

Understanding the Relationship between Criminal Record and On-the-job Performance

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Executive Summary

Although the role of justice-involved individuals in the current labor market is an important issue, much of the previous academic literature has focused on the entry/exit process itself, with hiring and recidivism rates being the primary variables of interest. In contrast, very few studies have tackled the ex-offenders' experience on the job itself, perhaps due to the difficulties inherent in the data collection process.

The goal of this study, funded by Allegiance Staffing, the IWLA, and UNITE INDY, was to examine the relative workplace performance of justice-involved citizens and ex-offenders, as well as identify factors affecting this performance. We examined the employment records of 856 entry-level employees in five central Indiana logistics and manufacturing organizations of varying size, collecting demographic- and criminal-history-related data, as well as performance metrics. Due to the variety of performance evaluation systems utilized by the partner organizations, we divided entry-level employees into two categories ("Above Average" and "Below Average") based on the system in place at each firm, thus allowing us to aggregate across organizations. Finally, employees at each organization completed a culture survey, known as the Competing Values Framework, in order to characterize the degree to which they perceived their workplace environment as being collaborative, competitive, creative, or control-oriented.

A substantial percentage of entry-level employees in our sample were justice-involved individuals (26-67% depending on the partner organization). Those with a criminal record had, on average, two misdemeanors and two felonies, with the average number of years between the most recent felony or misdemeanor and the time of hire being approximately 5-6 years. In terms of the nature of conviction, alcohol and drug-related convictions were the most prevalent type of conviction (44%), followed by driving violations (18%).

As a first step, comparing ex-offenders to those without a conviction on a single dimension/variable, we found that those with a conviction were:

- more likely to be single males compared to those without conviction, although differences existed across organizations,
- employed for 8-9 fewer months at both current and previous employers compared to those without a conviction (i.e. less "attached" to employer),
- and experienced a 6-7 month shorter period of unemployment between current and previous job compared to those without a conviction (i.e. more "attached" to employment in general)

More importantly, those with a conviction were more likely to fall in the below-average performance category compared to those without a conviction (56% vs 43%, respectively), but *this result disappeared when we controlled for the nature of conviction and employer size*. In particular, of those with a misdemeanor, 67% were in the below-average category compared to 44 % of those with no misdemeanor conviction. In contrast, we did not find a statistically significant difference in performance between those with a felony and those with no felony conviction. Turning to employer size, at small employers, we found no statistically significant

difference in performance between those with a conviction and those without a conviction. In contrast, at the large employer those with a misdemeanor conviction performed worse than those without such a conviction.

Secondly, we estimated a more complex model of performance in which multiple predictors were controlled for simultaneously (e.g. gender, age, work experience, criminal record). Similar to our univariate results, we found that those with a conviction had the same odds of falling in the below-average performance category as those with no conviction, but *this result was linked to the nature of the conviction*. In particular, those with a misdemeanor were 49% less likely to be rated as “Above Average” than those without a misdemeanor conviction. In contrast, there was no statistically significant difference in performance-related odds between those with a felony and those without a felony conviction.

Finally, turning to the workplace environment, we found no statistically significant evidence that the performance of ex-offenders is correlated with an organization’s Cooperate, Create, Control, or Compete scores in the Competing Values Framework. We note, however, that this result was likely due to the relatively small variation in scores across the employers in this sample. As an alternative approach, we simply controlled for each employer in our sample by incorporating employer-related interaction terms. Using this model specification, we observed differences in the performance of ex-offenders across employers, suggesting that some aspect of workplace environment does matter. In particular, at small and medium partner organizations, no statistically significant difference in performance-related odds was observed between those with a conviction and those without a conviction, regardless of the severity of the conviction. At the large employer, however, those with a misdemeanor were 45% less likely to be rated as “Above Average” than those without a misdemeanor conviction.

Our study suggests the following key takeaways:

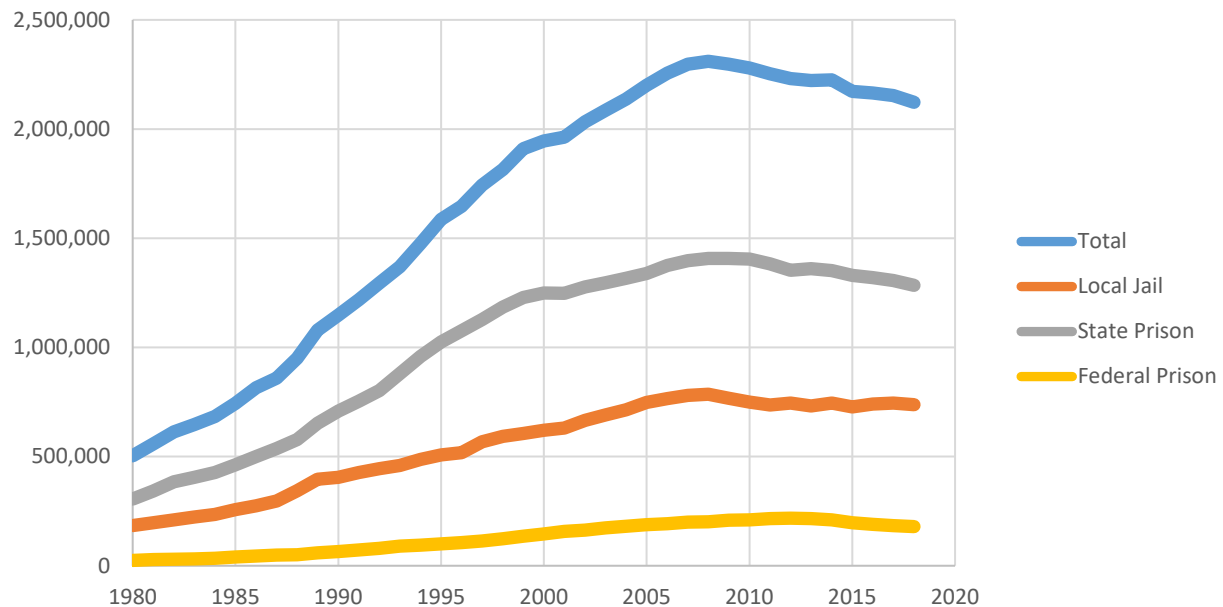
- Those with a conviction appear to be more attached to the labor force but less attached to their current employer than their peers. In other words, these individuals exhibit behavior consistent with a strong motivation or need to work but face unique obstacles that may make it relatively more difficult to remain employed.
- Helping those with a conviction overcome these obstacles may be particularly difficult, since ex-offenders tend to underreport both the number and nature of their offenses. Coupled with incomplete employment and performance-related records, it is likely that many ex-offenders will not be identified as such and, thus, slip through the cracks.
- The severity of the conviction is positively correlated with on-the-job performance. Thus, those who struggle most in the workplace are those with misdemeanors, not those with felonies.
- This negative relationship between misdemeanor convictions and workplace performance is mitigated in smaller firms. Thus, there is something about the workplace environment of small firms that allows even those with misdemeanors to succeed.

Understanding the Relationship between Criminal Record and On-the-job Performance

1. The Recidivism Cycle

Since 1980 the total adult incarcerated population has increased 450%, from 503,600 in 1980 to 2,122,300 in 2018 (see Figure 1). Although there was an 8% decline in this population between 2008 and 2018, this number pales in comparison to the rapid increase experienced over the previous two decades. Much of this decline is tied to fewer incarcerated at the state level. In contrast, incarceration at the local and federal levels has essentially plateaued at its 2008 value. Including the 4.5 million individuals on probation or parole in 2018, the size of the justice-involved population is over 6.6 million. Taking into account the family members of these individuals as well, the number of individuals impacted by the correctional system in the U.S. is significant.

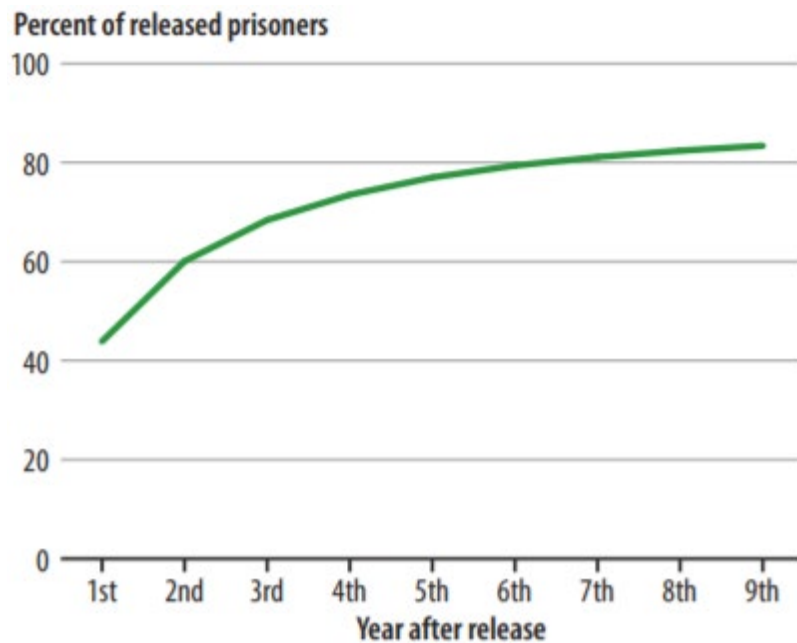
Figure 1: Total Adult Incarcerated Population, 1980-2018



Source: Bureau of Justice Statistics, Key Statistics, Total Correctional Population on the Internet at www.bjs.ojp.gov.

Even more troubling than the number affected is the recidivism rate of those in the system. In other words, once an individual enters the correctional system, extraction is difficult. For example, a longitudinal study published by the Bureau of Justice Statistics, which followed offenders released in 30 states in 2005, reported a 3-year recidivism rate of approximately 68% for those in its sample (see Figure 2). Within 9 years of release, the cumulative percentage of offenders rearrested climbed to over 80%, suggesting a cyclical pattern of release and re-incarceration (Alper, 2018).

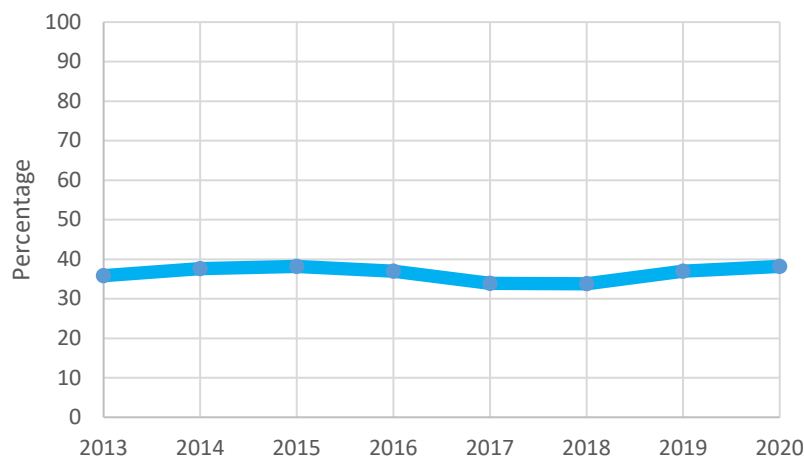
Figure 2: Cumulative Percentage of Prisoners Released in 30 States in 2005 Arrested Since Release, by Year after Release



Source: Bureau of Justice Statistics, Recidivism of State Prisoners Released in 2005 Data Collection, 2005-2014.

Although the rate may vary, the issue of recidivism cuts across all states. Within Indiana, for example, a recent study by the Indiana Department of Correction (IDOC) reported a 3-year recidivism rate of approximately 38.16% for offenders released from IDOC during 2017 (IDOC, 2021). Although this rate is significantly below that of the national average, it remains a persistent trend, with no sign of abatement (see Figure 3). Even at this relatively low level,

Figure 3: Adult 3-Year Recidivism Rate in Indiana



recidivism remains a costly problem for the state. A study by the Center for Criminal Justice Research at the Indiana University School of Public and Environmental Affairs estimated a cost savings of \$1.5 – \$2.6 million for every 1% reduction in the recidivism rate in Marion County only (Jarjoura and Haight, 2011). This cost savings likely represents a lower bound, as it only included the expected per diem cost associated with the period of reincarceration itself. Other direct costs, such as those related to court-processing activities or victim-support efforts, were outside the scope of the study.

In addition, it is important to recognize the indirect or opportunity cost associated with incarceration. Those in jail or prison units are unable to participate in day-to-day family activities or events. In addition, they are no longer a part of the workforce, an issue that is particularly problematic when labor markets are tight. Thus, in some sense, failure to understand and address recidivism results in a misallocation of productive resources. Although correcting this imbalance is a complex task, one particularly fruitful area to explore is the connection between employment and recidivism.

2. Justice-Involved Individuals in the Workforce

The employment of justice-involved individuals involves three distinctly different but related areas of interest: (1) reentry into the labor force; (2) experience while in the labor force; and (3) exit out of the labor force (see Figure 4).¹ Beginning with the first phase of the employment process, re-entry into the labor market, the focus has been on assessing the effectiveness of re-entry programs, as well as the use legislative remedies and employer-based appeals to facilitate the transition of ex-offenders into the workforce. Once in the labor force, attention has typically focused on employers' attitudes toward ex-offenders and the perceived barriers to hiring these individuals. Within the labor-force-exit phase of the cycle, the goal has been to identify factors that influence the rate of employee attrition. In the following sections, we highlight some of the most relevant studies in each of these areas and clearly articulate how the current study fills an important gap in the literature.

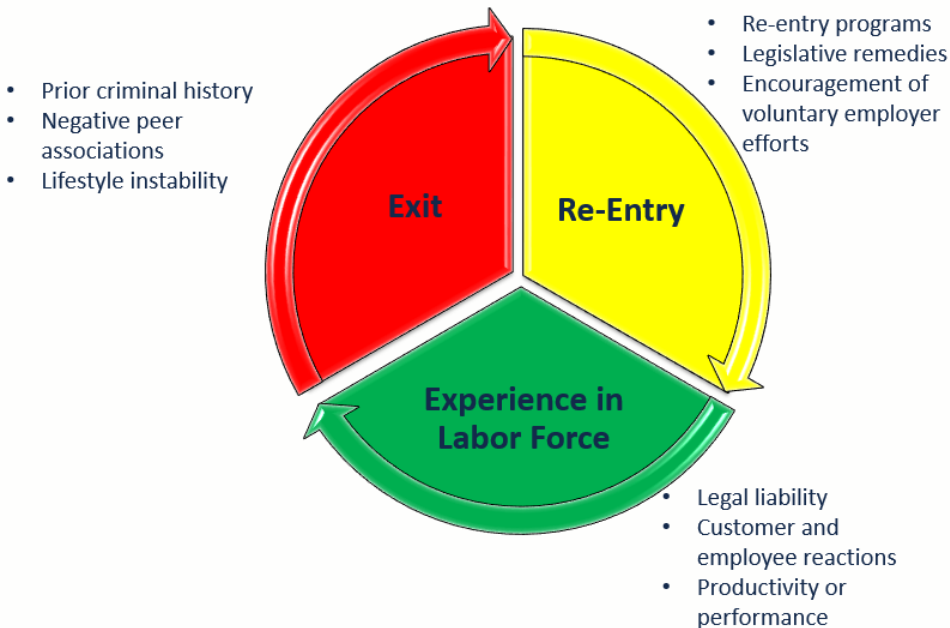
2.1 Reentry into the Labor Force

Several studies have focused on the role of reentry services and programs in securing employment for offenders. These studies can be grouped into two broad categories: (1) those focusing on the provision of in-prison employment preparation services or program; and (2) those focusing on the provision of needed post-release services (e.g. housing, transportation, healthcare). In some sense, identifying these needed pre- and post-release services is the easy part. Providing individuals with the appropriate incentive to seek out or take advantage of such services is the critical issue. For example, Ojha et al. (2018) surveyed 130 currently incarcerated offenders regarding the extent to which they had participated in employment services and programs prior to incarceration, as well as their participation during their period of incarceration and their anticipated participation post-release. In general, participation in services and programs related to assistance with employment documents, vocational training, and how-to

¹ For a more detailed synthesis of the 2008-2018 literature in this area, see Griffin et al. (2019).

keep-a-job training services decreased while in prison. In contrast, the utilization of job preparation skills and transitional job programs increased while incarcerated.

Figure 4: Literature Overview



What is behind this reluctance to participate in certain types of employment-related programs while incarcerated? One contributing factor may be an individual's self-perception of employability and/or capability. Shippen et al. (2017) examined the career thoughts of 241 currently incarcerated offenders nearing their time of release, reporting a higher level of commitment anxiety in younger individuals and higher decision-making confusion, external conflict and overall Career Thoughts Inventory scores in less-educated individuals.

Understanding these differing career and employment perspectives is a necessary first step in designing effective in-prison vocational training programs (Johnson, 2013). Ideally, such programs should prepare offenders not only to successfully navigate the workforce but to also mitigate the personal, social, and structural pains of release (Durnescu, 2019).

2.2 Experience in the Labor Force

2.2.1 Employer Attitude

Once released, formerly incarcerated individuals must face the daunting task of securing steady employment, a process somewhat akin to foraging (Sugie, 2018). Not only do these individuals need to ensure they have the appropriate skills and qualifications, they must also manage the

potentially negative perceptions of employers. Focusing on a recent report of employer attitudes, 53% of HR professionals said they would be willing to hire workers with criminal records, while 12% reported being unwilling (SHRM et al, 2021). This finding is consistent with the results of an earlier survey of Baltimore area employers (Giguere & Dundes, 2002). While this statistic is encouraging, it is important to point out that the remaining 35% indicated they were neither willing nor unwilling to hire workers with criminal records. In other words, approximately one third of the HR managers surveyed remain on the fence regarding the suitability of this worker population. According to SHRM et al. (2021), the most frequently cited reasons for this apprehension were legal liability (36%), potentially negative reactions from customers (31%), hurdles associated with government regulation (23%), and potentially negative reactions from coworkers (23%). Although less of a concern, questions regarding productivity and reliability remained as well.

2.2.2 Hiring Process

Although employers have expressed a willingness to hire ex-offenders, other contextual factors and biases play a critical role in the hiring process, including the nature of conviction (Albright & Denq, 1996; Helfgott, 1997; Atkin & Armstrong, 2013), the percentage of parolees in the community (Atkin & Armstrong, 2013), as well as the age and criminal history of the hiring manager (Atkin & Armstrong, 2013). In addition, characteristics of the ex-offender likely impact employment opportunities. For example, consistent work experience before incarceration, connection to employers before release, and conventional family relationships have the potential to improve employment outcomes after release. In contrast, individuals who relapse to drug use quickly after release, have chronic physical or mental health problems, and are older or nonwhite fare worse in the labor market (Visser et al., 2011). It is important to note that several other studies have reported a similar race-related result (Pager & Quillian, 2005; Western & Sirois, 2018). For example, Pager and Quillian (2005) examined employers' willingness to hire black and white ex-offenders, both in terms of their self-reported likelihood and their actual hiring decision. Interestingly, "employers who indicated a greater likelihood of hiring ex-offenders in the survey were no more likely to hire an ex-offender in practice. Furthermore, although the survey results indicated no difference in the likelihood of hiring black versus white ex-offenders, audit results show large differences by race. These comparisons suggest that employer surveys—even those using an experimental design to control social desirability bias—may be insufficient for drawing conclusions about the actual level of hiring discrimination against stigmatized groups" (Pager & Quillian, 2005, p.1).

Several studies have explored the impact of organizational characteristics on hiring patterns as well (Atkin & Armstrong, 2013; Miller, 2019). For example, a longitudinal study of 6,561 offenders released throughout 2005 found that the primary sectors that employed ex-offenders were related to: (1) administrative support, waste management and remediation services; (2) accommodation and food services; (3) manufacturing; (4) construction; (5) retail trade; (6) health care and social assistance; and (7) temporary help services (Nally et al., 2014). Even within a specific industry, there is some evidence that a segregated labor market may exist. Employers reported "that a strong motivating factor for hiring was finding a 'good worker to do a bad job', but also that decisions were influenced by employers' common sense norms derived from surviving at the bottom of the economy" (Bumiller, 2015, p. 1).

2.2.3 *Job Performance*

Although factors influencing the likelihood of being hired have received considerable attention in the literature, the on-the-job performance of ex-offenders, once hired, has been less widely studied. Jolson (1975) measured the job success of small group of ex-offenders in Maine. In particular, each employer in the study compared an ex-offender in his employ with a non-offender in terms of a set of specified performance criteria. Employers rated ex-offenders higher than their peers in terms of ability to learn, quantity of work, quality of work, degree of industriousness, cooperativeness, acceptability, and integrity. However, ex-offenders were rated only marginally superior to their peers in terms of availability and initiative, and were perceived as being inferior in terms of longevity. Although this study represents an important first step in understanding the on-the-job performance of ex-offenders, it suffered from a small sample size and the use of employer surveys instead of validated measures of employee performance.

More recently, Lundquist et al. (2018) examined the worker-level performance outcomes of attrition and promotion among 1.3 million ex-offenders and non-offender enlistees in the U.S. military from 2002 to 2009. Although no difference in attrition rates due to poor performance was found between ex-offender and non-offender enlistees, ex-offenders were promoted more quickly and to higher ranks than non-offenders. Similarly, Minor et al. (2018) reported that ex-offenders had longer tenure and were less likely to quit their jobs compared to non-offenders in a call-center setting, however, this result did not hold across all jobs. Thus, it appears that the relationship between worker-level performance outcomes and criminal record may be moderated by several factors, such as the presence of a peer-mentor model (Harrod, 2019). While these studies represent an improvement over Jolson (1975) in terms of sample size and the use of objective metrics, they do little to illuminate the day-to-day performance of ex-offenders compared to their non-offender counterparts. Instead, the focus is on the timing of separation from the firm.

2.3 **Exit from Labor Force**

The third area of study within the academic literature is the labor force attachment of ex-offenders. While some managers may perceive ex-offenders as being less committed to maintaining employment, evidence suggest that incarceration has minimal negative impact on labor force attachment (Bäckman et al., 2017). Moreover, characteristics of the job itself play a pivotal role in attrition (Ramakers et al., 2017). Although these and other related studies help us to understand conditions under which the employee-employer relationship fails, they do little explain what happens between the time ex-offenders are hired and the time they leave the organization. The goal of this study, funded by Allegiance Staffing, the IWLA, and UNITE INDY, is to fill in this gap by examining the relative workplace performance of justice-involved citizens and ex-offenders, as well as identify factors affecting this performance.

3. Methodology

3.1 Sample Description

We examined the employment records of 856 entry-level employees in five central Indiana logistics and manufacturing organizations of varying size. In particular, our sample included one small firm (0-100 employees), three medium firms (101-500 employees), and one large firm (more than 500 employees). Demographic information relating to gender, marital status, age, education and work experience was extracted from employee applications, with all personal information excluded from our data set (see Table 1 for related descriptive statistics). Although these applications also contained self-reported criminal history information, the number, nature, and timing of convictions was cross-checked using third-party criminal background reports included in the employers' HR files and/or public databases.

Table 1: Descriptive Statistics – Demographics, Education, and Work Experience

<i>General Demographics</i>	
% Female	33.4
% Minority	36.0
% Married	40.7
Average age (years)	37.9
<i>Education</i>	
% Employees with high school diploma or equivalent	86.7
<i>Work Experience</i>	
Average number of months at current employer	30.9
Average number of months unemployed between previous and current employer	14.7
Average number of months at previous employers	37.5
Average number of month unemployed between previous employers	12.8

A substantial percentage of entry-level employees in our sample were justice-involved individuals (see Figure 5). Those with a criminal record had, on average, two misdemeanors and two felonies, with the average number of years between the most recent felony or misdemeanor and the time of hire being approximately 5-6 years. In terms of the nature of conviction, alcohol and drug-related convictions were the most prevalent type of conviction (44%), followed by

driving violations (18%). It is interesting to note that the majority of employees in our sample underreported both the nature and number of convictions. Thus, there clearly appears to be a negative stigma associated with having a criminal record, such that potential employees appear to downplay or hide this information when applying for even entry-level jobs. See Figure 6 for a more detailed description of the nature of conviction within our sample.

Figure 5: Criminal Record

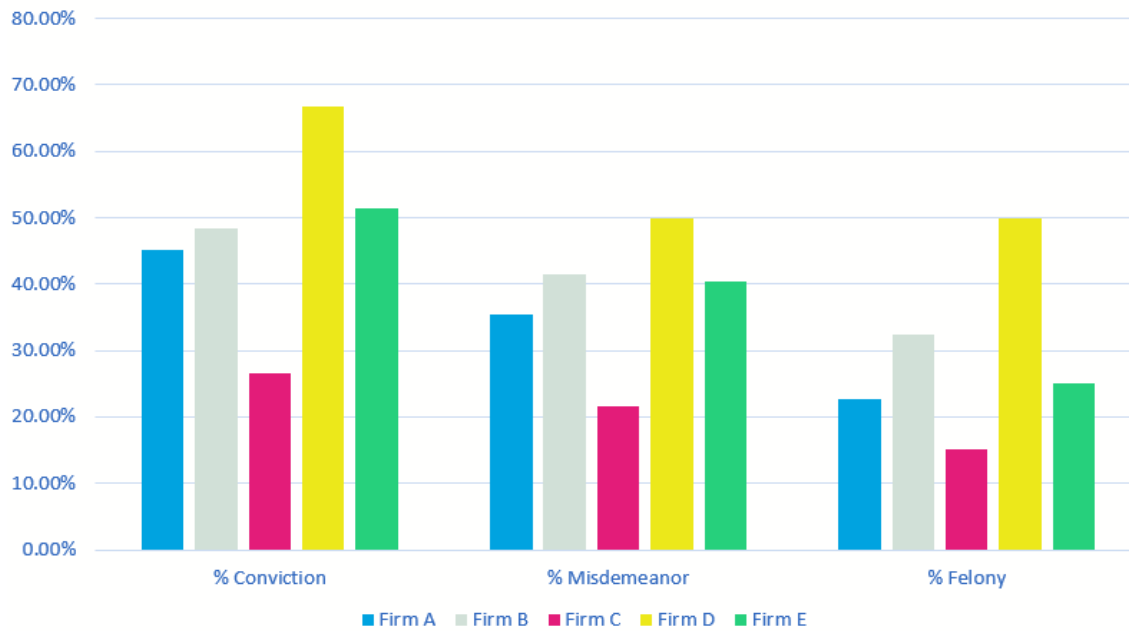
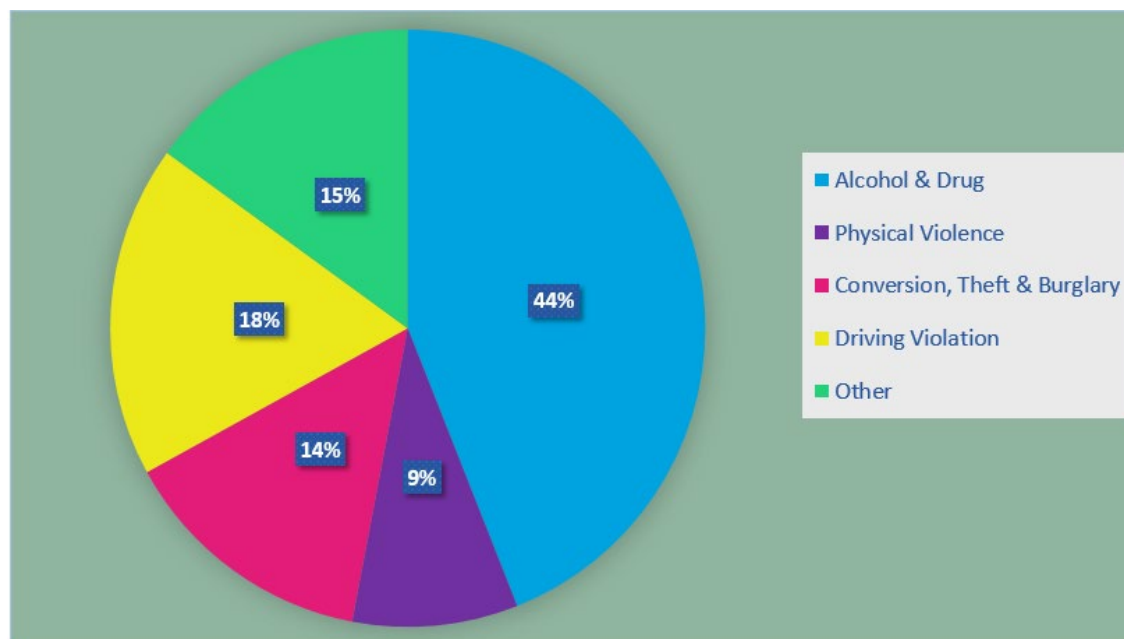


Figure 6: Nature of Conviction

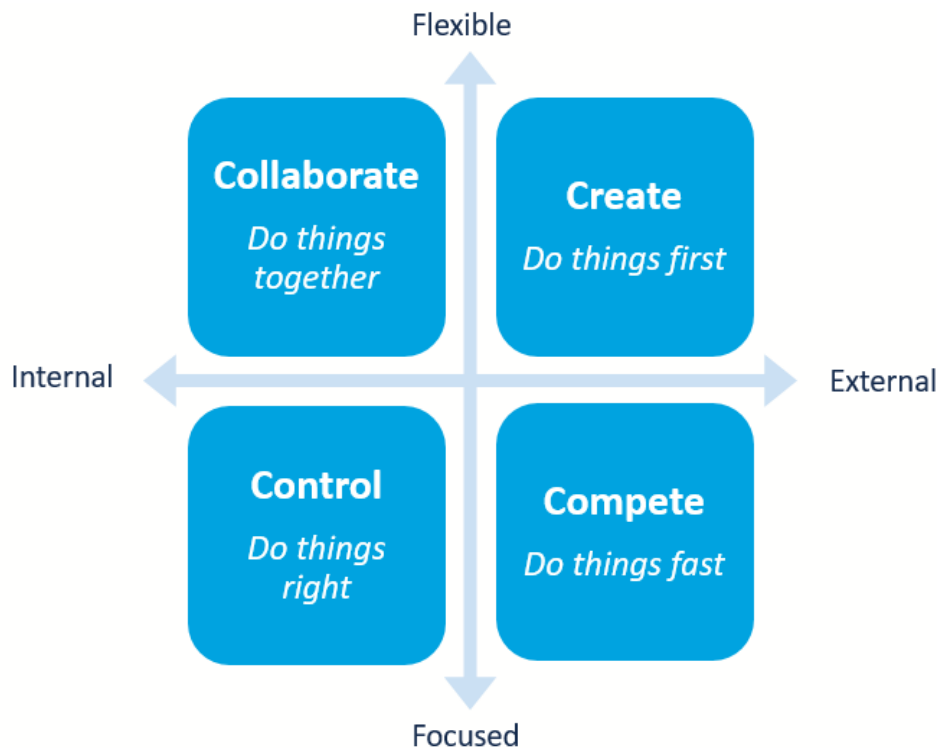


3.2 Competing Values Framework

To control for the organizational environment, employees at each employer completed a culture survey (see Appendix B for a copy of the survey instrument). In particular, a validated survey instrument, known as the Competing Values Framework,² was distributed to a cross-section of employees at each employer. Employees were presented with descriptive statements focused on six aspects of the organization (dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphasis, and criteria of success), with employees rating how closely each description matched their current employer.

The responses were consolidated in order to define organizations in terms of two dimensions: (1) internal versus external; and (2) flexible versus focused (see Figure 7).

Figure 7: Competing Values Framework



Organizations that value flexibility in conjunction with efficient internal processes are characterized as having a Collaborate (clan) culture. In such organizations, doing things together is key, with emphasis on trusting the collective wisdom and building long-lasting relationships. Organizations that value flexibility coupled with competitive external positioning are characterized as having a Create (adhocracy) culture. In such organizations, doing things first is key, with emphasis on creativity, innovation, and freedom of thought and action. Organizations

² This framework is motivated by empirical research on what factors make organizations effective (Quinn and Rohrbaugh, 1983) and is one of the most widely utilized, and thus validated, models in the empirical organizational behavior literature.

that value stability and control in conjunction with efficient internal processes are characterized as having a Control (hierarchy) culture. In such organizations, doing things right is key, with emphasis on efficiency, consistency, and reliability. Finally, organizations that value stability and control coupled with competitive external positioning are characterized as having a Compete (market) culture. For these organizations, doing things fast is key, with emphasis on achieving goals and delivering shareholder value. Based on the employee surveys, we calculated a Collaborate, Create, Control, and Compete score for each employer, as reported in Table 2, and included these scores in our model as moderating variables. Note that the score range for any cell of the table is 0 to 100, with the total score for each organization being 100. An organization with an exclusively collaborative culture, for example, would have a score of 100 for Collaborate and scores of 0 for the remaining types of values. In contrast, an organization with elements of all cultures (i.e. no dominant culture) might have a score of 25 for all four types of culture.

Table 2: Competing Values Framework Employer Scores

	Employer A	Employer B	Employer C	Employer D	Employer E
Collaborate	31	50	25	31	38
Create	28	20	21	27	26
Compete	19	17	28	17	16
Control	22	13	26	25	20
TOTAL	100	100	100	100	100

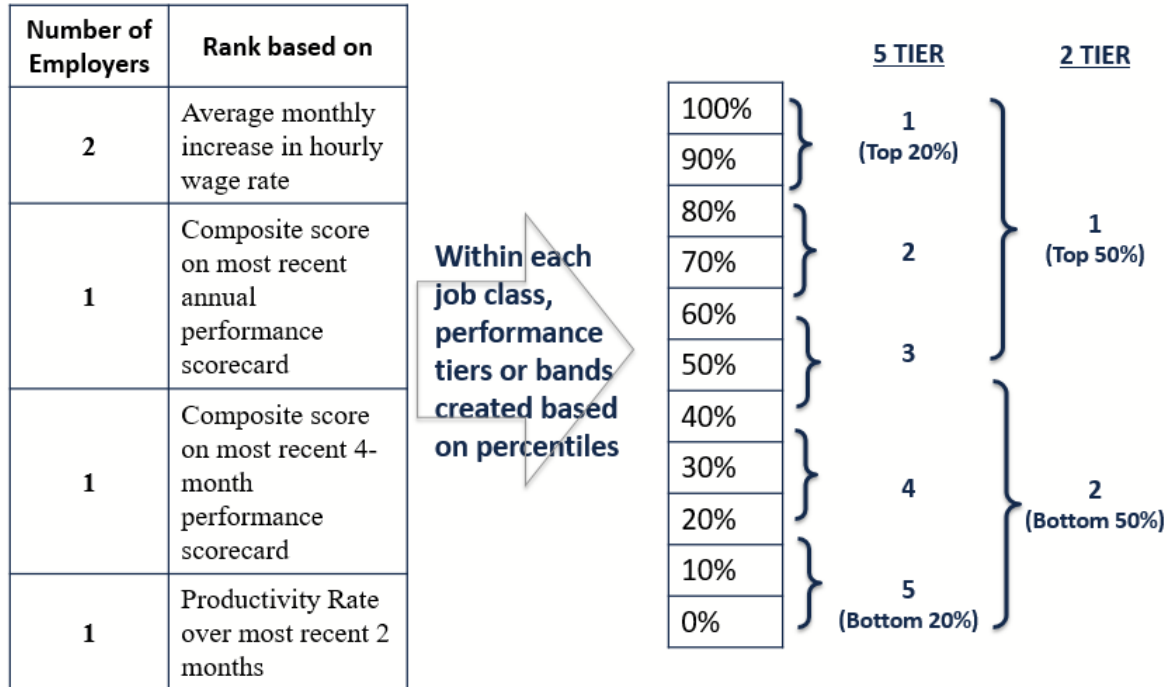
What is striking about the survey results is that each employer appears to be a somewhat balanced mix of the four types of culture. Thus, there does not appear to be a dominant or overriding set of values at most of the employers. One potential reason for this somewhat surprising result stems from the survey distribution method used at each employer. In particular, the survey response rate varied widely across employers, with the majority of surveys completed by employees in entry-level positions. Thus, it is possible that individuals in these positions were less tied to the organization and its values, simply viewing the organization as a paycheck provider. It is also likely that these individuals had a shorter tenure at the organization, given the high turnover rate in these positions, and had had insufficient time to assess the organizational culture. In addition, some employees did not adhere to the specific point system of survey, potentially signaling a lack of understanding of the survey questions or lack of motivation to answer truthfully/accurately. It is interesting to note that Employer B, which utilized focus groups of non-entry-level employees to complete the survey, reported the most clear-cut culture type, namely that of Collaborate.

3.3 Performance Metric

In this study, the key variable of interest was on-the-job performance. Due to the variety of performance evaluation systems utilized by the partner organizations, we divided entry-level employees into two categories (“Above Average” and “Below Average”) based on the system in place at each firm, thus allowing us to aggregate across organizations (see Figure 5). Note that we originally divided employees into five tiers. Given the relatively small sample size, however, we replaced this approach with a two-tier system in our final analysis. Thus, our dependent variable was whether an employee was an above-average or below-average performer relative to

others in the same entry-level position, as defined by the performance evaluation system in place at the respective employer.

Figure 5: Relative Rank Methodology



3.4 Model Specification

We examined the relative workplace performance of ex-offenders and non-offenders in two distinctly different ways. As a first step, we divided our sample into two groups, employees with a conviction and employees without a conviction, and used a simple test of means to determine statistically significant differences between these two groups in terms of demographics, work experience, and performance.

Second, in order to more clearly illuminate the relationship between criminal history and on-the-job performance, we estimated a series of regression models in which multiple predictors were controlled for simultaneously (e.g. gender, age, work experience, criminal record). Given our adoption of two-tier performance rating, we utilized a regression model for dichotomous data known as logistic regression. This model is appropriate when the dependent variables takes one of only two possible values. In our model, the dependent variable was equal to 1 if the employee was above average in terms of on-the-job performance and 0 if the employee was below average in terms of on-the-job performance. A logistic model assigns probabilities that values of the dependent variable will fall below a certain threshold, typically reported in terms of an odds ratio, which is the multiplicative change in the odds for a one-unit change in the predictor variable.

In our model, the probability of being above average depended on the following predictor variables, included both individually and collectively.

- CONVICTION: Dummy variable with value of 1 if employee had at least one misdemeanor or felony and value of 0 otherwise.
- MISDEMEANOR: Dummy variable with value of 1 if employee had at least one misdemeanor conviction and value of 0 otherwise.
- CONVICTION: Dummy variable with value of 1 if employee had at least one felony conviction and value of 0 otherwise.
- TENURE CURRENT EMPLOYER: Number of months employed at current employer
- MOST RECENT UNEMPLOYMENT PERIOD: Number of months unemployed between current and previous employer.
- TENURE PREVIOUS EMPLOYER: Average number of months employed at four most recent previous employers.
- PREVIOUS UNEMPLOYMENT PERIODS: Average number of months unemployed between four most recent previous employers.
- GENDER: Dummy variable with value of 1 if employee self-reports as female and value of 0 otherwise.
- MINORITY: Dummy variable with value of 1 if employee self-reports as minority and value of 0 otherwise.
- AGE: Age of employee in years

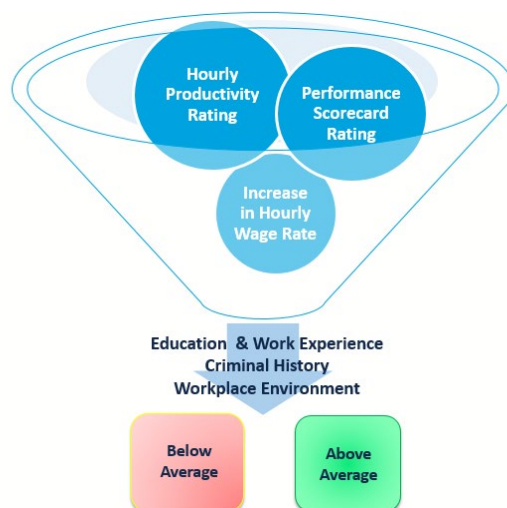
In addition, to explore the interaction between criminal record and organizational culture, we also estimated model specifications that included the following terms, both individually and collectively.

- CONVICTION*COOPERATE: Term which captures potential interaction between misdemeanor or felony conviction and cooperative nature of employer's culture.
- CONVICTION*CREATE: Term which captures potential interaction between misdemeanor or felony conviction and creative nature of employer's culture.
- CONVICTION*CONTROL: Term which captures potential interaction between misdemeanor or felony conviction and controlling nature of employer's culture.
- CONVICTION*COMPETE: Term which captures potential interaction between misdemeanor or felony conviction and competitive nature of employer's culture.

- MISDEMEANOR*COOPERATE: Term which captures potential interaction between misdemeanor conviction and cooperative nature of employer's culture.
- MISDEMEANOR*CREATE: Term which captures potential interaction between misdemeanor conviction and creative nature of employer's culture.
- MISDEMEANOR*CONTROL: Term which captures potential interaction between misdemeanor conviction and controlling nature of employer's culture.
- MISDEMEANOR*COMPETE: Term which captures potential interaction between misdemeanor conviction and competitive nature of employer's culture.
- FELONY*COOPERATE: Term which captures potential interaction between felony conviction and cooperative nature of employer's culture.
- FELONY*CREATE: Term which captures potential interaction between felony conviction and creative nature of employer's culture.
- FELONY*CONTROL: Term which captures potential interaction between felony conviction and controlling nature of employer's culture.
- FELONY*COMPETE: Term which captures potential interaction between felony conviction and competitive nature of employer's culture.

Conceptually, our logistical regression model can be thought of in the following terms. Based on employers' specific performance evaluation systems in place, we estimated the degree to which education and work experience, criminal history, and workplace environment impacted the probability of an employee being assessed as an above-average performer. See Figure 6 for a visual depiction of this logistical regression design.




Figure 6: Logistical Regression Design



4. Results

4.1 Test of Means

Table 3 reports the mean value of our demographic, education, work experience, and performance variables for those with and without a conviction in order to identify differences between those with a criminal record and those without such a record. Consider, for example, the first row of the table. In our sample, 38.8% of those without a misdemeanor or felony conviction are female, but this percentage decreases to 22.7% for those with a misdemeanor or felony conviction. The difference between these two percentages is 16%, and this difference is statistically significant at the 1% level. In other words, those with a misdemeanor or felony are more likely to be male. This result holds if we control for the type of offense (i.e. misdemeanor or felony), as reported in the remaining cells in this row. To assist in interpreting Table 3, note that the statistically significant differences between those with a conviction and those without a conviction are color-coded based on the following scheme:

-  Those with conviction (statistically) “outperform” those without a conviction in terms of dimension/variable.
-  Those with conviction (statistically) “underperform” those without a conviction in terms of dimension/variable.
-  Those with conviction (statistically) differ from those without a conviction in terms of dimension/variable but this difference is merely descriptive and does not have a performance-related connotation.

Thus, the statistically-significant difference in gender between those with a conviction and those without a conviction is color-coded orange.

Comparing ex-offenders to those without a conviction on a single dimension/variable, we found that those with a conviction were:

- More likely to be male compared to those without conviction.
- Less likely to be married compared to those without a conviction
- Employed for 8-9 fewer months at both current and previous employers compared to those without a conviction (i.e. less “attached” to employer),
- Experienced a 6-7 month shorter period of unemployment between current and previous job compared to those without a conviction (i.e. more “attached” to employment in general)

More importantly, those with a conviction were less likely to fall in the above-average performance category compared to those without a conviction (44.3% versus 56.7%,

respectively), but *this result disappeared when we controlled for the nature of conviction and employer size*. In particular, of those with a misdemeanor, only 43.1% were in the above-average category compared to 55.9% of those with no misdemeanor conviction. In contrast, we did not find a statistically significant difference in performance between those with a felony and those with no felony conviction. Moreover, when we focused our analysis at the individual employer level, at the small- and medium-sized employers, we found no statistically significant difference in performance between those with a conviction and those without a conviction. In contrast, at the large employer those with a misdemeanor conviction performed worse than those without such a conviction.

Table 3: Test of Means

	Conviction			Misdemeanor			Felony		
	No	Yes	Diff.	No	Yes	Diff	No	Yes	Diff
General Demographics									
% Female	0.388	0.227	0.160***	0.383	0.205	0.177***	0.354	0.255	0.099**
% Minority	0.375	0.327	0.048	0.364	0.347	0.017	0.379	0.276	0.104**
% Married	0.461	0.306	0.155***	0.445	0.307	0.139**	0.441	0.286	0.156**
Age	39.190	39.200	-0.010	38.895	39.995	-1.099	39.246	38.986	0.260
Education									
% HS Diploma +	0.859	0.883	-0.024	0.861	0.882	-0.021	0.858	0.901	-0.044
Work Experience									
Average number months at current employer	34.661	26.459	8.203***	33.495	27.642	5.853*	34.854	20.811	14.043***
Average number of months unemployed between previous and current employer	17.204	10.731	6.473*	15.909	11.954	3.956	16.420	9.181	7.240*
Average number of months at previous employers	40.858	31.849	9.009*	39.433	33.044	6.389	40.491	27.719	12.772**
Average number of months unemployed between previous employers	14.202	10.422	3.780	13.453	11.210	2.243	13.415	10.649	2.766
Performance									
% Above-average Performance	0.567	0.443	0.125**	0.559	0.431	0.128**	0.538	0.482	0.055

*p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01



4.2 Logistical Regression

4.2.1 Direct Effects

Table 4 reports the odds ratios for our logistical regression models in which we focus on the direct effects of the predictor variables. To interpret the odds ratio, note that if the odds ratio is greater than one, a one-unit increase in predictor variable *increases* the odds of being an above-average performer. In contrast, if the odds ratio is less than one, a one-unit increase in the predictor variable *decreases* the odds of being an above-average performer. Consider, for example, column 1 of Table 4. In this model specification, the probability of being an above-average performer was hypothesized to be solely a function of whether or not the employee had a

misdemeanor or felony conviction. The reported odds ratio is 0.606, which is less than one, signifying that having a misdemeanor of conviction reduces the odds of being a top performer by 39.4% $(= (1-0.606)*100)$. Moreover, this odds ratio was statistically significant at the 5% level. According to column 2 of Table 4, this same result holds when we focus our attention on those with a misdemeanor, such that those with a misdemeanor are 40.3% less likely to be an above-average performer compared to those without a misdemeanor. What is interesting to note is that felony convictions do not have a statistically significant effect on the likelihood of being an above-average performer, as reported in column 3 of Table 4.

To assist in interpreting Table 4, note that the statistically significant odds are color-coded based on the following scheme:

-  An increase in the predictor variable (statistically) increases the odds of being an above-average performer.
-  An increase in the predictor variable (statistically) decreases the odds of being an above-average performer.

Thus, the statistically significant odds ratio for those with a conviction is color-coded red.

Table 4: Odds Ratio for Direct Effects

		(1)	(2)	(3)	(4)	(5)	(6)
		Odds Ratio (n=429)	Odds Ratio (n=429)	Odds Ratio (n=429)	Odds Ratio (n=220)	Odds Ratio (n=220)	Odds Ratio (n=404)
Criminal History	<i>Conviction (Yes = 1; No = 0)</i>	0.606**			0.702		
	<i>Misdemeanor (Yes = 1; No = 0)</i>		0.597**			0.510*	0.564**
	<i>Felony (Yes = 1; No = 0)</i>			0.801		1.318	1.060
Work Experience	<i>Tenure Current Employer (months)</i>				1.003	1.004	0.998
	<i>Most Recent Unemployment Period (months)</i>				1.013*	1.013*	
	<i>Tenure Previous Employers (months)</i>				1.004	1.004	
	<i>Previous Unemployment Periods (months)</i>				1.002	1.003	
Demographics	<i>Gender (Female = 1; Male = 0)</i>				0.823	0.805	0.943
	<i>Minority (Yes = 1; No = 0)</i>				0.870	0.927	0.813
	<i>Age</i>				0.975*	0.976*	1.002

*p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01



In columns (4), (5), and (6), we estimated a more complex model of performance in which multiple predictors were controlled for simultaneously (e.g. gender, age, work experience,

criminal record). Similar to our univariate results, we found that those with a conviction had the same odds of falling in the below-average performance category as those with no conviction, but *this result was linked to the nature of the conviction*. In particular, those with a misdemeanor were 49% less likely to be rated as an above-average performer than those without a misdemeanor conviction, as reported in column 5 of Table 4. In contrast, there was no statistically significant difference in performance-related odds between those with a felony and those without a felony conviction. Note as well that in our more complex model, other factors linked to the likelihood of being an above-average performer are the employee's most recent period of unemployment and the employee's age. In particular, a one-month increase in the length of the most recent unemployment period increases the odds of being an above-average performer by 1.3%. In contrast, a one-year increase in the age of the employee decreases the odds of being an above-average performer by 2.4%.

4.2.2 Interaction Effects

We also examined model specifications that included interaction terms between an organization's culture scores and employees' criminal record. The inclusion of these terms allowed us to determine if the performance of ex-offenders was affected by the underlying values or culture of their employer. For brevity, only the odds ratios of the relevant interaction terms are reported in Table 5. To interpret the odds ratio, note that if the odds ratio is greater than one, a one-unit increase in predictor variable *increases* the odds of being an above-average performer. In contrast, if the odds ratio is less than one, a one-unit increase in the predictor variable *decreases* the odds of being an above-average performer. When the predictor variable is an interaction term, the interpretation is slightly different than in the case of direct effects. Consider, for example, the odds ratio of 1.001 reported in column 1 of Table 5 for the Conviction*Cooperate interaction term. Since this odds ratio is greater than one, it signifies that a one-unit increase in an organization's Cooperate score increases the odds of an ex-offender being an above-average performer by 0.1%. In other words, those with a conviction perform better in organizations that value cooperation.

To assist in interpreting Table 5, note that the statistically significant odds are color-coded based on the following scheme:

-  An increase in the predictor variable (statistically) increases the odds of being an above-average performer.
-  An increase in the predictor variable (statistically) decreases the odds of being an above-average performer.

What is critical to note, however, is that we found no statistically significant evidence that the performance of ex-offenders is correlated with an organization's Cooperate, Create, Control, or Compete scores in the Competing Values Framework. We note, however, that this result was likely due to the relatively small variation in scores across the employers in this sample.

Table 5: Odds Ratio for Organizational Culture and Criminal Record Interaction Effects

		(1)	(2)	(3)
		Odds Ratio (n=429)	Odds Ratio (n=429)	Odds Ratio (n=429)
Culture & Conviction	<i>Conviction*Cooperate</i>	1.001		
	<i>Conviction*Create</i>	0.977		
	<i>Conviction*Control</i>	1.011		
	<i>Conviction*Compete</i>	0.989		
Culture & Misdemeanor	<i>Misdemeanor*Cooperate</i>		1.032	
	<i>Misdemeanor*Create</i>		0.953	
	<i>Misdemeanor*Control</i>		1.093	
	<i>Misdemeanor*Compete</i>		0.876	
Culture & Felony	<i>Felony*Cooperate</i>			1.023
	<i>Felony*Create</i>			0.842
	<i>Felony*Control</i>			1.126
	<i>Felony*Compete</i>			1.028

*p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01

As an alternative approach, we simply controlled for each employer in our sample by incorporating employer-related interaction terms. Using this model specification, we observed differences in the performance of ex-offenders across employers, suggesting that some aspect of workplace environment does matter. In particular, at small- and medium-sized partner organizations, no statistically significant difference in performance-related odds was observed between those with a conviction and those without a conviction, regardless of the severity of the conviction. At the large employer, however, those with a misdemeanor were 45% less likely to be rated an above-average performer than those without a misdemeanor conviction.

5. Conclusions & Next Steps

The goal of study was to examine the relative workplace performance of justice-involved citizens and ex-offenders, as well as identify factors affecting this performance. Our initial analysis suggests the following key takeaways:

- Those with a conviction appear to be more attached to the labor force but less attached to their current employer than their peers. In other words, these individuals exhibit behavior consistent with a strong motivation or need to work but face unique obstacles that may make it relatively more difficult to remain employed.

- Helping those with a conviction overcome these obstacles may be particularly difficult, since ex-offenders tend to underreport both the number and nature of their offenses. Coupled with incomplete employment and performance-related records, it is likely that many ex-offenders will not be identified as such and, thus, slip through the cracks.
- The severity of the conviction is positively correlated with on-the-job performance. Thus, those who struggle most in the workplace are those with misdemeanors, not those with felonies.
- This negative relationship between misdemeanor convictions and workplace performance is mitigated in smaller firms. Thus, there is something about the workplace environment of small firms that allows even those with misdemeanors to succeed.

This study, given its pilot nature, represents only the first step in understanding the complex relationship between on-the-job performance and the criminal history of employees. Are ex-offenders as productive as non-offenders? The evidence is mixed, suggesting that both the nature of the offense and the workplace environment play a pivotal role in shaping this relationship. Additional work is needed to clarify the interrelated nature of performance, criminal record, and organizational environment.

One deficiency of the current study is the relatively small sample size. Although there were 856 employees in our sample, as a result of missing or incomplete records our sample size decreased by approximately 40% between the univariate and multivariate model specifications. The issue of missing data is perhaps partially the result of the high turnover rate plaguing employers in our sample. Although the pandemic contributed to this issue, even in a healthier economic environment, tight labor markets and the physically demanding nature of the positions resulted in the perpetual need to fill vacated entry-level positions. Thus, performance reviews and other related activities took a back seat to hiring and training efforts. In order to compensate for the missing data, it would be helpful to increase the number of partner organizations in our sample or increase the number of employees included from each of our original partner organizations.

Second, although we found no statistically significant evidence that the performance of ex-offenders is correlated with an organization's Cooperate, Create, Control, or Compete scores in the Competing Values Framework, this does not mean, that the nature of the organization is irrelevant. In fact, we did observe differences across organizations based on firm size. But what is it about small- or medium-sized organizations that makes them more productive environments for ex-offenders? Can these conditions be replicated in larger organizations in some way? A more detailed examination of these questions is needed to fully understand the relationship between on-the-job performance and the criminal history of employees.

References

- Albright, S., & Denq, F. (1996). Employer attitudes toward hiring ex-offenders. *The Prison Journal*, 76(2), 118-137.
- Alper, M., Durose, M. R., & Markman, J. (2018). *2018 update on prisoner recidivism: a 9-year follow-up period (2005-2014)*. Washington, DC: US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.
- Atkin, C. A., & Armstrong, G. S. (2013). Does the concentration of parolees in a community impact employer attitudes toward the hiring of ex-offenders?. *Criminal Justice Policy Review*, 24(1), 71-93.
- Bäckman, O., Estrada, F., & Nilsson, A. (2017). Locked Up and Locked Out? The Impact of Imprisonment on Labour Market Attachment. *The British Journal of Criminology*, 58(5), 1044-1065.
- Bumiller, K. (2015). Bad jobs and good workers: The hiring of ex-prisoners in a segmented economy. *Theoretical Criminology*, 19(3), 336-354.
- Cameron, K. S., & Quinn, R. E. (2011). *Diagnosing and changing organizational culture: Based on the competing values framework*. John Wiley & Sons.
- Durnescu, I. (2019). Pains of Reentry Revisited. *International journal of offender therapy and comparative criminology*, 63(8), 1482-1498.
- Giguere, R., & Dundes, L. (2002). Help wanted: A survey of employer concerns about hiring ex-convicts. *Criminal justice policy review*, 13(4), 396-408.
- Griffith, J. N., Rade, C. B., & Anazodo, K. S. (2019). Criminal history and employment: an interdisciplinary literature synthesis. *Equality, Diversity and Inclusion: An International Journal*.
- Harrod, C. (2019). The peer mentor model at RecycleForce: An enhancement to transitional jobs programs. *Journal of Offender Rehabilitation*, 58(4), 327-351.
- Helfgott, J. (1997). Ex-offender needs versus community opportunity in Seattle, Washington. *Fed. Probation*, 61, 12.
- IDOC (2021). *Recidivism reports*. IDOC. <https://www.in.gov/idoc/data-and-statistics/statistical-data/recidivism-reports/>.
- Jarjoura, G. R., & Haight, K. A. (2011). Estimating the cost savings associated with a 1% reduction in recidivism for Marion County, Indiana. *Indianapolis, IN: Center for Criminal Justice Research*.

- Johnson, K. F. (2013). Preparing ex-offenders for work: applying the self-determination theory to social cognitive career counseling. *Journal of Employment Counseling*, 50(2), 83-93.
- Jolson, M. A. (1975). Are ex-offenders successful employees?. *California Management Review*, 17(3), 65-73.
- Lundquist, J. H., Pager, D., & Strader, E. (2018). Does a criminal past predict worker performance? Evidence from one of America's largest employers. *Social Forces*, 96(3), 1039-1068.
- Miller, D. (2019). Employer reservation and ex-offender employment opportunities. *Journal of Research & Practice for Adult Literacy, Secondary & Basic Education*, Special Issue, 29-46.
- Minor, D., Persico, N., & Weiss, D. M. (2018). Criminal background and job performance. *IZA Journal of Labor Policy*, 7(1), 8.
- Nally, J. M., Lockwood, S., Ho, T., & Knutson, K. (2014). Indiana industry sectors that hire ex-offenders: Implications to correctional education programs. *Journal of Correctional Education* (1974-), 65(3), 43-65.
- Ojha, M. U., Pape, C. M., & Burek, M. W. (2018). Reentry in a comparative context: Exploring past, present, and future participation in services between nonurban and urban inmates. *The Prison Journal*, 98(2), 163-187.
- Pager, D., & Quillian, L. (2005). Walking the talk? What employers say versus what they do. *American Sociological Review*, 70(3), 355-380.
- Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management science*, 29(3), 363-377.
- Ramakers, A., Nieuwebeerta, P., Van Wilsem, J., & Dirkzwager, A. (2017). Not just any job will do: A study on employment characteristics and recidivism risks after release. *International Journal of Offender Therapy and Comparative Criminology*, 61(16), 1795-1818.
- Shippen, M. E., Meyer, J. M., Derzis, N. C., & Gage, C. (2017). Career thoughts of male offenders re-entering society using Cognitive theory assessment. *Journal of Correctional Education* (1974-), 68(2), 3-16.
- SHRM, SHRM Foundation, & Charles Koch Institute. (2021, May 13). *Getting talent back to work - 2021 report*. SHRM. <https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/pages/getting-talent-back-to-work-ii.aspx>.
- Sugie, N. F. (2018). Work as foraging: a smartphone study of job search and employment after prison. *American Journal of Sociology*, 123(5), 1453-1491.

Visher, C. A., Debus-Sherrill, S. A., & Yahner, J. (2011). Employment after prison: A longitudinal study of former prisoners. *Justice Quarterly*, 28(5), 698-718.

Western, B., & Sirois, C. (2018). Racialized Re-entry: Labor Market Inequality After Incarceration. *Social Forces*, 97(4), 1517-1542.

Appendix A

Visioning Session Results

The employment of justice-involved individuals involves three distinctly different but related areas of interest: (1) reentry into the labor force; (2) experience while in the labor force; and (3) exit out of the labor force. Insights from a variety of stakeholders yielded the following key observations or themes.

Re-entry into Labor Force:

When asked to describe their perceptions of justice-involved individuals, two competing themes emerged. Although many characterized these individuals as hardworking and motivated, particularly those who had employed a significant number of these individuals, they also acknowledged the negative stigma associated with justice-involved individuals. This stigma varies by employer size, industry, and the nature of the offense, but employers are often reluctant to identify as a “justice-involved-friendly” firm. This is particularly true during times of high unemployment, when employers are able to adopt stringent hiring criteria. In periods of low unemployment, in contrast, firms’ pressing labor needs overshadow this stigma. A lack of clarity regarding specific justice-involved-individual hiring policies also contributes to the lack of employment opportunities for these individuals. Often there is no policy, and, even if a policy exists, many managers and HR professionals do not understand it. Thus, hiring defaults to a “case-by-case” basis, with decisions not taking into account company policies or relevant laws and regulations.

Experience while in Labor Force:

Once justice-involved individuals are hired, employers likely will need to invest in in-house training in both job-related and other more general soft skills. Although KPIs are often industry-specific, employee-performance metrics generally fall into three specific categories. First, a top performer must show up and be dependable, as measured by attendance, absenteeism, etc. Second, top performers must demonstrate an aptitude for the job. This aptitude may take the form of high output (e.g. number of cases loaded per hour), high quality (e.g. low error rate), or ability to follow directions (e.g., minimal number of incidents that need corrective action). Third, top performers must possess a positive attitude. This translates into strong teamwork skills and respect for others, in addition to skills which impact long-term growth and development, such as desire to learn and willingness to take initiative. It is important to note that other factors often affect on-the-job performance as well. For example, there appears to be a correlation between age and performance, such that older employees are more coachable than younger employees are. Company culture also plays a key role in determining workplace performance.

Exit out of Labor Force:

Even if an employer hires justice-involved individuals and matches them with the appropriate job, recidivism is likely. The primary risk factors relate to housing, employment, and lifestyle issues. Focusing on risk factors in the workplace, the most obvious obstacles to stable employment are lack of transportation, difficulties adhering to probation/parole restrictions (e.g. electronic monitoring, technical rule violations, time needed for court and probation officer meetings), and childcare/child support-related challenges. Lack of life (soft) skills and support,

however, also contribute to recidivism. Justice-involved individuals, particularly those who have spent a significant portion of their lives in an institutional setting, simply do not have the coping skills to handle the responsibility and stress associated with a workplace environment. The trauma associated with incarceration must be explicitly recognized and addressed in order to reduce the risk of recidivism. Failing to do so results in justice-involved individuals being vulnerable to “triggers” (e.g. loud noises, co-worker taking personal item).

How can employers mitigate these risk factors? Best practices at the hiring state include the use of behavioral evaluations or personality inventories to determine if the individual is a good fit for the job, as well as the use of interview questions that build trust or relational capital with the justice-involved individual. Second, employers should be cognizant that justice-involved individuals go through a lengthy adjustment or transitioning process during which they need flexibility, training, and coaching. It is critical that employers develop relationships with community-based organizations in order to identify and/or provide the necessary wrap-around services during this lengthy transition process. Internally, it is also important to have a mentor or champion for justice-involved individuals, someone who can listen to their fears and concerns and offer guidance and support. Third, training and coaching for staff is also required to help them to understand the issues facing justice-involved individuals and develop appropriate action plans (e.g. transportation assistance). Finally, it is important for employers to provide positive reinforcement to these individuals by recognizing and rewards their successes (e.g. financial award for perfect attendance, tuition reimbursement, training opportunities).

Appendix B

The Competing Values Culture Assessment³

These six questions ask you to identify the way you experience your organization right now.

Please rate each of the statements by dividing 100 points between the alternatives A, B, C, and D depending on how similar the description is to your firm. The more similar the statement is to your firm, the greater the number of points you should assign to it (i.e. 100 would indicate very similar and 0 would indicate not similar at all). There are no “right” or “wrong” answers.

You may divide the 100 points in any way among the four alternatives in each question. Some alternatives may get 0 points, for example. Remember, however, that **the total points distributed across the A, B, C, and D for each question must equal 100.**

1.	Dominant Characteristics	Points
A.	The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.	_____
B.	The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.	_____
C.	The organization is very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.	_____
D.	The organization is a very controlled and structured place. Formal procedures generally govern what people do.	_____
Total Points		100
2.	Organizational Leadership	
A.	The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing.	_____
B.	The leadership in the organization is generally considered to exemplify entrepreneurship, innovating, or risk taking.	_____
C.	The leadership in the organization is generally considered to exemplify an aggressive, results-oriented, no-nonsense focus.	_____

³ Cameron & Quinn (2011).

- D. The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency. _____

Total Points

**100
Points**

3. Management of Employees

- A. The management style in the organization is characterized by teamwork, consensus, and participation. _____
- B. The management style in the organization is characterized by individual risk-taking, innovation, freedom, and uniqueness. _____
- C. The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement. _____
- D. The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships. _____

Total Points

100

4. Organizational Glue

- A. The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high. _____
- B. The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge. _____
- C. The glue that holds the organization together is the emphasis on achievement and goal accomplishment. Aggressiveness and winning are common themes. _____
- D. The glue that holds the organization together is formal rules and policies. Maintaining a smooth-running organization is important. _____

Total Points

100

5. Strategic Emphases	Points
A. The organization emphasizes human development. High trust, openness, and participation persists.	_____
B. The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.	_____
C. The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.	_____
D. The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.	_____

Total Points 100

6. Criteria of Success	
A. The organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.	_____
B. The organization defines success on the basis of having the most unique or the newest products. It is a product leader or innovator.	_____
C. The organization defines success on the basis of winning in the marketplace and outpacing competition. Competitive market leadership is key.	_____
D. The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low cost production are critical.	_____

Total Points 100