

# Reducing Institutional Disorder: Using the Inmate Risk Assessment for Segregation Placement to Triage Treatment Services at the Front End of Prison Sentences

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## Abstract

Most correctional scholars and policy makers agree that prison authorities should use restrictive housing less, yet few studies exist to provide guidance on how to do so while also ensuring institutional order. This study advances the idea that proactively providing rehabilitative programming to inmates at the front end of prison sentences will help reduce institutional disorder. In so doing, we create and validate a risk assessment instrument to predict inmate likelihood for placement in restrictive housing during one's commitment. The findings of this study support the predictive validity of the tool. We argue that authorities can use this assessment to make more informed and targeted programming decisions during the intake process that will help reduce institutional misconduct and the need for restrictive housing.

## Keywords

prisons, restrictive housing, segregation, institutional disorder, rehabilitation

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## Introduction

Prison administrators are responsible for ensuring institutional safety and order (Dilulio, 1987). As such, these authorities seek to enact policies and practices that reduce levels of violence and general disorder within the prison system. When making policy decisions, administrators often consult the empirical research literature to help inform one's choices. A large body of penological scholarship focuses on understanding the individual- and aggregate-level sources of institutional disorder (Gonçalves, Gonçalves, Martins, & Dirkzwager, 2014; Steiner, Butler, & Ellison, 2014). These studies typically involve inmate- or prison-level outcome measures, ranging from low-level inmate rule violations to more serious forms of violence (Dietz, O'Connell, & Scarpitti, 2003; Useem & Piehl, 2006; Useem & Reisig, 1999). This research, however, also has the unfortunate consequence of lagging behind in many institutional need areas, forcing administrators to base some policy decisions on one's best judgment of the available evidence. One correctional policy where administrators and scholars agree that there is a need for more empirical investigation to help aid in policy decision making is restrictive housing (see, for example, Garcia, 2016; National Institute of Justice, 2016).

Although correctional agencies refer to restrictive housing settings by a wide variety of names, scholars generally describe this practice as involving segregation in a single cell for 20 or more hours per day with increases in cell restrictions and security procedures (Cochran, Toman, Mears, & Bales, 2018). Scholars further distinguish between three types: *disciplinary segregation* (i.e., punishment for inmates who violate the institutions' rules), *protective segregation* (i.e., protection of vulnerable inmates from harm in the general population), and *preventative segregation* (i.e., removal of disruptive inmates from the general population; see Mears, 2016). A greater reliance on restrictive housing—regardless of what agencies call it or what purpose it seeks to serve—is indicative of a prison system with more institutional disorder. Some correctional administrators show interest in relying less on segregated confinement; however, many questions remain about how best to reduce its use while ensuring general order throughout the prison system.

A 2016 U.S. Department of Justice report outlines several guidelines for effectively transforming the use of restrictive housing. At the core of the recommendations is for correctional authorities to place inmates in segregation only as a last resort and for the least amount of time necessary. Recently, several jurisdictions took steps to reduce the number of inmates held and the time spent in these settings (see Shames, Wilcox, & Subramanian, 2015). Although many may view these initiatives as markers of success, *much more*

*can and should be done in reforming this correctional policy.* Even the addition of rehabilitative programming in restrictive housing units—while potentially important for reducing the probability of one’s return to a segregation setting—will have no impact in addressing the need for restrictive housing in the first place. We argue, therefore, that in addition to the recommendations of the U.S. Department of Justice (2016) and other correctional scholars (e.g., Ahalt et al., 2017; Shames et al., 2015; Smith, 2016), reformation efforts should also include front-end treatment interventions that seek to prevent the misconduct and other analogous antisocial behaviors that often precipitate initial placement into restrictive housing settings.

There is a large body of offender rehabilitation literature that is theoretically supportive of early prison interventions in reducing segregation placements (see Bonta & Andrews, 2017; MacKenzie, 2006; McGuire, 2013; Smith, 2013). What the field needs, however, is more research describing how to successfully implement such a preventive strategy in practice (see Gendreau, Goggin, & Smith, 1999). For example, correctional administrators need to know which inmates to treat, what type and intensity of services to offer, and when to intervene during an inmates’ commitment. This study focuses on the first need area by constructing and validating a risk scale that predicts segregation placement in a 5-year admission cohort of inmates in a large Midwestern state. This information is essential for administrators in developing policies that can triage intervention services at the front end of prison stays for the inmates who are at high risk for placement in restrictive housing. This study also lays the foundation for the importance of early intervention efforts in making prisons safer, more orderly, and less reliant on restrictive housing.

## **Background**

Penological scholarship often focuses on assessing the influence that inmate preprison attitudes and behaviors (Irwin & Cressey, 1962; Thomas & Foster, 1973; Zamble & Porporino, 1988) and the “pains of imprisonment” (Clemmer, 1940; Goodstein, MacKenzie, & Shotland, 1984; McCain, Cox, & Paulus, 1980; Sykes, 1958) have on inmate adjustment in prison. Alongside these importation and deprivation-focused investigations, some penologists also examine the role that prison management strategies play in shaping inmate behavior (see, for example, Dilulio, 1987; Huebner, 2003; Reisig, 1998). The logic of these works is that the application of certain administrative controls, such as discipline and programming, may help reduce institutional disorder.

In this study, we seek to contribute to the scholarship on administrative controls by providing prison administrators with a tangible product for

reducing the use of one control strategy, restrictive housing, by increasing the use of another control strategy, rehabilitative programming. Although scant, the empirical literature on restrictive housing suggests it is an ineffective strategy for improving inmate behavior or institutional order (Briggs, Sundt, & Castellano, 2003; Labrecque, 2015; Lucas & Jones, 2017; Medrano, Ozkan, & Morris, 2017; Morris, 2016; Sundt, Castellano, & Briggs, 2008). The research on offender rehabilitation strategies, however, is more widely available and consistently finds support for its ability to reduce criminal behavior, especially when delivered in accordance with the principles of effective intervention (Bonta & Andrews, 2017; McGuire, 2013; Smith, Gendreau, & Swartz, 2009).

### *The Principles of Effective Intervention*

The principles of effective intervention are the result of the ongoing effort of correctional scholars to cumulate knowledge on “what works” to reduce offender recidivism (Smith, 2013). There are now more than 100 meta-analyses of the offender rehabilitation literature, and the basic findings are remarkably consistent (McGuire, 2013). Three fundamental concepts emerge from this literature; offender treatment achieves the greatest reductions in recidivism when it targets the dynamic crime-producing risk factors (e.g., antisocial personality, antisocial cognition, antisocial associates), or criminogenic needs (i.e., *need principle*), of higher risk offenders (i.e., *risk principle*) with cognitive-behavioral interventions in a manner that is conducive to the offenders’ learning style, motivation, abilities, and strengths (i.e., *responsivity principle*; see Bonta & Andrews, 2017). Although community corrections investigations largely dominate this research base, Smith and Schweitzer (2012) propose how administrators can also apply these principles in institutional settings, creating what they refer to as a “therapeutic prison.”

Evaluation research suggests that stronger agency adherence to the principles of effective intervention produces greater reductions in recidivism (Lowenkamp, Latessa, & Smith, 2006; Matthews, Hubbard, & Latessa, 2001). A meta-analysis by Gendreau and Keyes (2001) reveals that prison programs adhering to these principles are able to reduce institutional misconduct by an average of 17%, which is much better than the 2% increase in misconduct for programs that do not adhere to the principles (p. 127). A critical aspect of reducing institutional disorder therefore involves ensuring that administrators implement treatment programs in accordance with the aforementioned principles (Gendreau et al., 1999).

One of the more well supported types of treatment in prison involves inmate reentry services, which officials typically deliver just prior to ones’

release from custody. A large body of research shows that this strategy is effective in improving several postrelease outcomes, including reducing recidivism and gaining employment (Duwe, 2015; Ndrecka, 2014; Visser, Lattimore, Barrick, & Tueller, 2017). Although positive, these treatment efforts are largely back-end focused, and therefore have little promise for improving inmate behavior while in custody. According to the principles of effective intervention framework, however, offering targeted interventions at the front end of an inmate's commitment may help improve behavior and reduce disorder while in prison.

### ***Predicting Segregation Placement***

The success of a front-end preventive strategy hinges on an agency's ability to identify high-risk inmates upon admission. If the overarching goal is to reduce the use of restrictive housing, then authorities need a tool that can effectively predict placement in such settings and sufficient resources to provide quality programming to these at-risk inmates. Unfortunately, despite the widespread use of this practice in the United States and Canada (see Beck [2015] and Zinger [2013]), there is little research available on segregation placement prediction (see however Helmus [2015] and Labrecque [2016]). There is a host of general offender risk assessment instruments available that correctional authorities could use to identify the need for early placement in prison programming, including the Correctional Offender Management Profile for Alternative Sanctions, the Level of Service Inventory, the Ohio Risk Assessment System, and the Static Risk and Offender Needs Guide (see Desmarais & Singh, 2013).

There are some challenges, however, in using these tools for this purpose. For example, the design of these instruments is to predict postrelease outcomes rather than institutional outcomes, administration time can take between 30 and 60 minutes to complete per individual, and some of the assessments charge a fee per use. Although research shows these tools are predictive of institutional misconduct measures (Gendreau, Goggin, & Law, 1997), the time requirements may make its administration a difficult task on a large scale within the first couple of weeks of inmate admission. Furthermore, the financial costs simply make such use prohibitive for some organizations. What the field needs, then, is a segregation placement risk assessment tool that is easy to use and that authorities can complete early in an inmates' commitment without requiring drastic additional resources.

Recently, Helmus (2015) developed a risk scale to predict the probability of inmate placement in preventive segregation in the federal prison system in Canada. This work advances knowledge on assisting correctional agencies in

being better able to identify which inmates are at high risk for being sent to restrictive housing. On the heels of this study, we undertake a similar approach to the construction of a risk tool to predict segregation placement, with two important differences. First, our study involves a U.S. sample of inmates. Second, we use a broader definition of restrictive housing that includes segregation placements for any reason: disciplinary, protective, or preventative. As did Helmus (2015), the intent of our risk instrument is to be simple, easy to use, consistent of common information collected during the normal intake process, and would not require a lengthy administrative effort.

Furthermore, our study recognizes the link between institutional behavior and segregation placement. Research shows that inmates with records of institutional misconduct, particularly for violent offenses, disproportionately comprise restrictive housing populations (see Labrecque, 2017). We argue that this is the case not only because authorities use antisocial behavior to justify placement in segregation, but also because the predictors of both outcomes are similar. Therefore, this study capitalizes on the current data set and assesses how accurately our risk assessment tool predicts segregation placement *and* institutional misconduct. Although a secondary aim, if our risk assessment predicts both types of negative outcomes accurately, it adds further credibility for importance of the tool. Logically then, if administrators adopt measures to reduce segregation risk, they may also see reductions in the incidence of institutional rule violations as well.

As is the case with any risk assessment instrument that officials use to make justice-related decisions, there is a need to ensure that our tool is not discriminatory or ineffective among different subgroups of offenders. Some segregation scholars question whether differences exist in the predictors of placement in restrictive housing or the effects of such confinement on inmate behavior (see, for example, Cochran et al., 2018; Dell, Fillmore, & Kilty, 2009; Gendreau & Labrecque, 2016). Therefore, if agencies are to adopt a risk tool to predict segregation placement, there is a need to ensure its predictive accuracy for all inmate subcategories. In this study, we identify three subgroups of inmates based on the prior scholarship and the availability of data to explore differences in the predictive accuracy of our tool, including gender, race, and incarceration experience.

### *Current Study*

This study advances the idea that proactively providing rehabilitative programming to inmates during the admission process will help reduce institutional misconduct and the need for restrictive housing. This study draws on prior correctional scholarship to anticipate that better results will occur if

these reformation efforts adhere to the principles of effective intervention. A key component of this framework—and arguably the most important step— involves the accurate assessment of inmate risk. The goal of this work is to create and validate a risk assessment instrument—the Risk Assessment for Segregation Placement (RASP)—that correctional authorities can administer during the intake process to effectively predict segregation placement and use to aid in making informed and targeted programming decisions. To do so, we test three hypotheses:

**Hypothesis 1:** Administrative information collected during the prison admission process can be used to construct a risk assessment scale that predicts placement in segregation.

**Hypothesis 2:** This segregation risk tool will also predict engagement in institutional misconduct.

**Hypothesis 3:** This segregation risk tool will predict these institutional disorder outcomes for inmates regardless of gender, race, or sentence type.

## Method

### *Participants*

The participants in this study include a 5-year cohort of inmates who were admitted into a large Midwestern state Department of Corrections adult prison system between the fiscal years of 2007/2008 and 2011/2012 ( $N = 96,337$ ). From this population, inmates are randomly assigned to either the construction group ( $n = 48,197$ ) or the validation group ( $n = 48,140$ ). We use the construction sample to create a risk assessment scale and the validation sample to test the predictive accuracy of this tool. Table 1 presents the descriptive characteristics of these two groups. Generally speaking, the inmates in this study are primarily males in their early 30s. Less than half of the inmates are sentenced for a violent offense or have previously served time in this state's prison system. The average time spent in custody is approximately 2 years.

### *Measures*

The intent of the RASP is to predict placement in segregation during one's period of incarceration. In this Midwestern state prison system, correctional authorities can place inmates in segregation settings for a number of reasons, including punishment, protection, and other managerial purposes (e.g., failure to adjust in the general population, presence is thought to seriously disrupt the orderly operation of the facility, temporary housing assignment

**Table 1.** Descriptive Statistics of the Construction and Validation Samples.

	Construction sample ( <i>n</i> = 48,197)		Validation sample ( <i>n</i> = 48,140)	
	%	<i>n</i>	%	<i>n</i>
Age at intake <sup>a</sup>	32.5	10.6	32.5	10.5
Black	43.8	21,128	44.1	21,215
Female	13.3	6,396	13.4	6,432
Serious mental illness	27.1	13,068	27.2	13,108
Gang affiliation	13.8	6,656	14.0	6,717
Prior incarceration	45.8	22,051	45.9	22,082
Violent offense	39.8	19,183	39.6	19,040
Initial custody rating				
Maximum	0.1	53	0.1	43
Close	8.6	4,153	8.4	4,065
Medium	43.4	20,900	43.7	21,030
Minimum	47.9	23,091	47.8	23,002
Years in custody <sup>a</sup>	1.9	1.2	1.9	1.2
Segregation placement	40.1	19,341	40.7	19,591
Any institutional misconduct*	39.7	19,142	40.5	19,485
Violent misconduct	20.7	9,960	21.1	10,165
Nonviolent misconduct*	31.7	15,289	32.4	15,579
Drug misconduct	10.6	5,108	10.6	5,102
RASP risk score <sup>a</sup>	4.2	2.5	4.3	2.5
Low risk	58.7	28,309	58.6	28,217
Moderate risk	34.9	16,836	35.1	16,877
High risk	6.3	3,052	6.3	3,042

Note. RASP = Risk Assessment for Segregation Placement.

<sup>a</sup>Reported values includes mean and standard deviation.

\* $p \leq .05$ .

pending a disciplinary hearing or facility transfer). Regardless of the differences that exist between these various types of segregation (e.g., entry and exit criteria, length of stay, amenities and allowances), one of the main rationales for restrictive housing more broadly is that its use will improve institutional safety and order (see King, 1999; Mears & Reisig, 2006; Pizarro, Stenius, & Pratt, 2006). This study operationalizes segregation placement as a stay of one or more days in restrictive housing for any reason during one's current sentence (1 = *segregation placement*, 0 = *not segregation placement*). Approximately 40% of the inmates in this study experience a stay in segregation during the observation period, which ends on December 31, 2012.



Institutional misconduct often justifies placement in segregation and is an important indicator of institutional disorder; therefore, this study also assesses the ability of the RASP to predict officially detected rule infractions. More specifically, this study includes a general misconduct measure (1 = *any institutional misconduct*, 0 = *no institutional misconduct*) and three dichotomous subtypes of misbehavior: violent (e.g., assault; 1 = *yes*, 0 = *no*), nonviolent (e.g., damage to property, theft; 1 = *yes*, 0 = *no*), and drug infractions (e.g., possession of drugs/alcohol; 1 = *yes*, 0 = *no*). Approximately 40% of the inmates in this study have a record of a guilty rules violation during the observation period, with the majority of those being nonviolent infractions (32%), followed by violent infractions (21%) and finally drug infractions (11%). Chi-square tests reveal that there is a statistically significant difference in the prevalence of general and nonviolent misconducts between the two groups ( $p \leq .05$ ). This finding, however, is likely attributable to the large sample size in this study rather than representing a meaningful difference between these two groups. As seen in Table 1, the between group difference in these two outcomes is less than 1%.

The process for developing the RASP began by examining administrative information collected by prison officials to identify risk factors for inclusion in the segregation assessment. We purposely restricted potential predictors to information collected during the initial admission process, which includes various types of inmate demographic, criminal history, and other personal characteristic variables. After narrowing down the most relevant predictors, six items remain in the final model: age at intake (measured in years), sentence length (measured in years), sentence type (violent offense: 1 = *yes*, 0 = *no*), gang affiliation (any known association with a gang from a security threat group list: 1 = *yes*, 0 = *no*), serious mental illness (any recorded Axis I or Axis II diagnosis: 1 = *yes*, 0 = *no*), and initial classification rating (dummy variables for *minimum*, *medium*, *close*, *maximum*, and *supermaximum* custody level; see the appendix for a copy of the RASP). This study also assesses for the differential predictive validity of the RASP based on three potentially moderating inmate characteristics, including gender (1 = *male*, 0 = *female*), race (1 = *Black*, 0 = *other*), and incarceration history (prior incarceration: 1 = *yes*, 0 = *no*). Based on the respective *t* tests or chi-square tests, there are no statistically significant differences between the two samples on any of these nine characteristics.

## Analyses

The development of the RASP involves the use of multivariate logistic regression and a backwards stepwise elimination technique with the construction sample. This strategy includes placing all the potential predictors in

a single regression model, removing the variable contributing the least, and rerunning the model. We repeat this process until the point when any further variable subtraction significantly reduces the overall predictive accuracy of the model. We then use all remaining items to construct the RASP tool.

This study assesses the instruments predictive validity through the interpretation of area under the curve (AUC) statistics, which we derive from a series of receiver operating characteristic (ROC) curve analyses. Possible AUC values range from 0 to 1, with .5 indicating the scale performs no better than chance and 1 indicating perfect predictive accuracy. For context, we compare the results to the interpretation of the magnitude of effect sizes established by Rice and Harris (2005), where AUC of .556 is considered small, .639 is considered moderate, and .714 is considered large. We also report the 95% confidence intervals (CIs) of the AUC estimates. Finally, to test the generalizability of the RASP, we conduct the analyses on the validation sample and then again across the gender, race, and incarceration experience subpopulations separately.

## Results

Table 2 presents the final multivariate logistic model for the construction sample. This model retains six items that predict segregation placement, including (a) age, (b) sentence length, (c) violent offense, (d) gang affiliation, (e) serious mental illness, and (f) initial custody rating ( $p \leq .001$ ). We tested several scoring schemes using these items; however, we present only the most promising option here. The items in the final version are worth between 1 and 4 points apiece with a range of possible total scores between 0 and 12 points (see appendix). We further collapse the total scores into three risk categories: low risk (total scores of 0 to 4), moderate risk (total scores of 5 to 8), and high risk (total scores of 9 to 12). The average RASP total score for the full sample is 4.3, and according to the cutoff criteria, 59% are low risk, 35% are moderate risk, and 6% are high risk for placement in segregation (see Table 1).

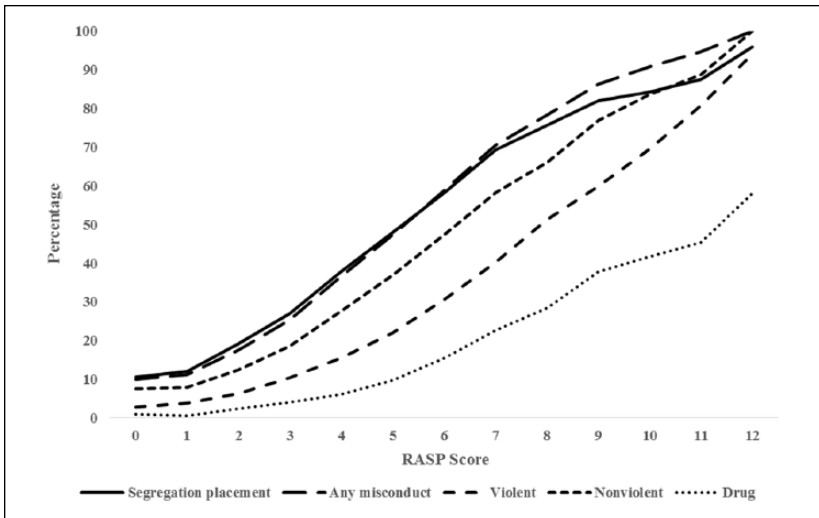
Figure 1 illustrates the rates of institutional disorder outcomes by RASP total risk score for the validation sample. This figure reveals that there is a steady increase in the percentage of negative outcomes across all types with each successive increase in RASP score. For example, 27% of inmates with a RASP score of 3 receive a segregation placement during their commitment, compared with 58% of those with a score of 6, 82% of those with a score of 9, and 96% of those with a score of 12.

Figure 2 further depicts the rates of institutional disorder outcomes by RASP risk category. Again, the rates of negative outcomes monotonically

**Table 2.** Multivariate Logistic Regression Model Predicting Segregation Placement in the Construction Sample.

	<i>b</i>	SE ( <i>b</i> )	Odds ratio
Age	-.044*	.001	0.957
Sentence length	.457*	.010	1.579
Violent offense	.189*	.023	1.208
Gang affiliation	.645*	.031	1.907
Mental illness	.455*	.023	1.577
Custody rating	.381*	.019	1.463
Constant	-.801*	.045	0.449
Model chi-square ( <i>df</i> )	9,657.97 (6)		
-2 log likelihood	55,266.43		
Nagelkerke <i>R</i> <sup>2</sup>	.25*		

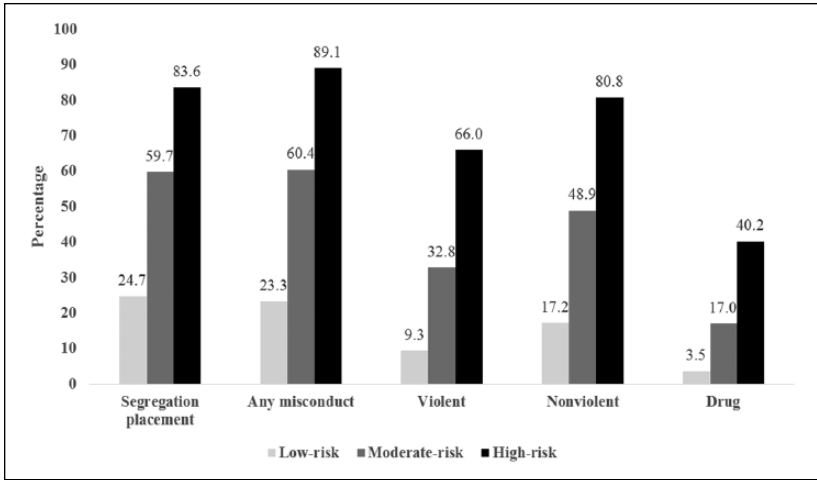
\**p* ≤ .001.



**Figure 1.** Percentage of inmates with institutional disorder outcomes by RASP total risk score in the validation sample.

Note. RASP = Risk Assessment for Segregation Placement.

increase for inmates with higher risk levels. For example, 25% of low-risk inmates, 60% of moderate-risk inmates, and 84% of high-risk inmates receive a segregation placement during their commitment. Although the base rates



**Figure 2.** Percentage of inmates with institutional disorder outcomes by RASP risk category in the validation sample.

Note. RASP = Risk Assessment for Segregation Placement.

differ by outcome type, a similar pattern emerges across all the misconduct measures.

Table 3 presents the results from the ROC analyses that examine the relationship between the RASP risk scores and the institutional disorder outcome variables. According to the validation sample analyses, there is a very large relationship between RASP total score and placement in segregation (AUC = .757, 95% CI = [.753, .762]), any misconduct (AUC = .775, 95% CI = [.771, .779]), violent misconduct (AUC = .776, 95% CI = [.771, .782]), nonviolent misconduct (AUC = .767, 95% CI = [.762, .771]), and drug misconduct (AUC = .789, 95% CI = [.782, .795]). Even the lower limits of the CIs fall above the threshold for a large effect size according to Rice and Harris' (2005) criteria, which suggests that there is a 95% probability that the population effect size of the RASP on these negative outcomes is large. Table 3 also reveals that there is a moderate size relationship between RASP category score and placement in segregation (AUC = .705, 95% CI = [.700, .710]) and a large relationship between category score and the four measures of institutional misconduct (range of AUCs = .719-.730).

Table 4 examines the predictive validity of the RASP on the institutional disorder outcomes separated by inmate subpopulations for gender, race, and incarceration experience. According to these analyses conducted exclusively on the validation sample, there is a large relationship between RASP total

**Table 3.** AUCs for RASP Scores on Institutional Disorder Outcomes, by Sample Type.

	Construction sample (n = 48,197)		Validation sample (n = 48,140)	
	AUC	95% CI	AUC	95% CI
<b>RASP total risk score</b>				
Segregation placement	.750	[.746, .755]	.757	[.753, .762]
Institutional misconduct	.774	[.769, .778]	.775	[.771, .779]
Violent misconduct	.780	[.775, .785]	.776	[.771, .782]
Nonviolent misconduct	.768	[.763, .772]	.767	[.762, .771]
Drug misconduct	.786	[.779, .792]	.789	[.782, .795]
<b>RASP risk category score<sup>a</sup></b>				
Segregation placement	.701	[.696, .706]	.705	[.700, .710]
Institutional misconduct	.721	[.716, .725]	.722	[.717, .726]
Violent misconduct	.734	[.728, .739]	.730	[.724, .736]
Nonviolent misconduct	.720	[.715, .725]	.719	[.714, .724]
Drug misconduct	.743	[.735, .750]	.745	[.738, .752]

Note. AUC = area under the curve; RASP = Risk Assessment for Segregation Placement; CI = confidence interval.

<sup>a</sup>Low risk = 1, moderate risk = 2, and high risk = 3.

score and placement in segregation across all subgroups investigated (range of AUCs = .726-.770). Furthermore, there is also a large effect size for total score and all the institutional misconduct measures across the different subgroups with the exception of a moderate relationship between total score and drug misconduct for females. Table 4 also shows that there is a large relationship between RASP category score and placement in segregation for Black (AUC = .715, 95% CI = [.708, .722]) and first-time inmates (AUC = .721, 95% CI = [.714, .727]) and a moderate size relationship for males, females, Whites, and recidivists (range of AUCs = .662-.706).

## Discussion

The use of restrictive housing as an administrative control strategy to reduce institutional disorder is a failed experiment. Reviews of research on the impact of segregation on inmate behavior consistently show that the practice yields no meaningful improvements in institutional or postrelease outcomes (see Gendreau & Goggin, in press; Morgan et al., 2016; Steiner & Cain,

**Table 4.** AUCs for RASP Scores on Institutional Disorder Outcomes by Gender, Race, and Incarceration Experience in the Validation Sample.

	Male (n = 41,708)	Female (n = 6,432)	White (n = 26,925)	Black (n = 21,215)	First incarceration (n = 26,058)	Recidivist (n = 22,082)
RASP total risk score						
Segregation placement	.757 [.752, .761]	.726 [.712, .740]	.749 [.743, .755]	.764 [.757, .770]	.770 [.764, .776]	.748 [.741, .754]
Institutional misconduct	.777 [.772, .781]	.727 [.713, .742]	.763 [.757, .768]	.786 [.780, .792]	.787 [.781, .792]	.767 [.760, .773]
Violent misconduct	.776 [.771, .781]	.737 [.718, .756]	.757 [.750, .765]	.790 [.783, .797]	.791 [.784, .797]	.759 [.751, .767]
Nonviolent misconduct	.767 [.762, .771]	.738 [.723, .753]	.760 [.754, .767]	.770 [.764, .777]	.781 [.775, .787]	.754 [.747, .761]
Drug misconduct	.784 [.777, .790]	.704 [.662, .747]	.779 [.771, .788]	.803 [.794, .812]	.793 [.784, .801]	.793 [.784, .802]
RASP risk categories						
Segregation placement	.706 [.701, .711]	.662 [.646, .678]	.693 [.686, .700]	.715 [.708, .722]	.721 [.714, .727]	.690 [.682, .697]
Institutional misconduct	.725 [.720, .730]	.659 [.643, .675]	.705 [.699, .712]	.736 [.729, .743]	.734 [.727, .740]	.710 [.703, .717]
Violent misconduct	.731 [.725, .737]	.679 [.658, .700]	.709 [.700, .717]	.745 [.737, .753]	.746 [.738, .753]	.710 [.701, .718]
Nonviolent misconduct	.720 [.714, .725]	.671 [.654, .689]	.707 [.700, .715]	.726 [.719, .733]	.733 [.726, .739]	.704 [.697, .712]
Drug misconduct	.741 [.734, .748]	.647 [.598, .697]	.732 [.722, .742]	.763 [.753, .773]	.753 [.743, .763]	.743 [.733, .754]

Note. Reported values are AUCs and 95% CI. AUC = area under the curve; RASP = Risk Assessment for Segregation Placement; CI = confidence interval.

2016). The use of this practice also raises serious ethical, legal, and financial concerns (Cohen, 2016; Haney, 2012; Shalev, 2009). Against this backdrop, justice officials and correctional scholars call upon the academic community to increase empirical research on the use and effects of restrictive housing (e.g., Frost & Monteiro, 2016; Kurki & Morris, 2001; Mears, 2013; National Institute of Justice, 2016). This study responds to these calls and joins the recent efforts to help correctional authorities in reforming the use of this practice (Ahalt et al., 2017; Shames et al., 2015; Smith, 2016; U.S. Department of Justice, 2016).

This study advances the idea that one way to improve institutional order and the need for restrictive housing is to proactively provide rehabilitative services to inmates at the front end of prison sentences. This study further suggests that authorities should triage these treatment services toward those who are at a high risk for placement in segregation. This strategy necessitates a risk tool that can predict such placements for authorities to be able to make these informed and targeted programming decisions. In response to this need, this study sought to develop a risk assessment scale suitable for this task.

Results of this study support its three hypotheses and indicate that administrative information collected during the prison admission process can be used to construct a risk assessment instrument—the RASP—that is predictive of placement in segregation and engagement in institutional misconduct. This investigation also reveals that the RASP is effective in predicting these institutional disorder outcomes for all gender, race, and sentence type subgroups of inmates. The study finds the magnitude of the predictive validity of the RASP to be in the moderate to large effect size range according to Rice and Harris' (2005) criteria, depending on inmate group and specific outcome type examined.

The policy implications of these findings are significant. These results suggest that corrections officials could administer the RASP during the intake process to identify inmates at high risk for placement in segregation during one's stay. Authorities could then proactively target this group with early rehabilitative services. This strategy holds promise in reducing the need for segregation and decreasing the misconduct that occurs in prison. This front-end approach is not meant to be the only source of treatment one receives in custody. Rather, authorities should monitor and periodically reassess inmates, and when appropriate provide them with further services, such as preparing for the reentry into the community. High-risk inmates possess many criminogenic needs and most may require a much higher dosage of interventions than any short-term intake program can feasibly provide to

achieve a maximal effect (Gendreau, 1996). The advantage of starting rehabilitative interventions early; however, is that it starts inmates out on the right foot and may help ease the transition from the community to the prison. It may also help provide a link between these high-risk inmates and other important services within the prison system, such as education, employment, mental health counseling, and other cognitive-behavioral groups.

When administrators decide on potential policy or practice changes, they must often juggle with selecting the best solution for the problem given the limited resources available. Despite this conundrum, the RASP is a smart choice for prison systems because its benefits far outweigh its costs. First, the RASP contains only six items from information that is already commonly collected by corrections authorities. This means that the RASP is not only easy to score but also requires only a minimal amount of staff time to complete. Second, unlike other risk assessment tools that charge per usage, the RASP is nonproprietary and agencies may use it freely (see appendix). Finally, although the more onerous part of this strategy involves the treatment intervention itself, it is important to note that the RASP identifies approximately 6% of the total prison population as high risk for placement in segregation. This seems a very manageable proportion of inmates for correctional systems to be able to triage short-term treatment interventions at the front end of prison stays. Proactively targeting the high-risk group with rehabilitative services seems especially important when one considers that in this study, 84% of members eventually receive a segregation placement, 89% are found guilty of a rules violation, and 66% are found guilty of a misconduct that was violent or serious in nature. Intervening with this group holds great promise of providing agencies with the best return on investment in reducing these unwanted outcomes (see generally Lowenkamp, Latessa, & Holsinger, 2006).

Despite these advancements, this study must be understood with its limitations. First, this study constructs and validates the RASP in a single state, so it is unknown if these findings will replicate across other correctional systems. Greater confidence in these findings will come from evaluations in other jurisdictions. Second, this study develops the RASP using information collected by authorities for other administrative purposes. It remains possible that researchers may yield better results with the availability of additional information on inmates, such as one's dynamic criminogenic needs. Third, tools such as the RASP inherently possess the potential for misuse. For example, authorities could use the RASP to proactively place high-risk inmates in restrictive housing rather than provide the individual with treatment intervention. We strongly oppose the application of the tool



in this way and warn that such use has the potential to increase institutional disorder. Under no circumstances should authorities use the RASP as a justification for segregation placement. Rather, the intent of this tool is simply to identify which inmates should receive early correctional treatment intervention.

Finally, the RASP provides only a part of the equation we describe as necessary to make meaningful reductions in institutional disorder. More research on the specific treatment strategies that are effective in helping institutions achieve this goal is needed. For example, what type of treatment content is important? How many sessions are needed? Should treatment occur in the intake unit or in the general population? In closing, although much work in this area remains, the RASP provides a critical first step in this endeavor by providing authorities with a mechanism to identify which inmates are most in need of rehabilitative services upon entry to prison.

## Appendix

### Inmate Risk Assessment for Segregation Placement (RASP)

Inmate Name: \_\_\_\_\_

Assessment Date: \_\_\_\_\_

Assessor Name: \_\_\_\_\_

Item	Risk factor	Codes	Points
1	Age	Aged 46 or older	0
		Aged 36 to 45.99	1
		Aged 26 to 35.99	2
		Aged 22 to 25.99	3
		Aged 21 or younger	4
2	Sentence length	4 or more years	0
		3 to 3.99 years	1
		2 to 2.99 years	2
		Less than 2 years	3
3	Violent offense	No	0
		Yes	1
4	Gang affiliation	No	0
		Yes	1

(continued)

**Appendix. (continued)**

Inmate Name: \_\_\_\_\_

Assessment Date: \_\_\_\_\_

Assessor Name: \_\_\_\_\_

Item	Risk factor	Codes	Points
5	Mental illness	No	0
		Yes	1
6	Custody rating	Minimum	0
		Medium	1
		Close or higher	2
		Total score	

Suggested nominal risk categories

Total score	Risk category
0 to 4	Low risk
5 to 8	Moderate risk
9 to 12	High risk

**Authors' Note**

The opinions, findings, and conclusions expressed in this article are those of the authors and do not necessarily reflect those of the Department of Justice.

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**References**

- Ahalt, C., Haney, C., Rios, S., Fox, M. P., Farabee, D., & Williams, B. (2017). Reducing the use and impact of solitary confinement in corrections. *International Journal of Prisoner Health, 13*, 41-48.
- Beck, A. J. (2015). *Use of restrictive housing in U.S. prisons and jails, 2011-12*. Washington, DC: Bureau of Justice Statistics.

- Bonta, J., & Andrews, D. A. (2017). *The psychology of criminal conduct* (6th ed.). New York, NY: Routledge.
- Briggs, C. S., Sundt, J. L., & Castellano, T. C. (2003). The effect of supermaximum security prisons on aggregate levels of institutional violence. *Criminology*, *41*, 1341-1376.
- Clemmer, D. (1940). *The prison community*. New York, NY: Rinehart.
- Cochran, J. C., Toman, E. L., Mears, D. P., & Bales, W. D. (2018). Solitary confinement as punishment: Examining in-prison sanctioning disparities. *Justice Quarterly*, *35*, 381-411.
- Cohen, F. (2016). Restricted housing and legal issues. In M. Garcia (Ed.), *Restrictive housing in the U.S.: Issues, challenges, and future challenges* (pp. 367-400). Washington, DC: National Institute of Justice.
- Dell, C. A., Fillmore, C. J., & Kilty, J. M. (2009). Looking back 10 years after the Arbour inquiry: Ideology, policy, practice, and the federal female prisoner. *The Prison Journal*, *89*, 286-308.
- Desmarais, S. L., & Singh, J. P. (2013). *Risk assessment instruments validated and implemented in correctional settings in the United States*. New York, NY: Council of State Governments Justice Center.
- Dietz, E. F., O'Connell, D. J., & Scarpitti, F. R. (2003). Therapeutic communities and prison management: An examination of the effects of operating an in-prison therapeutic community on levels of institutional disorder. *International Journal of Offender Therapy and Comparative Criminology*, *47*, 210-223.
- Dilulio, J. J. Jr. (1987). *Governing prisons: A comparative study of correctional management*. New York, NY: The Free Press.
- Duwe, G. (2015). The benefits of keeping idle hands busy: An outcome evaluation of a prisoner reentry employment program. *Crime & Delinquency*, *61*, 559-586.
- Frost, N. A., & Monteiro, C. E. (2016). Administrative segregation in prison. In M. Garcia (Ed.), *Restrictive housing in the U.S.: Issues, challenges, and future challenges* (pp. 1-47). Washington, DC: National Institute of Justice.
- Garcia, M. (Ed.). (2016). *Restrictive housing in the U.S.: Issues, challenges, and future challenges*. Washington, DC: National Institute of Justice.
- Gendreau, P. (1996). The principles of effective intervention with offenders. In A. Harland (Ed.), *Choosing correctional options that work: Defining the demand and evaluating the supply* (pp. 117-130). Thousand Oaks, CA: Sage.
- Gendreau, P., & Goggin, C. (in press). Solitary confinement and punishment: Effects on misconducts and punishment. In D. L. Polascheck, A. Day & C. R. Hollin (Eds.), *The handbook of psychology and corrections*. Hoboken, NJ: John Wiley.
- Gendreau, P., Goggin, C., & Law, M. A. (1997). Predicting prison misconducts. *Criminal Justice and Behavior*, *24*, 414-431.
- Gendreau, P., Goggin, C., & Smith, P. (1999). The forgotten issue in effective correctional treatment: Program implementation. *International Journal of Offender Therapy and Comparative Criminology*, *43*, 180-187.

- Gendreau, P., & Keyes, D. (2001). Making prisons safer and more humane environments. *Canadian Journal of Criminology*, 43, 123-130.
- Gendreau, P., & Labrecque, R. M. (2016). The effects of administrative segregation: A lesson in knowledge cumulation. In J. Wooldredge & P. Smith (Eds.), *Oxford handbook on prisons and imprisonment*. Oxford, UK: Oxford University Press.
- Gonçalves, L. C., Gonçalves, R. A., Martins, C., & Dirkzwager, A. J. E. (2014). Predicting infractions and health care utilization in prison: A meta-analysis. *Criminal Justice and Behavior*, 41, 921-942.
- Goodstein, L., MacKenzie, D. L., & Shotland, R. L. (1984). Personal control and inmate adjustment to prison. *Criminology*, 22, 343-369.
- Haney, C. (2012). Prison effects in the era of mass incarceration. *The Prison Journal*. Advance online publication. doi:10.1177/0032885512448604
- Helmus, L. (2015). *Developing and validating a risk assessment scale to predict inmate placements in administrative segregation in the Correctional Service of Canada* (Unpublished doctoral dissertation). Carleton University, Ottawa, Ontario, Canada.
- Huebner, B. M. (2003). Administrative determinants of inmate violence: A multilevel analysis. *Journal of Criminal Justice*, 31, 107-117.
- Irwin, J., & Cressey, D. R. (1962). Thieves, convicts and the inmate culture. *Social Problems*, 10, 142-155.
- King, R. D. (1999). The rise and rise of supermax. *Punishment & Society*, 1, 163-186.
- Kurki, L., & Morris, N. (2001). The purposes, practices, and problems of supermax prisons. *Crime and Justice*, 28, 385-424.
- Labrecque, R. M. (2015). *The effect of solitary confinement on institutional misconduct: A longitudinal evaluation*. Washington, DC: National Institute of Justice.
- Labrecque, R. M. (2016). The use of administrative segregation and its function in the institutional setting. In M. Garcia (Ed.), *Restrictive housing in the U.S.: Issues, challenges, and future challenges* (pp. 49-84). Washington, DC: National Institute of Justice.
- Labrecque, R. M. (2017). Special or segregated housing units: Implementing the principles of risk, needs, and responsivity. In K. D. Dodson (Ed.), *Handbook of offenders with special needs*. New York, NY: Routledge.
- Lowenkamp, C. T., Latessa, E. J., & Holsinger, A. M. (2006). The risk principle in action: What have we learned from 13,676 offenders and 97 correctional programs? *Crime & Delinquency*, 52, 77-93.
- Lowenkamp, C. T., Latessa, E. J., & Smith, P. (2006). Does correctional program quality really matter? The impact of adhering to the principles of effective intervention. *Criminology & Public Policy*, 5, 575-594.
- Lucas, J. W., & Jones, M. A. (2017). An analysis of the deterrent effects of disciplinary segregation on institutional rule violation rates. *Criminal Justice Policy Review*. Advance online publication. doi:10.1177/0887403417699930
- MacKenzie, D. L. (2006). *What works in corrections: Reducing the criminal activities of offenders and delinquents*. New York, NY: Cambridge University Press.

- Matthews, B., Hubbard, D. J., & Latessa, E. J. (2001). Making the next step: Using evaluability assessment to improve correctional programming. *The Prison Journal, 81*, 454-472.
- McCain, G., Cox, V. C., & Paulus, P. B. (1980). *The effect of prison crowding on inmate behavior*. Washington, DC: National Institute of Justice.
- McGuire, J. (2013). "What works" to reduce reoffending: 18 years on. In L. A. Craig, L. Dixon & T. A. Gagnon (Eds.), *What works in offender rehabilitation: An evidence-based approach to assessment and treatment* (pp. 20-49). Chichester, UK: Wiley-Blackwell.
- Mears, D. P. (2013). Supermax prisons: The policy and the evidence. *Criminology & Public Policy, 12*, 681-719.
- Mears, D. P. (2016). Critical research gaps in understanding the effects of prolonged time in restrictive housing on inmates and the institutional environment. In M. Garcia (Ed.), *Restrictive housing in the U.S.: Issues, challenges, and future challenges* (pp. 233-295). Washington, DC: National Institute of Justice.
- Mears, D. P., & Reisig, M. D. (2006). The theory and practice of supermax prisons. *Punishment & Society, 8*, 33-57.
- Medrano, J. A., Ozkan, T., & Morris, R. G. (2017). Solitary confinement exposure and capital inmate misconduct. *American Journal of Criminal Justice, 42*, 863-882.
- Morgan, R. D., Gendreau, P., Smith, P., Gray, A. L., Labrecque, R. M., MacLean, N., . . . Mills, J. F. (2016). Quantitative synthesis of the effects of administrative segregation on inmates' well-being. *Psychology, Public Policy, and Law, 22*, 439-461.
- Morris, R. G. (2016). Exploring the effect of exposure to short-term solitary confinement among violent prison inmates. *Journal of Quantitative Criminology, 32*, 1-22.
- National Institute of Justice (Producer). (2016). *What we know—and don't know—about restrictive housing*. Available from <https://nij.gov/multimedia/pages/video-restrictive-housing.aspx>
- Ndrecka, M. (2014). *The impact of reentry programs on recidivism: A meta-analysis* (Unpublished doctoral dissertation). School of Criminal Justice, University of Cincinnati, Cincinnati, OH.
- Pizarro, J. M., Stenius, V. M. K., & Pratt, T. C. (2006). Supermax prisons: Myths, realities, and the politics of punishment in American society. *Criminal Justice Policy Review, 17*, 6-21.
- Reisig, M. D. (1998). Rates of disorder in higher-custody state prisons: A comparative analysis of managerial practices. *Crime & Delinquency, 44*, 229-244.
- Rice, M. E., & Harris, G. T. (2005). Comparing effect sizes in follow-up studies: ROC area, Cohen's d, and r. *Law and Human Behavior, 29*, 615-620.
- Shalev, S. (2009). *Supermax: Controlling risk through solitary confinement*. Portland, OR: Willan Publishing.
- Shames, A., Wilcox, J., & Subramanian, R. (2015). *Solitary confinement: Common misconceptions and emerging safe alternatives*. New York, NY: Vera Institute of Justice.

- Smith, P. (2013). The psychology of criminal conduct. In F. T. Cullen & P. Wilcox (Eds.), *The Oxford handbook of criminological theory* (pp. 69-88). New York, NY: Oxford University Press.
- Smith, P. (2016). Toward an understanding of “what works” in segregation. In M. Garcia (Ed.), *Restrictive housing in the U.S.: Issues, challenges, and future challenges* (pp. 331-366). Washington, DC: National Institute of Justice.
- Smith, P., Gendreau, P., & Swartz, K. (2009). Validating the principles of effective intervention: A systematic review of the contributions of meta-analysis in the field of corrections. *Victims & Offenders, 4*, 148-169.
- Smith, P., & Schweitzer, M. (2012). The therapeutic prison. *Journal of Contemporary Criminal Justice, 28*, 7-22.
- Steiner, B., Butler, H. D., & Ellison, J. M. (2014). Causes and correlates of prison inmate misconduct: A systematic review of the evidence. *Journal of Criminal Justice, 42*, 462-470.
- Steiner, B., & Cain, C. M. (2016). The relationship between inmate misconduct, institutional violence, and administrative segregation: A systematic review of the evidence. In *Restrictive housing in the U.S.: Issues, challenges, and future directions* (pp. 165-197). Washington, DC: National Institute of Justice.
- Sundt, J. L., Castellano, T. C., & Briggs, C. S. (2008). The sociopolitical context of prison violence and its control: A case study of supermax and its effect in Illinois. *The Prison Journal, 88*, 94-122.
- Sykes, G. M. (1958). *The society of captives: A study of a maximum security prison*. Princeton, NJ: Princeton University Press.
- Thomas, C. W., & Foster, S. C. (1973). The importation model perspective on inmate social roles: An empirical test. *The Sociological Quarterly, 14*, 226-234.
- U.S. Department of Justice. (2016). *Report and recommendations concerning the use of restrictive housing*. Washington, DC: U.S. Department of Justice.
- Useem, B., & Piehl, A. (2006). Prison buildup and disorder. *Punishment & Society, 8*, 87-115.
- Useem, B., & Reisig, M. D. (1999). Collective action in prisons: Protest, disturbances, and riots. *Criminology, 37*, 735-760.
- Visher, C. A., Lattimore, P. K., Barrick, K., & Tueller, S. (2017). Evaluating the long-term effects of prisoner reentry services on recidivism: What types of services matter? *Justice Quarterly, 34*, 136-165.
- Zamble, E., & Porporino, F. J. (1988). *Coping, behavior, and adaptation in prison inmates*. New York, NY: Springer-Verlag.
- Zinger, I. (2013, March). *Segregation in Canadian federal corrections: A prison Ombudsman's perspective*. Presented at the International Conference on Human Rights and Solitary Confinement in Winnipeg, Manitoba, Canada.

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