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Assessing the Risk of Criminal Offense for Washington's Involuntary Treatment and Forensic Commitment Populations

Revised December 1, 2015 to include background on use of risk assessment in Washington State.

Since 2008, the Washington State Department of Corrections (DOC) has used an instrument, called the Static Risk Assessment (SRA), to assess and classify felony offenders according to their risk of future offending.[1] DOC uses the assessment information to determine which offenders require the highest level of monitoring.[2] Risk assessments are also used in Washington to help establish appropriate conditions for adults pending trial.[3]

In 2013, the Washington State Legislature directed the Washington State Institute for Public Policy (WSIPP) to "develop a risk assessment instrument for patients committed for involuntary treatment in Washington State."[4] Given the use of the SRA for risk classification in Washington for criminal populations, we evaluated whether the SRA would also be a valid assessment for two additional populations: (1) adults with an involuntary civil commitment related to mental health and (2) adult defendants undergoing an evaluation for competency to stand trial.

This assignment was completed under contract with WSIPP by the Washington State Institute for Criminal Justice (WSICJ) at Washington State University. Research staff at WSICJ have extensive experience evaluating and adapting risk assessment instruments for specific populations.

Summary

In Washington State, formal risk assessments have been used to predict the risk of criminal recidivism among juvenile and adult offenders. The 2013 Washington State Legislature directed WSIPP to develop a similar risk assessment for patients in the state's involuntary mental health treatment system. While no risk assessment can predict future criminal offenses with 100% accuracy, the goal is to create an assessment that has strong predictive performance.

This report finds that the existing Static Risk Assessment (SRA), used by courts and corrections in Washington for criminal populations, can also serve as a valid tool for determining the level of risk for adults with involuntary civil commitments and forensic competency evaluations. Results indicate that the adapted SRA described in this report has reasonable predictive accuracy for both the civil and forensic populations.

The situations and circumstances for using a risk assessment instrument, however, will depend on careful deliberation and planning

[1] In 2015, DOC began using a revised assessment called the Static Risk and Offender Needs Guide (STRONG).
[2] RCW 9.94A.501.
[3] http://asra.courts.wa.gov/
[4] Third Engrossed Substitute Senate Bill 5034, Chapter 4, Laws of 2013, 2nd Special Session, Partial Veto.

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I. Background

In Washington State, commitments for involuntary mental health treatment occur through both the civil and criminal (forensic) court systems.

Washington's Involuntary Treatment Act (ITA) statute authorizes a civil involuntary commitment if, as a result of a mental illness, an individual is gravely disabled or a danger to self or others.[5] An initial ITA detention lasts 72 hours and occurs at a freestanding psychiatric hospital, an evaluation and treatment center, or a psychiatric unit within a community hospital. A court hearing is held to determine if additional involuntary treatment commitment should be ordered within an inpatient (14-day) or outpatient (90-day) setting.[6]

Forensic involuntary commitments occur through criminal courts.[7] From a legal perspective, defendants must be judged competent to stand trial for alleged crimes. If competency is in question, a forensic mental health evaluation is conducted by a state-appointed psychologist. The defendant is held in pre-trial custody in either jail or a state psychiatric hospital until the forensic evaluation takes place. The evaluation results are provided to the court, which may authorize a period of treatment to restore the person to competency.[8]

In 2015, the legislature directed the Department of Social and Health Services (DSHS) to examine the implementation of community-based outpatient competency restoration services for defendants who may not require hospitalization. As part of this effort, DSHS must work with counties and courts to "develop a screening process to determine which individuals are safe to receive competency restoration treatment outside the state hospitals."[9] Currently, a structured risk assessment is not routinely used as part of the screening process to establish level of risk for adults facing either civil or forensic commitments.

In Washington State, a designated mental health professional (DMHP) is responsible for determining if a person is mentally ill and would be a danger to self or others. This determination of dangerousness is based on the professional clinical judgement of the DMHP, a review of reasonably available historical records, and interviews from witnesses.[10]

The legislature directed WSIPP to develop a risk assessment to improve identification of persons in both the civil and forensic populations who have a higher risk of offending. The next section provides an overview on the existing use of risk assessments in Washington State and outlines the approach for testing this model for the mental health population.

[5] RCW 71.05.
[6] Burley, M., & Morris, M. (2015). *Involuntary civil commitments—common questions and a review of state practices* (Doc. No. 15-06-3401). Olympia: Washington State Institute for Public Policy.
[7] RCW 10.77.
[8] See Lieb, R., & Burley, M. (2011). *Competency to stand trial and conditional release evaluations: Current and potential role of forensic assessment instruments* (Doc. No. 11-05-3401). Olympia: Washington State Institute for Public Policy.
[9] Second Engrossed Second Substitute Senate Bill 5177, Chapter 7, Laws of 15, 1st Special Session.
[10] See DMHP protocols at: https://www.dshs.wa.gov/bhsia/division-behavioral-heath-and-recovery/designated-mental-health-professionals

Risk Assessments

A core function of correctional agencies involves assessing a person's risk for future offense.[11] Classifications derived from a risk assessment are typically used to allocate the use of limited resources or assist decision-making at sentencing or release.

Department of Corrections

The DOC has used the SRA to make supervision and treatment decisions since 2008. The SRA contains 26 "items" (i.e., questions from the assessment).[12] The items from the SRA are "static" risk factors, which cannot decrease over time. For example, one item from the SRA calculates the total number of felony weapons convictions from an offender's criminal history. Since these items can be generated entirely from existing automated records, no interview is necessary to administer the SRA. Once a risk score is calculated, offenders are classified by the DOC into one of four risk levels:

1) High violent,
2) High non-violent,
3) Moderate risk, or
4) Low risk.

The SRA risk score is used by DOC to determine the type of community supervision plan developed for each offender. A case plan is auto-generated for low-risk offenders on community supervision. Default options are included for moderate- and high-risk offenders, but a Community Corrections Officer or the court may add or change these conditions of supervision, as necessary.

Administrative Office of the Courts

In early 2012, several courts in Washington State adopted the SRA used by DOC as an optional step in pre-trial decision-making. The Adult Static Risk Assessment (ASRA) is a web-based system maintained by the Washington Administrative Office of the Courts (AOC) which may be implemented at the discretion of local courts.

An ASRA report may be generated prior to the defendant's first appearance, arraignment, or sentencing. This report may be used by a judge or commissioner to inform decisions regarding custody or release. The assessment does not require an interview with the offender and a completed assessment may also be available to prosecutors, defense attorneys and approved court staff. In 2015, judicial officers in fourteen different municipal, district, or superior courts throughout Washington State used the ASRA system.

Given the implementation of risk assessments for decisions in particular areas of the criminal justice system, this study assesses the predictive ability of the SRA in estimating future criminal risk for adults with involuntary mental health commitments. In the next section, we describe the research methods used to tailor the SRA to the civil and forensic populations as well as our findings on the predictive performance of the SRA for these populations.

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[11] Bonta, J. (1996). Risk-needs assessment and treatment. In A. Harland, *Choosing correctional options that work* (pp. 18-32). Thousand Oaks, CA: Sage.

[12] For detail on SRA items, see Barnoski, R., & Drake, EK. (2007). *Washington's Offender Accountability Act: Department of Corrections' Static Risk Assessment*. Olympia: Washington State Institute for Public Policy.

II. Research Approach

The static risk items included in this analysis were taken from the WSIPP longitudinal criminal justice database that includes criminal convictions dating back to the early 1990s. Over half of the civil (52%) and forensic (54%) study groups are under the age of 39, so these records provide a lifetime history of previous criminal offenses in Washington State. Historical information on prior felony and misdemeanor offenses for these populations are provided in Exhibits A1 and A2 (see Technical Appendix).

Once a risk assessment has been developed, it must be tested, or "validated," on a study sample to determine how well the risk assessment performs. To do this, we use statistical techniques, discussed later in this report, to measure how accurately the assessment predicts criminal activity over a two-year period.

Study Sample

The sample includes used to test the validity of the SRA included adults with civil commitments or forensic mental health evaluations. The civil sample includes all 11,050 adults with an initial 72-hour involuntary detention that occurred between January 2009 and November 2012. The period when a person is "at risk" for criminal activity begins at the time the individual is discharged from the hospital.

The forensic sample includes all 4,099 adults that received a forensic evaluation between January 2009 and November 2012.[13] Data used to identify the study sample were provided by the Division of Behavioral Health and Recovery (civil commitments) and Western and Eastern State Hospitals (forensic evaluations).[14] Forensic competency evaluations were conducted in an inpatient (state hospital) or outpatient (jail) setting.

Crime Outcomes

To test the validity of the SRA, WSICJ examined three different crime outcomes:

- Violent felony conviction,
- Non-Violent felony conviction, and
- Any conviction (misdemeanor or felony).

Outcomes were based on a criminal conviction occurring in Washington State over a two-year period following the involuntary mental health commitment.

The SRA consists of 26 items which include an individual's age and gender; measures of prior criminal history, such as total juvenile and adult felonies; and specific convictions for homicides, sex offenses, assault, domestic violence, and property offenses. Various misdemeanor and alcohol offenses are also included in the SRA (see Appendix A1).

[13] Restricting study period to commitments/evaluations that occurred prior to November 2012 permits a two-year follow-up for assessing future criminal offending.
[14] All study procedures were approved by the Washington State Institutional Review Board (WSIRB).

III. Study Findings

Predictive Strength of the SRA

For both the civil and forensic study populations, WSICJ developed statistical models to assess risk of future offending for each of the three outcomes. The "strength," or predictive accuracy of the SRA, for each model is evaluated using a statistic called the area under the curve (AUC) statistic.[15]

An AUC value ranges between 0.50 and 1.00. An AUC equal to 0.50 does not predict crime any better than chance alone—"50/50 chance." A model with an AUC of 1.00, on the other hand, indicates accurate prediction 100% of the time.

Generally, a model with an AUC above 0.70 is considered to demonstrate large degree of predictive strength.[16] By this standard, the results indicate the SRA provides reasonably strong predictive accuracy for both the civil and forensic populations. For all three crime outcomes examined, the AUC was at or above 0.75 (see Exhibit 3).[17]

Exhibit 3

AUC for each Crime Outcome by Study Population

	Civil commitment	Forensic evaluations
Violent felony	0.81	0.75
Non-violent felony	0.80	0.76
Any conviction	0.78	0.75

Measuring Risk Using the SRA

For the results outlined in Exhibit 3, each risk item in the SRA receives a weight based on that item's ability to contribute to the overall prediction of the model. These weights are summed to produce a total risk score on each crime outcome. The final score can then be used to classify level of risk across the entire patient population.

To gauge the relative level of risk, it is often helpful to know the average rate of criminal convictions among the population of interest. Exhibit 4 presents the average two-year criminal offense rates for the civil and forensic mental health populations. For comparison purposes, we examined a population of felony offenders who were released to DOC supervision during the same time period.

Exhibit 4

Two-Year Criminal Conviction Rates Following Commitment: 2012-2014

Population	Violent felony	Non-violent felony
Civil commitment	3%	5%
Forensic evaluation	5%	9%
DOC offender	9%	24%

[15] The Area Under the Curve (AUC) is typically the statistical measure used to determine the performance level of risk assessments.

[16] See Rice, M.E., & Harris, G. (2005). Comparing effect sizes in follow-up studies: ROC area, Cohen's d, and r. *Law and Human Behavior*, *29*(5), 615-620. While this article cautions researchers "to use numbers rather than verbal labels to characterize effect sizes," it equates AUC values with ratings of commonly used measures of predictive accuracy.

[17] See also Drake, E. (2014). *Predicting criminal recidivism: A systematic review of offender risk assessments in Washington State* (Doc. No. 14-02-1901). Olympia: Washington State Institute for Public Policy.

As shown in Exhibit 4, 3% of adults from the civil sample were convicted of a felony violent crime following a civil commitment. About 5% of adults from the forensic sample had a violent felony conviction after release to the community. By contrast, 9% of DOC felony offenders were convicted of a violent felony within two years of release from confinement.

While the overall level of offending for the forensic and civil populations provide a useful base rate of expected crime, the purpose of risk assessment is to gauge varying levels of criminal risk across the entire population. Exhibits 5 and 6 (next page) display the criminal conviction rates by total risk score for the civil and forensic samples. Two-year conviction rates for DOC offenders released to the community are also included on the chart to provide a benchmark for comparison purposes. Three aspects of the conviction charts shown in Exhibits 5 and 6 are worth noting:

1. The forensic and civil commitment populations have a lower rate of felony convictions compared to the DOC offender population;
2. Risk scores are associated with conviction rates—the chance of a new conviction increases as the risk score increases; and
3. Along the range of risk scores, there are no natural breaks allowing for an obvious "cut point" that can be used to classify high-risk people.

Statistical procedures alone cannot identify the "best" cut point for classification. Rather, policymakers and administrators may determine suitable classification levels based on public safety considerations and available staff resources. For example, DOC went through a public process to establish what risk score would be used to classify an offender as high risk. The resulting rule categorizes offenders with SRA scores that are at or above 2.5 times the average rate of offending as high risk. Exhibit 5 shows the cut point for high-risk DOC offenders, which includes 17% of felony offenders on supervision.

The DOC SRA classification system also assigns a risk level for offenders at high risk of committing drug and property crimes. The sample size for adults with mental health commitments in this analysis was not sufficient to examine risk of drug and property crimes separately. Therefore, we grouped these categories and analyzed risk of non-violent crime among the study population. The DOC classification system does not include a category for high non-violent risk, so a similar DOC cut-point cannot be included on Exhibit 6.

This validation effort also looked at the risk of <u>any</u> criminal conviction for both the civil and forensic samples. Over the two-year follow-up period, 17% of the civil population and 25% of the forensic population had a conviction for a misdemeanor or felony crime. Exhibit A5 (Technical Appendix) shows that the overall conviction rate for the highest risk civil and forensic populations exceeded 50%.

Exhibit 5

Two-Year Criminal Rates for Violent Felony Conviction by SRA Risk Score

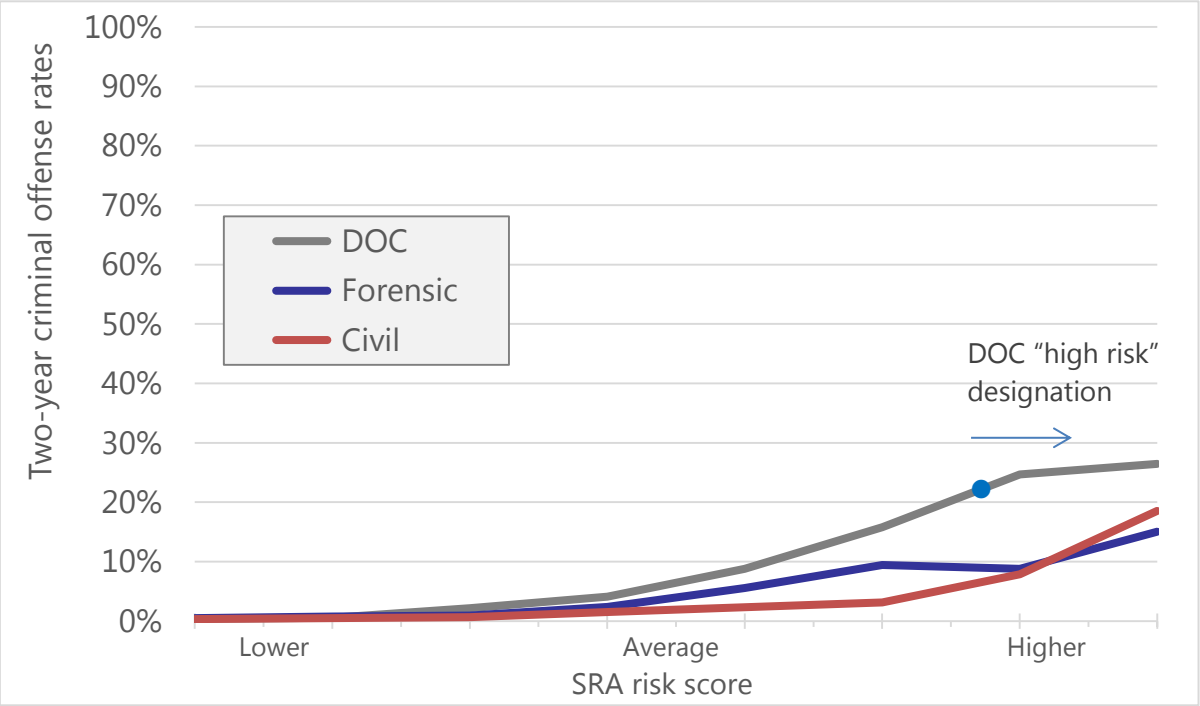
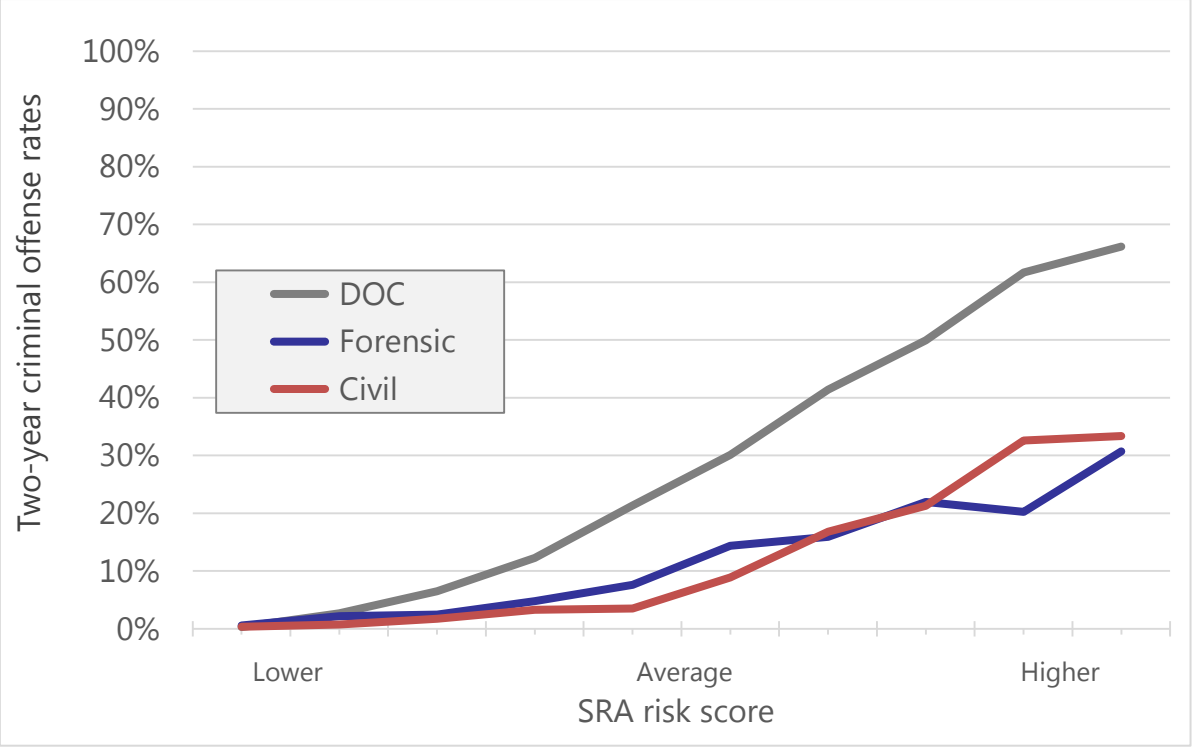


Exhibit 6

Two-Year Criminal Rates for Non-Violent Felony Convictions by SRA Risk Score



*Appendix 3 includes population of assessed persons and total offenders at each risk level.

IV. Conclusion

We found that the Department of Correction's Static Risk Assessment (SRA) can predict, with reasonable accuracy, the risk of future criminal offenses for patients with forensic and civil commitments in Washington State. It is important to note that no risk assessment instrument can identify criminal offenders with absolute certainty. Prediction models always include both "false positive" and "false negative" results. That is, a high-risk score may be assigned to a person who never commits further crimes (false positive) or person who received a low-risk score may commit a subsequent crime (false negative).

However, a risk assessment that has been tested and validated can be used as a guide for making decisions that affect public safety.[18] Continuous risk scores provide a scale by which likelihood of subsequent crime can be evaluated. Agencies and policymakers have used these scores to establish contact standards for potentially dangerous individuals in the community. In addition, risk classification has also been used to prioritize treatment interventions for persons with higher levels of risk.

This analysis provides detail about the relative level of criminal risk among adults with civil and forensic mental health commitments. The validation findings also indicate risk differences between these mental health populations and offenders that also received an SRA risk score. This information can help policymakers and agency administrators determine if changes in practices should be implemented based on the number of persons classified at various risk levels.

[18] Andrews, D.A., Bonta, J., & Wormith, J.S. (2006). The recent past and near future of risk and/or need assessment. *Crime & Delinquency, 52*(1), 7-27; Justice Center (Council of State Governments), National Academy of Corrections (US), & United States. (2015). *Improving responses to people with mental illnesses at the pretrial stage: Essential elements*. New York: Council of State Governments Justice Center; Webster, C.D., Haque, Q., Hucker, S.J., Kropp, P.R., Hanson, R.K., Martin, M.L., & Design, D. (2013). *Violence risk: Assessment and management-structured professional judgement and sequential redirection*. Chichester, England: Wiley-Blackwell; and Hamilton, Z.K., & van Wormer, J. (2014). *Customizing offender assessment.* Spokane: Washington State Institute for Criminal Justice. Available at https://wsicj.wsu.edu/wp-content/uploads/sites/436/2014/11/Hamilton-White-Paper_color.pdf

Static Risk Assessment (SRA) Items for Civil and Forensic Study Population

A1. Demographic Information and Felony History

Risk assessment category		Civil commitment (N=11,050)	Forensic evaluations (N=4,099)
Age at reference date	18 to 29	3,329 (30.1%)	1,264 (30.8%)
	30 to 39	2,382 (21.6%)	971 (23.7%)
	40 to 49	2,386 (21.6%)	921 (22.5%)
	50 to 59	1,900 (17.2%)	635 (15.5%)
	60 or older	1,053 (9.5%)	308 (7.5%)
Sex	Male	6,025 (54.5%)	3,023 (73.7%)
Prior juvenile felonies	1-2	490 (4.4%)	312 (7.6%)
	3 or more	276 (2.5%)	272 (6.6%)
Prior juvenile violent felonies[a]	1 or more	280 (2.5%)	244 (6.0%)
Total adult felonies	1-2	1,267 (11.5%)	1,065 (26.0%)
	3-4	442 (4.0%)	480 (11.7%)
	5 or more	538 (4.9%)	677 (16.5%)
Felony homicide[b]	1 or more	19 (0.2%)	65 (1.6%)
Felony sex offense	1	64 (0.6%)	103 (2.5%)
	2 or more	54 (0.5%)	86 (2.1%)
Felony violent property[c]	1 or more	44 (0.4%)	64 (1.6%)
Felony assault[d]	1	347 (3.1%)	425 (10.4%)
	2	231 (2.1%)	340 (8.3%)
	3 or more	128 (1.2%)	196 (4.8%)
Felony domestic violence or related[e]	1	198 (1.8%)	217 (5.3%)
	2 or more	153 (1.4%)	227 (5.5%)
Felony weapon	1	68 (0.6%)	78 (1.9%)
	2 or more	32 (0.3%)	57 (1.4%)
Felony property	1-2	806 (7.3%)	665 (16.2%)
	3 or more	397 (3.6%)	404 (9.9%)
Felony drug	1-2	531 (4.8%)	415 (10.1%)
	3 or more	191 (1.7%)	190 (4.6%)
Felony escape	1 or more	204 (1.8%)	242 (5.9%)

Notes:
[a] Prior juvenile violent felony convictions for: homicide, sex, robbery, kidnapping, assault, extortion, unlawful imprisonment, custodial interference, domestic violence or weapon.
[b] Felony homicide offense: murder/manslaughter
[c] Felony violent property offense— felony robbery, kidnapping, extortion, unlawful imprisonment, custodial interference offense, harassment, burglary 1, or arson 1.
[d] Felony assault offense—not domestic violence related.
[e] Felony domestic violence assault or violation of a domestic violence related protection order, restraining order, or no-contact order, harassment, or malicious mischief.

A2. Misdemeanor History and Alcohol Offenses

Risk assessment category		Civil commitment (N=11,050)	Forensic evaluations (N=4,099)
Any misdemeanor[a]	1-2	2,173 (19.7%)	990 (24.2%)
	3-4	870 (7.9%)	556 (13.6%)
	5 or more	1,501 (13.6%)	1,488 (36.3%)
Misdemeanor assault[b]	1	913 (8.3%)	556 (13.6%)
	2	536 (4.9%)	500 (12.2%)
	3-4	263 (2.4%)	261 (6.4%)
	5 or more	156 (1.4%)	177 (4.3%)
Misdemeanor domestic violence or related[c]	1	659 (6.0%)	409 (10.0%)
	2 or more	846 (7.7%)	896 (21.9%)
Misdemeanor sex offense	1	142 (1.3%)	96 (2.3%)
	2 or more	154 (1.4%)	143 (3.5%)
Misdemeanor other domestic violence[d]	1 or more	158 (1.4%)	143 (3.5%)
Misdemeanor weapon	1 or more	270 (2.4%)	265 (6.5%)
Misdemeanor property	1	1,032 (9.3%)	499 (12.2%)
	2	653 (5.9%)	508 (12.4%)
	3 or more	1,082 (9.8%)	998 (24.3%)
Misdemeanor drug	1	548 (5.0%)	288 (7.0%)
	2 or more	545 (4.9%)	507 (12.4%)
Misdemeanor escape	1 or more	41 (0.4%)	56 (1.4%)
Alcohol (misdemeanor and felony)	1 or more	2,133 (19.3%)	1,196 (29.2%)

Notes:

[a] Total misdemeanor not listed as item on SRA but included here for informational purposes.

[b] Misdemeanor assault offense—not domestic violence related.

[c] Misdemeanor domestic violence assault or violation of a domestic violence related protection order, restraining order, or no-contact order.

[d] Misdemeanor other domestic violence offense—any non-violent misdemeanor convictions such as trespass, property destruction, malicious mischief, theft, etc., that are connected to domestic violence.

A3. Two-Year Criminal Rates for Violent Felony Convictions by SRA Risk Level

Population	Persons	SRA risk score							Total
		Lower			Average			Higher	
DOC supervised offenders	**Total**	1,790	4,907	8,977	9,798	6,548	2,811	1,224	**36,055**
	Violent conviction	9	106	370	863	1,033	693	324	**3,398**
	Conviction rate	0.5%	2.2%	4.1%	8.8%	15.8%	24.7%	26.5%	**9.4%**
Civil commitment	**Total**	2,443	1,776	1,890	1,591	2,047	747	556	**11,050**
	Violent conviction	10	12	29	37	64	59	103	**314**
	Conviction rate	0.4%	0.7%	1.5%	2.3%	3.1%	7.9%	18.5%	**2.8%**
Forensic evaluation	**Total**	781	636	800	757	435	318	373	**4,100**
	Violent conviction	5	6	19	42	41	28	56	**197**
	Conviction rate	0.6%	0.9%	2.4%	5.5%	9.4%	8.8%	15.0%	**4.8%**

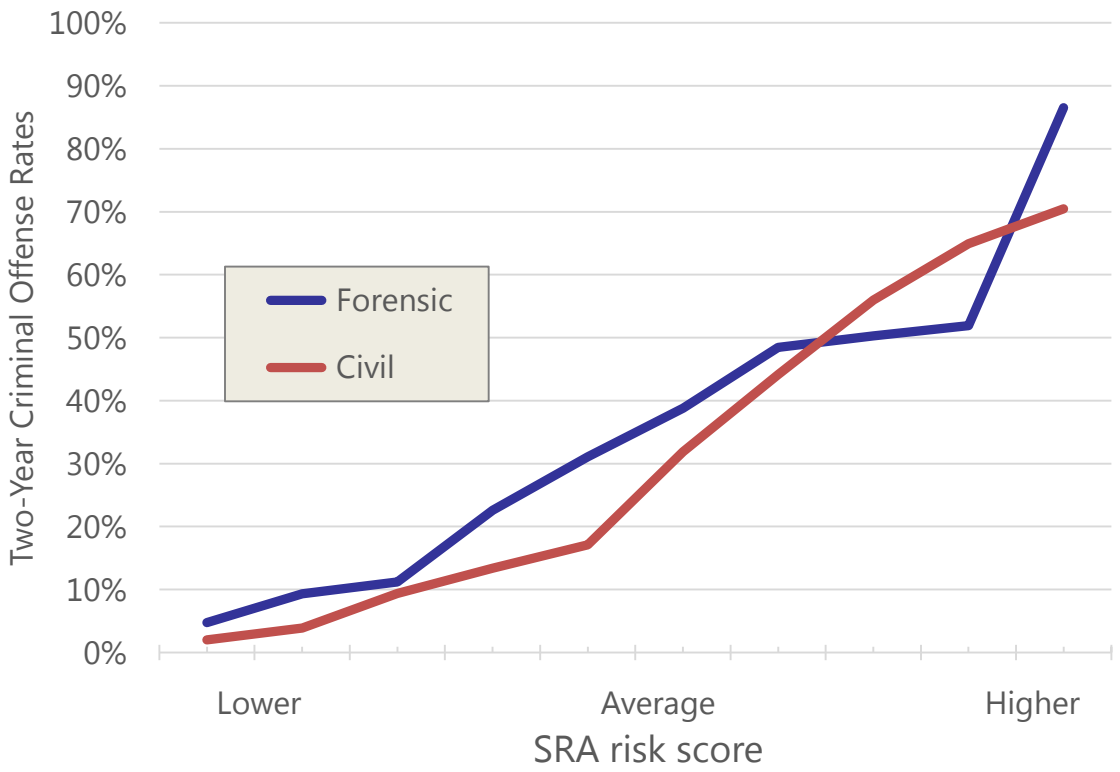
A4. Two-Year Criminal Rates for Non-Violent Felony Convictions by SRA Risk Level

Population	Persons	SRA risk score							Total
		Lower			Average			Higher	
DOC supervised offenders	**Total**	5,898	6,427	7,840	7,555	5,030	2,273	755	**35,778**
	Violent conviction	304	786	1,674	2,273	2,083	1,135	471	**8,726**
	Conviction rate	5.2%	12.2%	21.4%	30.1%	41.4%	49.9%	62.4%	**24.4%**
Civil commitment	**Total**	4,197	1,876	2,333	1,408	607	334	295	**11,050**
	Violent conviction	43	61	82	125	102	71	97	**581**
	Conviction rate	1.0%	3.3%	3.5%	8.9%	16.8%	21.3%	32.9%	**5.3%**
Forensic evaluation	**Total**	1,300	627	671	536	396	255	315	**4,100**
	Violent conviction	24	30	51	77	63	56	77	**378**
	Conviction rate	1.8%	4.8%	7.6%	14.4%	15.9%	22.0%	24.4%	**9.2%**

Note: Risk score levels represent categories created by standardizing scores around mean for all three study populations.

A5. Two-Year Criminal Rates for all Misdemeanor and Felony Convictions by SRA Risk Level

Population	Persons	SRA risk score										Total
		Lower			Average					Higher		
Civil commitment	**Total**	951	1,541	1,790	1,954	2616	1144	503	309	154	88	**11,050**
	Any conviction	19	60	168	262	448	365	222	173	100	62	**1,879**
	Conviction rate	2.0%	3.9%	9.4%	13.4%	17.1%	31.9%	44.1%	56.0%	64.9%	70.5%	**17.0%**
Forensic evaluation	**Total**	378	429	875	682	570	464	392	179	79	52	**4,100**
	Any conviction	18	40	98	154	177	180	190	90	41	45	**1,033**
	Conviction rate	4.8%	9.3%	11.2%	22.6%	31.1%	38.8%	48.5%	50.3%	51.9%	86.5%	**25.2%**



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