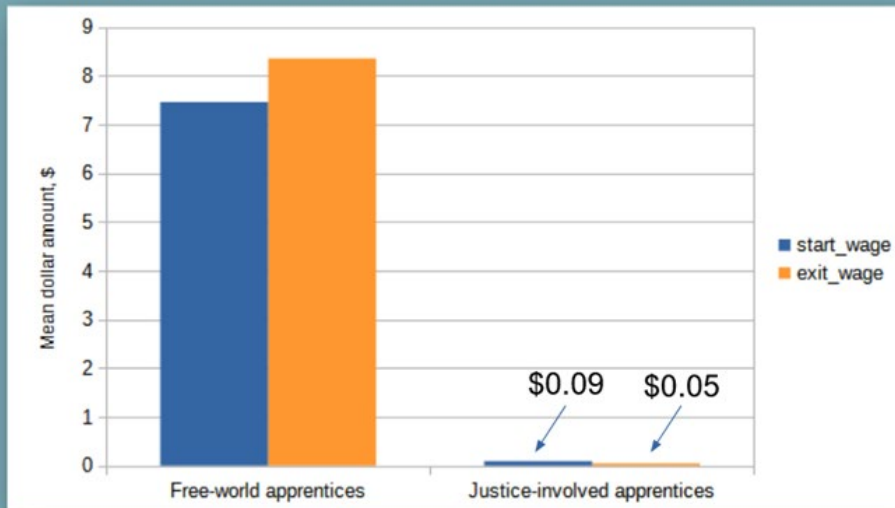


Source: RAPIDS data

Figure 5. Justice-involved individuals have lower educational attainment.

In looking at both starting wages and exit wages for individuals in apprenticeship programs, we noticed that justice-involved apprentices have almost non-existent wages that actually lowered from the start to exit of an apprenticeship program while free-world apprentices would earn higher wages upon exit of their apprenticeship program. We also looked at a study by Visseret in 2008 where wages were looked at for justice-involved apprentices and how likely they would return to prison. This study found that the higher wages these individuals would make 2 months prior to release, the less likely these individuals were to return to prison within 8-10 months after release. An example they offered was if someone made more than \$10/hr, they were 50% less likely to return to prison than those making less than \$7/hr. This shows how we need to advocate for justice-involved individuals to get paid more, especially with how low the wages are for justice-involved apprentices in Arkansas.

Justice-involved apprentices have lower to practically non-existent wages



Source: RAPIDS data

Figure 6. Justice-involved apprentices have lower to practically non-existent wages.

In Figure 7 and 8 we looked at the top 10 occupations from the apprenticeship programs in RAPIDS and matched with STEM and High Demand Cip Codes and mean salary for that occupation in the free-world market place. To create the matches to STEM and High Demand, we used Arkansas definitions for productivity funding purposes. We also utilized a crosswalk created between soc codes and cip codes. We also utilized Occupational Employment and Wage Statistics data that matched soc codes to mean salaries. Using our cohorts we saw that free-world individuals were in programs that were typically higher in mean salary (a range of \$47,000 to \$63,000) versus justice-involved apprentices (a range of \$31,500 to \$63,000). Another interesting observation was that justice-involved apprentices were pretty evenly spread out in occupations where free-world apprentices clustered mostly into a couple of occupations. One possible reason for this was that justice-involved apprentices were more likely to be appointed to a program as opposed to getting their choice.

Free-world individuals have more higher paying options available

Occupation Title	High Demand	STEM	Headcount	Percent	Mean Salary
ELECTRICIAN	Y	N	7242	52.38%	63,310
PLUMBER	Y	N	4359	31.53%	63,350
CARPENTER	Y	N	605	4.38%	55,190
PIPE FITTER	Y	N	253	1.83%	63,350
SHEET METAL WORKER	Y	N	203	1.47%	58,760
PAINTER	Y	N	148	1.07%	47,140
STRUCTURAL STEEL WORKER	Y	N	136	0.98%	61,270
LINE INSTALLER-REPAIRER	Y	N	125	0.90%	62,250
MAINT MECHANIC	Y	N	112	0.81%	58,780
FISH & GAME WARDEN	Y	Y	103	0.74%	58,190

Source: RAPIDS data

Figure 7. Free-world individuals have more higher paying options available.

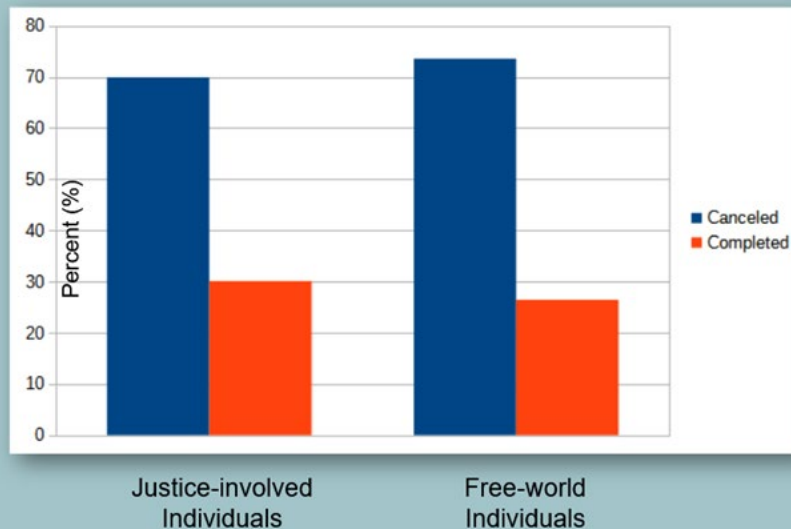
Justice-involved individuals have less higher paying options available

Occupation Title	High Demand	STEM	Headcount	Percent	Mean Salary
COOK	Y	N	244	12.39%	31,520
WELDING MACHINE OPERATOR, ARC	Y	N	197	10.00%	42,950
PLUMBER	Y	N	191	9.70%	63,350
ELECTRICIAN	Y	N	186	9.44%	63,310
HEATING & AIR-CONDITIONER INSTALL/SER	Y	Y	185	9.39%	54,690
AUTOMOBILE MECHANIC	Y	Y	181	9.19%	47,990
CARPENTER	Y	N	180	9.14%	55,190
AUTOMOBILE BODY REPAIRER	Y	N	170	8.63%	50,660
SMALL ENGINE MECHANIC	N	N	166	8.43%	40,360
DIESEL MECHANIC	Y	N	126	6.40%	53,020

Source: RAPIDS data

Figure 8. Justice-involved individuals have less higher paying options available.

Justice-involved individuals have a higher rate of apprenticeship completion than free-world individuals

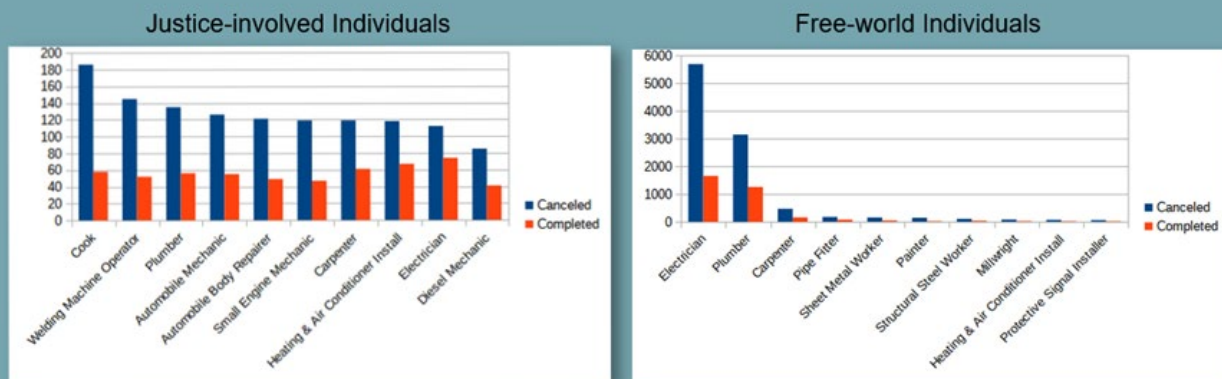


Source: RAPIDS data

Figure 9. Justice-involved individuals have a higher rate of apprenticeship completion than free-world individuals.

Although the number of participants and the types of apprenticeships differ between these populations, our sample showed justice-involved individuals have a completion rate of 30% and free-world individuals have a completion rate of about 25% (Figure 9).

Top 10 jobs by cancellation for justice-involved and free-world individuals



Source: RAPIDS data

Figure 10. Top 10 jobs by cancellation for justice-involved and free-world individuals.

We took a closer look at the top 10 apprenticeships by their number of cancellations for both justice-involved and free-world individuals (Figure 10). As you can see, the justice-involved apprenticeships are more evenly distributed than the free-world ones. They are also less varied, as many are different forms of mechanics. This could be because justice-involved individuals have less apprenticeship options and less choice in how they spend their time.

Summary/Takeaways

There is not much literature on the role of apprenticeships in helping justice-involved individuals achieve success in the free-world labor market, and our goal with this project was to provide more contributions to the research on this topic. Defining success for justice-involved individuals is complex because of the following factors:

- educational attainment (GED equivalent or lesser)
- racial barriers
- low to practically non-existent wages for justice involved individuals (< \$1.00)
- narrow choice of available apprenticeships

Apprenticeships can be a good vehicle for justice-involved individuals, as they are more likely to complete the apprenticeships in comparison to free world individuals.

Caveats

1. **Years of data: 1997-2007.** In order to ensure that the results are unaffected by the years with missing or unreported apprentices, we decided to analyze the data between 1997 and 2007 because there are very few or no records of apprenticeships beyond that year.
2. **Only male population.** Because there are only male justice-involved apprentices in the data, there hasn't been any research or discussion of the options available to women while and after their sentences have been served.
3. **Couldn't study the employment outcomes due to a small sample size.** The linkage between apprenticeship and employment data was restricted by the smaller sample size of apprenticeships. Consequently, the study of apprentice outcomes in real life is limited.
4. **Due to time constraints, a bigger sample could not be included.**

Possible Extensions

Link to the recidivism data. The influence and effects of apprenticeships on recidivism might be better understood by linking recidivism and apprenticeship statistics. Thus, it would be useful to comprehend the success of justice involved individuals.

Link and study employment outcomes using a larger sample. A bigger sample of data would allow for a better linkage with employment data, thereby enlightening the outcomes of the apprenticeships and allowing for in-depth research of the opportunities of justice involved individuals in the workplace.

Acknowledgements

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