

Abstract

Oregonians sentenced for felony convictions and released from jail or prison in 2005 and 2006 were evaluated for revocation risk. Those released from jail, from prison, and those served through interstate compact were considered in the analysis. The revocation rate is lowest for the interstate compact population and highest for the jail population; overall, 24% were revoked in the two years after release.

Revocation risk is influenced by numerous static and demographic variables. Independent variables common with the three populations include recidivism risk, number of arrests while on parole or post-prison supervision (PPS), number of prior felony convictions, age, and being a veteran. Comparing the jail and prison populations, both age and number of prior felony convictions have similar effects for both populations. The number of arrests while on parole/PPS has more of an effect with the jail population than those released from prison. The factors that are important for the prison population yet are not important risk factors for the jail population include being male, being African American, incarcerated for a violent offense, incarcerated for a public order offense, and considered high risk at release; all of these factors increase risk for the prison population yet are not important risk considerations for those released from jail. The factors that have different effects in each population (i.e. associated with increased risk in one population and decreased risk in the second population) include veteran status, prior imprisonment, and incarceration for a property crime.

There are some demographic and static factors that influence revocation risk among the three populations. Despite numerous similarities, differences do exist. The predictive accuracy of the models suggests that individuals prone to revocations can be identified with some accuracy.

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Justice Research and Statistics Parole/Post-Prison Revocation Study

Introduction

The incarcerated population has increased in the United States in the last decade. Some of this increase is attributable to sentencing legislation, population growth, adequate funding of law enforcement and prosecution, and an increasing number of individuals revoked to jail or prison. Each state's incarcerated population contains individuals who have been revoked from probation or post-prison supervision. The number incarcerated for parole or probation violations varies dramatically among states. Oregon has a relatively small number of individuals currently imprisoned due to a revocation. This paper identifies the factors associated with increased risk of being revoked in Oregon. The analyses consider revocations attributable to both new arrests and technical violations in the two years post-release from jail or prison.

The Oregon System

The Oregon community corrections system is a partnership between the state and the counties. The design of the community corrections system reflects 1977 legislation known as the Community Corrections Act. The act funded programs and gave counties the option of managing/supervising some or all offenders. Subsequent legislation in 1995 mandated counties to supervise all felons on probation or parole/post-prison supervision. The 1995 legislation also mandated offender sentenced to one year or less to serve their sentences in local jails; those sentenced to more than one year served their sentences in state prisons. Prior to the 1995 legislation, many offenders serving short prison sentences had been revoked during supervision. The legislation provided funds to modernize existing jails and build 1600 new jail beds. The legislation also allowed counties to sanction offenders to a continuum of sanctions including work centers, electronic monitoring, home arrest, day reporting, intense supervision, community service, community work crew, and jail.

There are 30,000 to 35,000 offenders supervised by community corrections throughout Oregon. About 55-60% of these offenders are on parole/post-prison supervision and about 40% are on probation; less than 5% are incarcerated in a local jail. The Oregon community corrections system relies on evidence based practices and principles of risk, need, and responsivity. The programs are intended to encourage cognitive and behavioral changes; these programs are balanced with the Structured Sanctions system which holds offenders accountable for their behavior or poor decisions. Offenders failing to attend treatment, absconding from supervision, involved with drug use, or failing to complete conditions of supervision can be sanctioned by a parole/probation officer. These “swift and sure” sanctions consider severity of the violation, severity of the sentencing crime, and risk of the offender. The “sanctioning grid” is used to determine the duration of the sanction. The grid instills some consistency among parole/probation officers while balancing with seriousness of the violation. These sanctions are imposed by the parole/probation officer and intended to make supervision more effective, reduce crime, minimize cost, minimize victimization, and reduce the number who are revoked to prison or jail.

A parole officer can impose between 0-30 sanctioning units, an agency hearings officer can impose between 31-60 units, and a court or parole board can impose between 61-90 units. A unit is considered one night in jail, one night of house arrest, one day of residential treatment, or 16 hours of community service/work-crew. The intent is to judiciously use sanctioning to encourage change while being progressive and fair.

According to Oregon Sentencing Guidelines, offenders with presumptive probation sentences can be revoked for a maximum term of six months. Additionally, recent law changes limit a probation revocation sentence to 60-days if the violation behavior did not include a new crime. For an offender whose probationary sentence was either a departure from a presumptive prison sentence or an optional probation sentence, the revocation sentence is a prison term up to the maximum presumptive prison term which could have been imposed initially. Chart 1 diagrams the possible movement of offenders through the correctional system.

For offenders who are released from prison on post-prison supervision, the maximum revocation sentence is 90-days for a technical violation and 180-days for conduct constituting a crime. Offenders whose crime was committed prior to November 1, 1989 and released on parole may be returned to prison to serve a revocation sentence as determined by the Oregon Board of Parole and Post-Prison Supervision.

In Oregon, any type of revocation sentence of 12-months or less is served in local custody. Therefore with few exceptions, post-prison supervision revocation sentences are served in local custody and not in a state correctional facility.

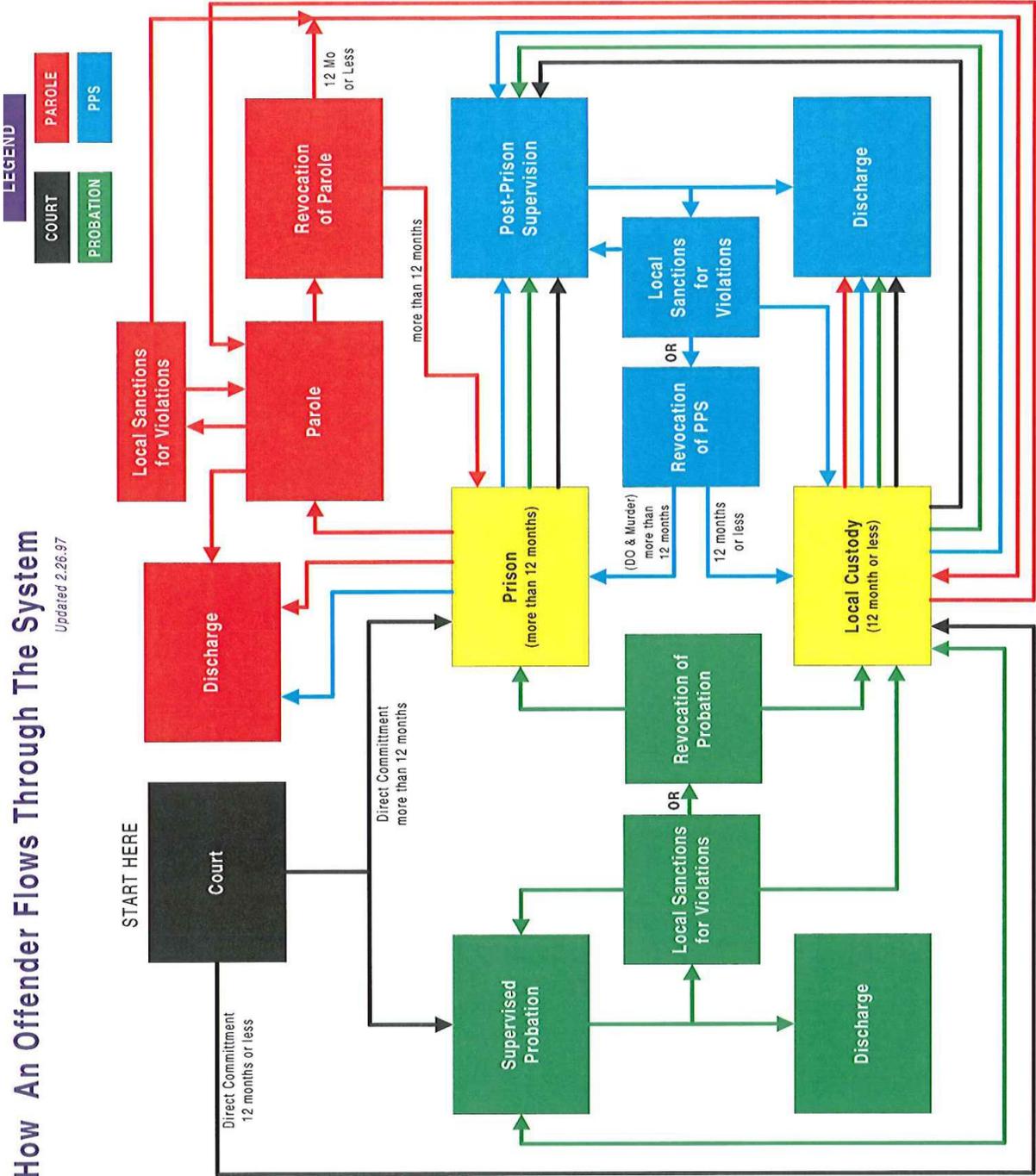
Despite providing an array of evidence-based programming, and despite efforts to use the sanctioning process to encourage change, some offenders are revoked to jail or prison. Some offenders are revoked while on parole, some while on post-prison supervision, and some while on probation. Table 1 identifies the number of prison and jail beds devoted to offenders revoked to jail or prison while on parole or PPS.

Table 1. Number of Parole/Post-Prison Offenders Revoked to Jail or Prison

Prior supervision	Revoked to	Number of beds
Parole	Jail	2
Parole	Prison	285
	Total	287
Post-Prison	Jail	302
Post-Prison	Prison	2316
	Total	2618

How An Offender Flows Through The System

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Table 1 identifies those incarcerated after being revoked. The 287 individuals revoked from parole to prison/jail committed their crimes before November 1989 and are supervised by Oregon's Board of Parole and Post-Prison Supervision. The remaining 2618 revoked offenders occupying jail/prison beds have committed new crimes and are in prison as a result of a new sentence on those crimes; a small number are considered dangerous offenders and are supervised by Oregon's Board of Parole and Post-Prison Supervision. Thus, most Oregon revocations from parole/post-prison supervision to jail/prison are for new crimes and very few are for technical violations. Only about 2% of the prison beds in Oregon are occupied by individuals revoked from parole/post-prison supervision to prison. Conversely, about 19% of prison beds are occupied by offenders revoked from probation to prison. A companion paper will identify the factors that increase risk of revocation for offenders on probation.

Data and variables

The dataset includes all individuals sentenced for a felony conviction and released from prison or jail (i.e. local control) in 2005 or 2006. Each individual is followed for 24 months after release.

All independent variables included in the logistic regression equation were provided to the Justice Research and Statistics Association in an accompanying dataset. The independent variables considered in the revocation risk equation include:

- Age when released in 2005 or 2006
- Gender
- Type of incarceration (local control, prison, interstate compact)
- Race (Caucasian, African American, American Indian or Alaskan Native, Asian or Pacific Islander, and Hispanic)
- Education (highest grade achieved)
- Marital status
- Number of children
- Veteran status
- Number of prior felony arrests
- Number of prior misdemeanor arrests

Number of prior felony convictions
Number of prior misdemeanor convictions
Crime type for most serious conviction (i.e. person, property, drug, public order)
Severity for most serious prior crime conviction
Number of prior prison terms
Number of prior jail terms
Total number of months served in prison
Total number of months served in jail
Months served in most recent incarceration
Reentry program participation for most recent incarceration
Time between release and revocation
Risk to recidivate
Identified alcohol or drug issues
Identified mental health issues
Sexual offender
Total number of arrests while on probation/parole
Total number of technical violations

Some independent variables were recoded for this analysis including both veteran status and number of children. If offenders did not acknowledge their veteran status or parental status, a new dichotomous variable was created to recognize the unknown status for these variables. In addition, some variables were combined (e.g. jail and prison time) and some were created from existing data (e.g. high risk was considered its own variable).

Analyses

Logistic regressions were performed to recognize associations between the dependent variable (i.e. revocation) and the independent variables listed above. Development of the statistical model considered main effects and two-way interactions; variable inflation and area under the curve (ROC) were considered in the model development. Different models were developed for each of the following groups:

1. Interstate compact
2. Those released from jail
3. Those released from prison
4. All three populations (Interstate compact, jail, prison)
5. All three populations comparing interstate compact with jail and prison populations
6. All three populations comparing jail with interstate compact and prison

7. All three populations comparing prison with interstate compact and jail

When the three populations were combined, variance inflation estimates did increase. To ensure the models and parameter estimates were accurate and stable, additional analyses were performed. Results from the equation derived when combining all populations (#4 above) were compared to two other methodologies. The first comparison methodology used stepwise regression and a random sample from all three populations (i.e. interstate compact, jail, prison); this technique was repeated 1000 times using half the data for each sampling. Essentially half the observations were randomly sampled and a logistic regression equation was generated; this effort was repeated 1000 times. This sampling technique used “sampling with replacement”. From these 1000 logistic regressions, independent variables were assessed for statistical significance. The independent variables identified as statistically significant ($P < .05$) in half the 1000 regressions were considered for model development. Variance inflation, a correlation matrix, and the concordance rates were used to determine the final model for these three populations. The second comparison methodology used these same 1000 logistic regression runs. The average of the parameter estimates from these 1000 run was used to generate individual estimates.

To summarize, individual estimates of risk were derived from three models:

1. Traditional model development considering variance inflation and the Receiver-Operator Characteristic (i.e. ROC or area under the curve).
2. Sample half the observations and resample 1000 times; identify statistically significant independent variables and generate one equation.
3. Sample half the observation and resample 1000 times; use the average of the parameter estimates to generate one equation.

Results and discussion

There were 16,262 observations included in the dataset; this included 1064 interstate compact cases, 7324 individuals released from jail, and 7874 individuals released from prison. The revocation rates for each group are:

<u>Group</u>	<u>Revocation rate</u>
Interstate compact	16.7%
Released from jail	26.4%
Released from prison	22.7%
All three populations	24.0%

Interstate Compact Population: Local and state jurisdictions will convict and incarcerate those who have offended within their jurisdiction. Despite this preference to incarcerate and convict where the crime was committed, many complete their parole or post-prison (PPS) where they resided before their incarceration. The preference to transition near your home improves the likelihood of a successful transition.

Those considered as “interstate compact” were convicted in another state but are transitioning in Oregon. Some of the population recidivate and some do not; some are revoked and some are not. Of the three populations considered in this analysis, the interstate compact population has the lowest revocation rate (16.7%). Most are male (80%), most have prior felony convictions (71%), many are arrested while on parole or post-prison supervision (42%), most would benefit from drug treatment (68%), but only a few are veterans (8%) or African Americans (5%). About half are considered low risk, about ¼ medium risk, and about ¼ are considered high risk to recidivate (Appendix A). About 58% have two or fewer prior felony convictions and another 24% have five or more. The age of this population is normally distributed. The most common age category is 31-35 years (19.1%) and nearly all are between 21 and 45 years. About 13% are older than 45 and only 3% are less than 21 years.

Particular offender characteristics from the interstate compact population are associated with higher risk for revocation – higher risk to recidivate, number of arrests while on parole/ post-prison supervision (PPS), being male, number of prior felony convictions, age, being African American, and being a veteran (Table 2). Factors associated with reduced risk include those with A&D issues and those who are older. The most

important factors associated with revocations are risk level, number of felony convictions, age, and number of arrests while on parole/PPS. Increasing one level in risk (i.e. from low to medium or from medium to high risk) increases an offender’s risk by 42%. The number of prior felony convictions does influence the likelihood someone is revoked. For every prior felony conviction, the likelihood of a revocation increases by 23%. For every arrest while on parole/PPS, the likelihood of a revocation increases by 33%. For each year older, the risk decreases by 4%. Males, African Americans, and veterans are about twice as likely to be revoked than females, non-African Americans, and non-veterans, respectively. Interestingly, these same factors except A&D treatment, are significantly associated with revocation risk for those released from jails or those released from prison.

Table 2. Odd ratios, Chi-square estimates, and P-values for Factors Associated with Revocation for the Interstate Compact Population

Effect	Odds ratio	Chi-square	P-value
Risk level	0.583	26.0	<.0001
Number arrests on parole/PPS	1.334	20.5	<.0001
Gender (male)	2.483	9.3	.0022
Number felony convictions	1.231	22.8	<.0001
Age	0.958	13.6	.0002
Needs drug treatment	0.605	6.1	.0136
African American	2.078	4.7	.0306
Veteran	1.942	4.0	.0445

Jail Population: Revocations can occur for individuals on probation or parole/PPS. For those on parole/PPS, the individuals were either in a local jail serving a felony sentence or released from prison. Those incarcerated for a felony conviction are sentenced to jail if the sentence is one year or less. If the imposed sentenced exceeds one year, the individual serves their time in an Oregon prison. The recidivism rates and some demographic variables do differ between the jail and prison populations.

Nearly half the jail population is between 18-30 years (Appendix B) and only 11% are older than 45. The most common age category is 21-25 years (23.1%) followed by 26-30 years (18.5%), 31-35 years (15.5%), and 36-40 years (13.9%). Very few have no prior felony convictions (7%) and nearly ¼ have five or more convictions. About 21% have had prior visits to jail and 22% have been to prison. Half are not arrested while on parole/PPS but 25% are arrested once. Although about 1/3 of those released from jail are considered low risk, 43% are categorized as high risk. Of those leaving jail during 2005 and 2006, about 21% were incarcerated for property crimes. The final independent variable deemed important when determining revocation risk is veterans' status. Considerable assessment and paperwork are completed when entering a jail or prison. Some individuals fail to respond to particular questions such as veteran status or parenthood. Failure to answer the parenthood question may reflect an individual's concern over child support. Failure to answer one's veteran status may have different connotations. Responding to the veteran status questions is associated with increased risk to be revoked and about 70% do not respond to the veterans' status question.

There are eight factors used to assess risk of revocation for those leaving jail (Table 3).

Table 3. Odd ratios, Chi-square estimates, and P-values for Factors Associated with Revocation for the Jail Population

Effect	Odds ratio	Chi-square	P-value
Age	0.975	44.8	<.0001
Unknown veteran status	0.126	878.3	<.0001
Number felony convictions	1.100	22.1	<.0001
Previously imprisoned	0.705	16.8	<.0001
Previously jailed	1.173	4.3	.0389
Jailed for property crime	0.842	5.0	.0248
Risk level	0.095	51.0	<.0001
Risk quadratic	1.171	42.9	<.0001
Number arrests on parole/PPS	1.194	62.9	<.0001

Those responding to the veterans' status questions are more likely to be revoked; this may or may not suggest that being a veteran is associated with increased risk. The other

variables associated with increased revocation risk include the number of arrests while on parole/PPS, those previously jailed, and the number of prior felony convictions. For each arrest while on parole/PPS, the revocation risk increased by 19%. For each prior jail sentence, revocation risk increases by 17%; for every prior felony conviction, risk increases 10%.

The relationship between risk level and likelihood of revocation is not linear. For changes between low and medium risk, revocation risk increases dramatically. The increase from low to medium risk is considerably larger than the increase in risk when moving from medium to high risk.

Property offenders are a small portion of the jail population. Those serving jail sentences for property crimes are actually 16% less likely to be revoked. This result could reflect more about the severity of the crime than anything else. Interestingly, those who have served prison time are actually less likely (~30%) to be revoked. This could reflect compliance or other factors not included in the statistical model.

Prison Population: Those released from jail or prison in 2005 and 2006 are all candidates for being revoked. For those who were released from prison, most tend to be young (Appendix C). As with the jail population, the most common age category is 21-25 years (18.7%), followed by 26-30 years (17.8%), 31-35 years (14.9%), 36-40 years (14.5%), and 41-45 years (13.3%). About 17% are older than 45 years. Most are male (89%), most identify their parenthood status (82%), and most identify their veteran status (88%). Many entering a jail do not provide their veteran or parenthood status; many entering prison are likely to recognize their parenthood and veteran status. Recognition of parenthood and veteran status could reflect more about differences in jail and prison intake assessments than an offender's willingness to provide information.

About 9% of those released from prison in 2005 and 2006 are African Americans, about 23% were incarcerated for violent crimes, about 28% for property crimes, and 12% for public crimes. About 1/3 have no prior felony convictions and about 1/4 have one or two

priors; another 25% have five or more prior felony convictions. After being released from prison, most offenders are not arrested (56%) in the two years post-release, however, about 1/3 are arrested once or twice. About 1/3 are considered high risk after leaving prison. Some of those leaving prison have been in prison before (27%). The average and median periods of incarceration are 30 and 17 months, respectively. The difference between the average and median length of stay would suggest most are incarcerated for short periods although some have long sentences.

The risk of revocation for those leaving prison is influenced by veteran status, number of arrests while on parole/PPS, risk at release, and age. Knowing the offenders veteran status is associated with a lower revocation rate. This could reflect compliance with completing forms or other factors. Risk of revocation increases by 30% for each additional arrest while on parole/PPS (Table 4); although most are not arrested while on parole/PPS, nearly ¼ are arrested multiple times. About 1/3 of the offenders released from prison are identified as high risk; these offenders are twice as likely to be revoked as offenders deemed low or medium risk. Age of the offender is associated with revocation risk. Similar to those released from jail, every year older translates to a 4% decline in revocation risk. All other independent variables included in the model are associated with increased risk to be revoked. Males are nearly twice as likely to be revoked, African Americans are 34% more likely, violent offenders are 24% more likely, property offenders are 32% more likely, those incarcerated for a public order offense are 18% more likely. In addition, for every month incarcerated, the likelihood of being revoked increased by 1.1%.

Risk equations generated for particular populations are useful if the populations differ substantially or if the different types of offenders (i.e. interstate, jail, and prison) are served by different types of parole or probation officers. Conversely, one equation

Table 4. Odd ratios, Chi-square estimates, and P-values for Factors Associated with Revocation for the Prison Population

Effect	Odds ratio	Chi-square	P-value
Age	0.964	115.3	<.0001
Gender (male)	1.900	31.8	<.0001
African American	1.344	9.4	.0022
Veteran unknown	0.131	116.9	<.0001
Prior felony convictions	1.093	28.4	<.0001
Incarcerated for violent crime	1.237	9.0	.0027
Prior imprisonment	1.727	54.3	<.0001
Number arrests on parole/PPS	1.300	152.3	<.0001
Imprisoned for property crime	1.317	15.5	<.0001
Imprisoned for public crime	1.182	3.2	.0740
Months incarcerated	1.011	81.1	<.0001
Deemed high risk at release	2.083	140.8	<.0001

may be more useful if offender populations are similar or if revocations are determined by the same group (e.g. parole/probation officers) using the same criteria. A single equation was generated for the combination of the three offender populations considered in this analysis.

Combining the Three Offender Populations: The demographic profile that includes interstate compact, the jail population, and those leaving prison is in Appendix D. There were 16,262 individuals who started parole or post-prison supervision in 2005 or 2006. Only 21% had no prior felony conviction but ¼ had five or more felony convictions. About 38% of offenders do not identify their veteran status and about 36% are deemed high risk at release. About 41% do not provide their parenthood status, and about 85% are male. About 9% are African American and 9% are married. About 22% were incarcerated for violent crimes and 22% have been previously jailed. The group tends to be young including 25% who are less than 26 years and nearly ¾ are age 40 or less; only 6% are older than 50 years.

Table 5. Odd ratios, Chi-square estimates, and P-values for Factors Associated with Revocation (Interstate Compact, Jail, and Prison Populations)

Effect	Odds ratio	Chi-square	P-value
Number arrests on parole/PPS	1.267	268.4	<.0001
Unknown veteran	0.326	539.5	<.0001
Deemed high risk at release	2.046	293.2	<.0001
No. prior felony convictions	1.160	179.3	<.0001
Age	0.966	220.3	<.0001
Gender (male)	1.323	20.9	<.0001
African American	1.338	18.5	<.0001
Violent offense	1.186	13.3	.0003
Married	0.776	12.1	.0005
Prior time in jail	1.108	4.4	.0368

The demographic factors associated with revocation include veteran status, those identified as high risk to recidivate, number of arrests while on parole/PPS, age, and number of prior felony convictions (Table 5.). The demographic factors associated with increased risk include the following: considered high risk to recidivate, not identifying parenthood, being male, number of arrests on parole/PPS, being African American, incarcerated for a violent offense, and served time in jail. Factors associated with lower risk of revocation include being married, older, and not identifying their veteran status.

Combining all three offender populations can be useful to identifying particular offenders who are higher risk to be revoked. This single equation also seems appropriate for the current parole/PPS system in Oregon. Essentially all three groups of offenders – interstate compact, those leaving jail, and those leaving prison – are not considered unique in probation/parole offices. Although each offender population maybe scrutinized slightly differently, the criteria for revocation are similar among the three groups. Combining groups can also create some statistical issues. The variable inflation estimates for some variables are increased when combining the groups. Two additional methodologies were employed to ensure the association among independent variables did not provide misleading parameter estimates.

The two methodologies use multiple samplings of the 16,262 observations. One methodology considered only the independent variables recognized as being statistically significant with 500 of the 1000 samples. The second methodology averaged the

parameter estimates from 1000 sampling runs. Each sample used about half the 16,262 observations from the three offender populations.

The correlations among individual estimates for the three models was high ($>.97$). The parameter estimates derived from the original model are very similar to their estimates that averaged the parameters from the 1000 runs. The parameter estimates generated from using the statistically significant variables in 500 of the 1000 runs tend to be more conservative; the effects of each independent variable tends to be lower than those derived from the other two methodologies.

Comparing Revocation Rates Among the Three Offender Populations: Table 6, Table 7, and Table 8 consider all three populations simultaneously. Statistical analyses use comparison populations when quantifying differences among the populations. Table 6 compares the interstate compact and jail populations with those who have been released from prison. Table 7 compares the interstate and prison population with those released from jail. Table 8 allows for the comparison of the jail and prison populations by using the interstate compact population as the standard.

When using the prison population as the comparison group, the interstate compact population is 31% less likely to be revoked while those released from jail are 185% more likely to be revoked. Using the jail population as the standard, interstate compact offenders are 76% less likely to be revoked and the prison population is 65% less likely. If you use the interstate compact population as the standard, those released from jail and prison are 313% and 45% more likely to be revoked, respectively.

The revocation rates for the three groups are 16.7% for interstate compact, 26.4% for those leaving jail, and 22.7% for those leaving prison. The most notable differences are between jail/prison populations and the interstate compact population. The differences

Table 6. Factors Associated with Revocations – Comparing the Interstate Compact and Jail Populations with the Prison Population

Effect	Odds ratio	Chi-square	P-value
Number arrests on parole/PPS	1.260	247.8	<.0001
Veteran status unknown	0.158	950.2	<.0001
Deemed high risk at release	1.877	216.9	<.0001
Prior felony convictions	1.121	98.1	<.0001
Age	0.972	140.6	<.0001
Gender (male)	1.370	25.5	<.0001
Race (African /American)	1.313	15.3	.0001
Incarcerated for violent crime	1.143	7.8	.0052
Married	0.790	10.0	.0016
Prior jail incarceration	1.128	5.8	.0157
Interstate compact	0.691	16.8	.0001
Jail	2.853	402.3	<.0001

between the prison and jail populations are relatively small, yet the odds ratio that compares the prison and jail populations is 2.91. If you include only the jail and prison populations, the odds ratios range between 2.86 and 3.63. The 2.86 reflects only the

Table 7. Factors Associated with Revocations – Comparing the Interstate Compact and Prison Populations with Jail Population

Effect	Odds ratio	Chi-square	P-value
Number arrests on parole/PPS	1.260	247.8	<.0001
Veteran status unknown	0.158	950.2	<.0001
Deemed high risk at release	1.877	216.9	<.0001
Prior felony convictions	1.121	98.1	<.0001
Age	0.972	140.6	<.0001
Gender (male)	1.370	25.5	<.0001
Race (African /American)	1.313	15.3	.0001
Incarcerated for violent crime	1.143	7.8	.0052
Married	0.790	10.0	.0016
Prior jail incarceration	1.128	5.8	.0157
Interstate compact	0.242	216.4	.0001
Prison	0.350	402.3	<.0001

comparison between jail and prison populations; the higher odds ratio considers time since release. Thus the initial risk after release approximates 3 and that difference increases as time is considered in the model.

Table 8. Factors Associated with Revocations – Comparing the Jail and Prison Populations with the Interstate Compact Population

Effect	Odds ratio	Chi-square	P-value
Number arrests on parole/PPS	1.260	247.8	<.0001
Veteran status unknown	0.158	950.2	<.0001
Deemed high risk at release	1.877	216.9	<.0001
Prior felony convictions	1.121	98.1	<.0001
Age	0.972	140.6	<.0001
Gender (male)	1.370	25.5	<.0001
Race (African /American)	1.313	15.3	.0001
Incarcerated for violent crime	1.143	7.8	.0052
Married	0.790	10.0	.0016
Prior jail incarceration	1.128	5.8	.0157
Jail	4.130	216.4	.0001
Prison	1.448	16.8	<.0001

Table 9 provides the statistically significant odds ratios from the seven different statistical models. The seven models are:

1. Interstate compact
2. Those released from jail
3. Those released from prison
4. All three populations (Interstate compact, jail, prison)
5. All three populations comparing interstate compact with jail and prison populations
6. All three populations comparing jail with interstate compact and prison
7. All three populations comparing prison with interstate compact and jail

The first four models use different datasets to generate the estimates. The final three models use the same model to compare the three offender populations; the estimates will be identical for all models except those for jail, prison, and interstate compact. Empty

cells in Table 9 identify nonsignificant ($P > .05$) parameters for that model. When comparing models, readers should consider ~1000 observations were used to generate estimates for the compact population, 7000-8000 observations were used to generate estimates for the jail and prison populations, and ~16000 observations were used to generate estimates for models including all offender populations.

Estimates from these models would suggest the following:

Revocation risk is approximately 3 times more likely for those released from jail versus those released from prison

Risk of recidivism is an important variable for estimating revocation risk in Oregon; most offenders “revoked” from parole or PPS are incarcerated as a result of being sentenced for a new crime

Older offenders are less likely to be revoked (~3% lower per year)

For each additional arrest while on parole/PPS, revocation risk increases 25-30%

African Americans are ~30% more likely to be revoked

Time in prison may increase the likelihood of revocation (~1.1% per month incarcerated)

Prior time in jail increases revocation risk by 10-15%

Males are more likely to be revoked (>30% more likely)

Married offenders are 15-20% less likely to be revoked

Violent offenders are 10-15% more likely to be revoked; the risk could be higher for those released from prison

For each prior felony conviction, revocation risk increases by 15%

High risk offenders are twice as likely to be revoked

Recognition of veteran and parenthood status maybe useful for assessing revocation risk.

Table 9. Odds Ratios for Different Statistical Models – Offender Populations by Themselves, Combined, and with Comparison Populations

Effect	Compact	Jail	Prison	All	Compared with		
					Compact	Jail	Prison
Age	0.96	0.98	0.96	0.97	0.97	0.97	0.97
No. arrests on parole/PPS	1.33	1.19	1.30	1.27	1.26	1.26	1.26
African American	2.08		1.34	1.34	1.31	1.31	1.31
Interstate compact						0.24	0.69
Jail					4.13		2.85
Prison					1.45	0.35	
Time incarcerated			1.01				
Incarcerated for drugs	0.61						
Incarcerated for property		0.84	1.32				
Incarcerated for public			1.18				
Prior jail time		1.17		1.11	1.13	1.13	1.13
Gender (male)	2.48		1.90	1.32	1.37	1.37	1.37
Married				0.78	0.79	0.79	0.79
Incarcerated for violence			1.24	1.19	1.14	1.14	1.14
Prior felony conviction.	1.23	1.10	1.09	1.16	1.12	1.12	1.12
Prior prison time		0.70	1.73				
Deemed high risk			2.08	2.05	1.88	1.88	1.88
Risk level (1=high, 3=low)	0.58	0.10					
Risk quadratic		1.72					
Veteran status unknown	1.94	0.13	0.13	0.33	0.16	0.16	0.16
Area under the curve	.775	.804	.770	.758	.781		

Note: Hazard ratios for the Compact column refer to the analysis with only compact offenders
Hazard ratios for the Jail column refer to the analysis with offenders released from jail
Hazard ratios for the Prison column refer to the analysis with offenders released from prison
Hazard ratios for the All column refer to the analysis with all offenders
Hazard ratios for the column Compared to Compact refer to all offenders
Hazard ratios for the column Compared to Jail refer to all offenders
Hazard ratios for the column Compared to Prison refer to all offenders

**Appendix A: Statistically Significant (P<.05) Independent variables
when Estimating Revocation Risk for the Interstate Compact
Population (N=1062)**

Risk level

Percentage of Population

High (1)	24.1
Medium (2)	22.5
Low (3)	53.4

Number arrests on parole/PPS

Percentage of Population

0	58.0
1	22.8
2	9.0
3	4.2
4	3.2
5	2.7

Gender

Percentage of Population

Female	19.6
Male	80.4

Number of Prior Felony Convictions

Percentage of Population

0	29.0
1	14.7
2	14.5
3	9.2
4	8.7
5	9.4
5+	14.6

Appendix B (cont.): Statistically Significant (P<.05) Independent variables when Estimating Revocation Risk for the Jail Population (N=7324)

Prior jail visit

Percentage of Population

No	78.3
Yes	21.7

Incarcerated for property crime

Percentage of Population

No	79.3
Yes	20.7

Risk Level

Percentage of Population

High (1)	43.2
Medium (2)	23.1
Low (3)	33.7

Number of arrests on parole/PPS

Percentage of Population

0	49.3
1	25.0
2	12.8
3	6.1
4	3.3
5	3.6

**Appendix C: Statistically Significant (P<.05) Independent variables
when Estimating Revocation Risk for the Prison Population (N=7874)**

Age	Percentage of population	Cumulative Percent
16-20	3.7	3.7
21-25	18.7	22.4
26-30	17.8	40.2
31-35	14.9	55.1
36-40	14.5	69.6
41-45	13.3	82.9
46-50	8.4	91.3
51-87	8.7	100.0

Gender	Percentage of Population
Female	10.8
Male	89.2

Race	Percentage of Population
African American	8.8
Other	91.2

Parenthood unknown	Percentage of Population
Parenthood unknown	18.1
Parenthood known	81.9

Veteran status unknown	Percentage of Population
Veteran status unknown	12.0
Veteran status known	88.0

Appendix C (cont.): Statistically Significant (P<.05) Independent variables when Estimating Revocation Risk for the Prison Population (N=7874)

Number of Prior Felony Convictions

Percentage of Population

0	33.0
1	14.9
2	11.9
3	9.2
4	6.7
5	9.4
More than 5	14.9

Incarcerated for a violent crime

Percentage of Population

No	76.7
Yes	23.3

Prior prison incarceration

Percentage of Population

No	73.0
Yes	27.0

Number arrests on parole/PPS

Percentage of Population

0	56.1
1	21.9
2	10.4
3	5.3
4	2.8
5	3.6

Appendix C (cont.): Statistically Significant (P<.05) Independent variables when Estimating Revocation Risk for the Prison Population (N=7874)

Incarcerated for a property crime

Percentage of Population

No	71.7
Yes	28.3

Incarcerated for a public order crime

Percentage of Population

No	87.9
Yes	12.1

Deemed high risk at release

Percentage of Population

No	67.7
Yes	32.2

Average time incarcerated 30.3 months

Median time incarcerated 16.8 months

Appendix D: Statistically Significant (P<.05) Independent variables when Estimating Revocation Risk for the Three Populations (N=16,262)

Number arrests on parole/PPS

Percentage of Population

0	53.2
1	23.3
2	11.4
3	5.6
4	3.0
5	3.5

Veteran status

Percentage of Population

Known	62.5
Unknown	37.5

Deemed high risk at release

Percentage of Population

No	63.7
Yes	36.2

Number of Prior Felony Convictions

Percentage of Population

0	21.0
1	21.5
2	15.5
3	11.0
4	7.6
5	10.1
More than 5	13.3

Appendix D (cont.): Statistically Significant (P<.05) Independent variables when Estimating Revocation Risk for the Three Populations (N=16,262)

Age	Percentage of Population	Cumulative Percent
16-20	4.5	4.5
21-25	20.5	25.0
26-30	18.2	43.2
31-35	15.4	58.6
36-40	14.3	72.9
41-45	13.1	86.0
46-50	7.6	93.6
51-87	6.4	100.0

Gender	Percentage of Population
Female	15.5
Male	84.5

Race	Percentage of Population
African American	8.8
Other	91.2

Parental status	Percentage of Population
Known	58.7
Unknown	41.3

Incarcerated from a violent crime	Percentage of Population
No	77.7
Yes	22.3

Appendix D (cont.): Statistically Significant (P<.05) Independent variables when Estimating Revocation Risk for the Three Populations (N=16,262)

Married

Percentage of Population

No	91.4
Yes	8.6

Prior jail incarceration

Percentage of Population

No	77.7
Yes	22.3